

**A qualitative inquiry of the adoption, economic impact, and implications of virtual tourism to game parks within Limpopo and Mpumalanga Provinces of South Africa**

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A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Philosophy (Corporate Strategy).

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## **Abstract**

Technological advances in tourism have led to the introduction of virtual tourism which experienced a global surge during the Covid-19 pandemic. The exploratory study, which is informed by both the business and theoretical contribution and anchored on the Dynamic Capabilities Theory, sought to establish how game reserves in Africa, and especially within South Africa, have sensed and seized the opportunity and how they have transformed, in addition to establishing the sustainability of virtual tourism. The results from the 13 interviews indicate that virtual tourism is a nascent offering in Africa mostly benefiting the private sector with minimal public sector participation. Virtual tourism has led to business remodelling by agile game reserves positioning for the opportunity. Dynamic capabilities have created economic scaling for game reserves that have successfully implemented it either alone or in partnership with independent service providers. Further, virtual tourism has been determined as a sustainable form of tourism. The researcher drew attention to the research contribution of the research, advice to management, and advancing recommendations for further research into the concept of virtual tourism.

**Keywords**

Virtual Tourism; Game Reserves; Dynamic Capabilities; Sensing, Seizing, Transformation, and Sustainability

### Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Philosophy in Corporate Strategy at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

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Name & Surname

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Signature

## Table of Contents

<b>Abstract</b> .....	<b>i</b>
<b>Keywords</b> .....	<b>ii</b>
<b>Declaration</b> .....	<b>iii</b>
<b>Table of Contents</b> .....	<b>Error! Bookmark not defined.</b>
<b>List of Figures</b> .....	<b>vii</b>
<b>List of Tables</b> .....	<b>vii</b>
<b>Abbreviations</b> .....	<b>viii</b>
<b>Chapter 1. Introduction</b> .....	<b>1</b>
1.1 Background to the research problem .....	1
1.2 Theoretical Perspective.....	4
1.3 Research Aim and Objectives .....	6
1.4 Research Contribution .....	6
1.5 Research Scope .....	7
1.6 Research Structure .....	7
<b>Chapter 2. Literature review</b> .....	<b>9</b>
2.1 Introduction .....	9
2.2 Virtual tourism.....	9
2.2.1 Overview of virtual tourism.....	9
2.3 Dynamic Capabilities Theory .....	9
2.3.1 Sensing the evolution of technology.....	12
2.3.2 Seizing the opportunities presented by virtual technology .....	13
2.3.3 Transformation of virtual technology .....	14
2.3.4 Contextual factors in dynamic capabilities.....	15
2.3.5 Economic Impact and sustainability of virtual tourism .....	15
2.4 Virtual Tourism link with dynamic capabilities.....	17
2.4.1 Sensing the evolution of virtual technology within the tourism sector .....	17
2.4.2 Seizing the opportunity presented by virtual tourism .....	18
2.4.3 Transformation of the tourism industry .....	19
2.5 Conclusion .....	22
<b>Chapter 3. Research questions</b> .....	<b>23</b>
3.1 Introduction .....	23
3.2 Objectives and Research Questions .....	23
3.2.1 Objective 1.....	23
3.2.2 Objective 2.....	23
3.2.3 Objective 3.....	23
3.2.4 Objective 4.....	24

3.3 Conclusion .....	24
<b>Chapter 4. Research methodology .....</b>	<b>25</b>
4.1 Choice of methodology .....	25
4.2 Population and/or research setting.....	25
4.3 Unit of analysis and level of analysis.....	26
4.4 Sampling method, sampling frame or criteria, and sample size.....	26
4.5 Research instrument – Interview.....	27
4.6 Data gathering process.....	29
4.7 Data analysis approach.....	30
4.8 Research quality and rigour .....	30
4.9 Limitations of the research design and methods .....	31
4.10 Conclusion .....	31
<b>Chapter 5. Results/Findings.....</b>	<b>33</b>
5.1 Introduction .....	33
5.2 Category I. Sense-Making.....	34
5.2.1 How familiar is the concept of virtual tourism in South Africa? .....	34
5.2.2 To what extent are game parks dependent on people visiting parks physically? ..	36
5.2.3 Conclusion.....	38
5.3 Category II. Seizing.....	38
5.3.1 To what extent have game parks in South Africa adopted and implemented of virtual tourism? .....	39
5.3.2 How is virtual tourism being encouraged through government policy? .....	41
5.3.3 What are the challenges in implementing virtual tourism?.....	43
5.3.4 Conclusion.....	45
5.4 Category III. Transformation .....	46
5.4.1 How would virtual tourism affect skills within the tourism industry? .....	46
5.4.2 What is being offered through virtual tourism? .....	48
5.4.3 Conclusion.....	49
5.5 Category IV. Economic impact and sustainability .....	50
5.5.1 How are game parks economically benefitting from virtual tourism? .....	50
5.5.2 What drives the economic benefits? .....	52
5.5.3 How sustainable is virtual tourism? .....	54
5.5.4 Conclusion.....	56
5.6 Conclusion.....	56
<b>Chapter 6. Discussion .....</b>	<b>58</b>
6.1 Introduction.....	58
6.2 Category I. Sense-Making.....	58
6.2.1 How familiar is the concept of virtual tourism in South Africa? .....	58
6.2.2 To what extent are game parks dependent on people visiting parks physically? ..	60
6.3 Category II. Seizing.....	61

6.3.1 To what extent have game parks in South Africa adopted and implemented virtual tourism? .....	61
6.3.2 How is virtual tourism being encouraged through government policy? .....	61
6.3.3 What are the challenges in implementing virtual tourism? .....	62
6.4 Category III. Transformation .....	64
6.4.1 How would virtual tourism affect skills within the tourism industry? .....	65
6.4.2 What is being offered through virtual tourism? .....	65
6.5 Category IV. Economic Impact and Sustainability .....	66
6.5.1 How are game parks economically benefiting from virtual tourism? .....	66
6.5.2 What drives the economic benefits? .....	66
6.5.3 How sustainable is virtual tourism? .....	67
6.6 Conclusion .....	69
<b>Chapter 7. Conclusion .....</b>	<b>71</b>
7.1 Introduction .....	71
7.2 Findings .....	71
7.3 Sensing the evolution of virtual technology within the tourism sector .....	72
7.4 Seizing the evolution of virtual technology within the tourism sector .....	73
7.5 Transformation of the evolution of virtual technology within the tourism sector .....	73
7.6 Category IV. Economic Impact and Sustainability .....	74
7.7 Research contribution .....	75
7.8 Recommendations to managers .....	75
7.9 Recommendations for future research .....	76
7.10 Research Limitations .....	76
7.11 Conclusion .....	77
<b>References .....</b>	<b>78</b>
<b>Appendices .....</b>	<b>85</b>
Appendix 1: Invitation letter to participate in the research .....	85
Appendix 2: Consistency matrix .....	86
Appendix 3: Interview guide .....	88
Category IV. Economic Impact and Sustainability .....	88
Appendix 4: Qualitative codes .....	89

### List of Figures

Figure 1: Technology framework for intelligent automation in Tourism.....	2
Figure 2: Application of automation in tourism experiences.....	3
Figure 3: Dynamic Capabilities Diagram.....	11
Figure 4: Digital Transformation.....	12
Figure 5: Business model innovation for sustainability (BMIS).....	16
Figure 6: Technology Acceptable Framework.....	19
Figure 7: Model diagram of influential factors of public sentiment in virtual tourism.....	58
Figure 8: Motivations for DFT.....	63
Figure 9: Virtual technology for second chance tourism model.....	68

### List of Tables

Table 1: Game Parks in Limpopo and Mpumalanga Provinces.....	26
Table 2: Interview Guide.....	28
Table 3: Number of Interviewees and interview duration.....	30
Table 4: Interviewee Profiles.....	32



## Abbreviations

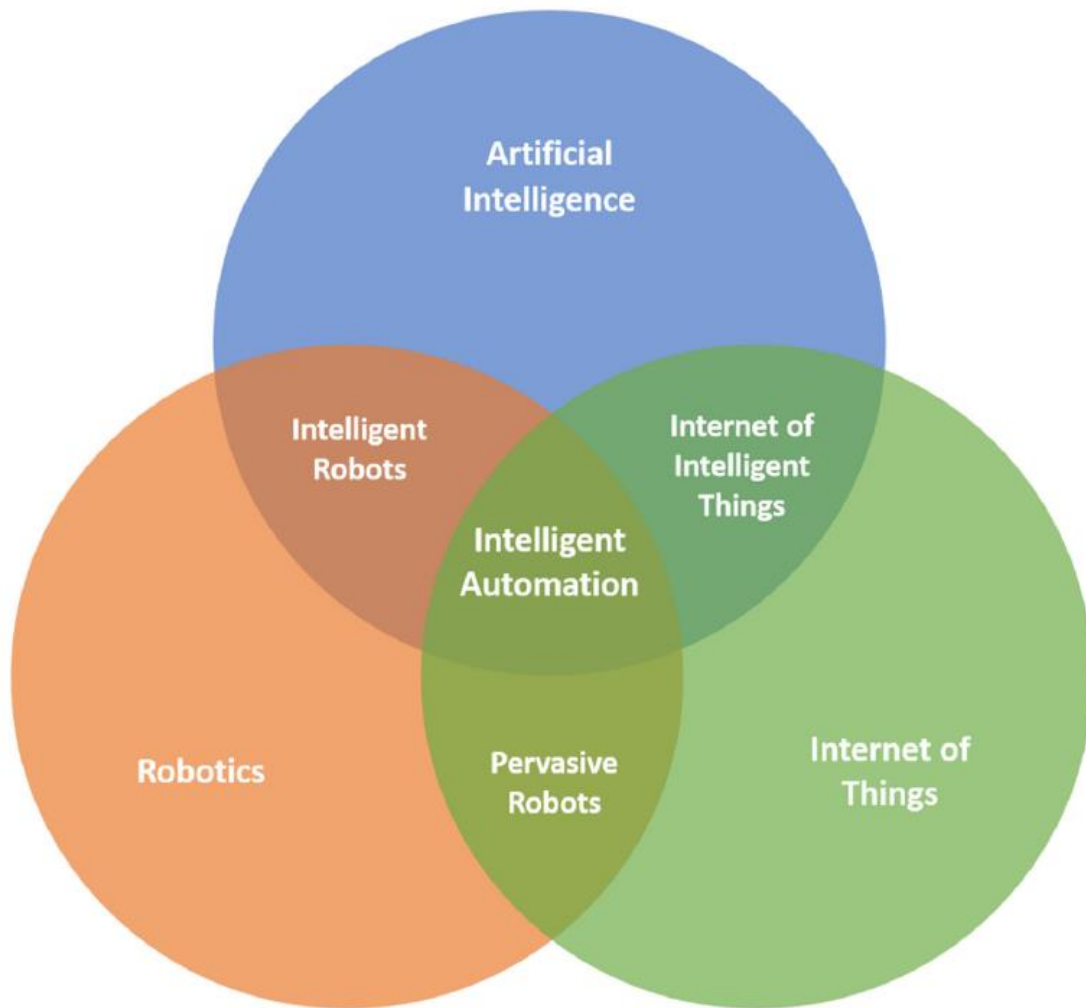
AI	Artificial Intelligence
AR	Augmented Reality
BCI	Brain-Computer Interface
BMIS	Business model innovation for Sustainability
Covid-19	Coronavirus
DFT	Digital Free Tourism
GDP	Gross Domestic Product
HTM	Holistic Technostress Model
IFC	International Finance Cooperation
IoT	Internet of Things
MR	Mixed-Reality
NFT	Non-Financial Tokens
SANPARKS	South Africa National Parks
SCT	Second Chance Tourism
Stats SA	Statistics South Africa
UN	United Nations
UNWTO	United Nations World Tourism Organisation
USD (US\$)	United States Dollars
UWA	Uganda Wildlife Authority
VR	Virtual Reality
ZIMPARKS	Zimbabwe National Parks and Wildlife Management

## Chapter 1. Introduction

### 1.1 Background to the research problem

Tourism is a social and commercial activity involving the mobility of people from different locations into unfamiliar or familiar destinations to experience the unique settings and attractions in those environments for a limited time (UNWTO, 2020). Tourism has been a major enabler and beneficiary of globalisation, especially after World War 2 with the improvement in the land, water, and air transportation as well as investments in infrastructure (Song et al., 2018). This created a huge market for physical and mass tourism, with the sector experiencing years of sustainable growth until 2019, with 1,5 billion international tourists in 2019 creating USD 1.7 trillion in export revenues (UNWTO, 2020). However, the threat of global catastrophes, climate change, and pandemics among other global challenges pose a significant obstacle to world tourism, especially the physical and mass tourism market. The global Covid-19 pandemic led to travel restrictions to 100% of world destinations, leading to a decline in international tourism by 74% to 381 million international tourists in 2020 (UNWTO 2020).

Technology has become a great enabler that has brought tremendous breakthroughs for the tourism industry, creating an interface that permits virtual non-corporeal access to environments of choice using computers, and phones among other devices (Zhang et al., 2022). The world has entered the age of intelligent tourism automation where multiple technologies are harnessed to enhance the tourist experience virtually, known as virtual tourism (Tussyadiah, 2020). The definition of virtual tourism, for the sake of this study, includes tourism that is facilitated by technology permitting real-time emotional and physical immersion as well as telepresence of tourists, either independently, complementarily, or in combination, such as the internet, Virtual Reality (VR) and Augmented Reality (AR), Mixed-Reality (MR), Artificial Intelligence (AI), Internet of Things among other technologies (Bec et al., 2021). Virtual tourism platforms are a combination of technologies that are combined to create an ability to be immersively present in a location remotely (Tussyadiah, 2020). Figure 1 below indicates technologies, although not exhaustively, that are combined to enable virtual presence that is used to facilitate virtual tourism.

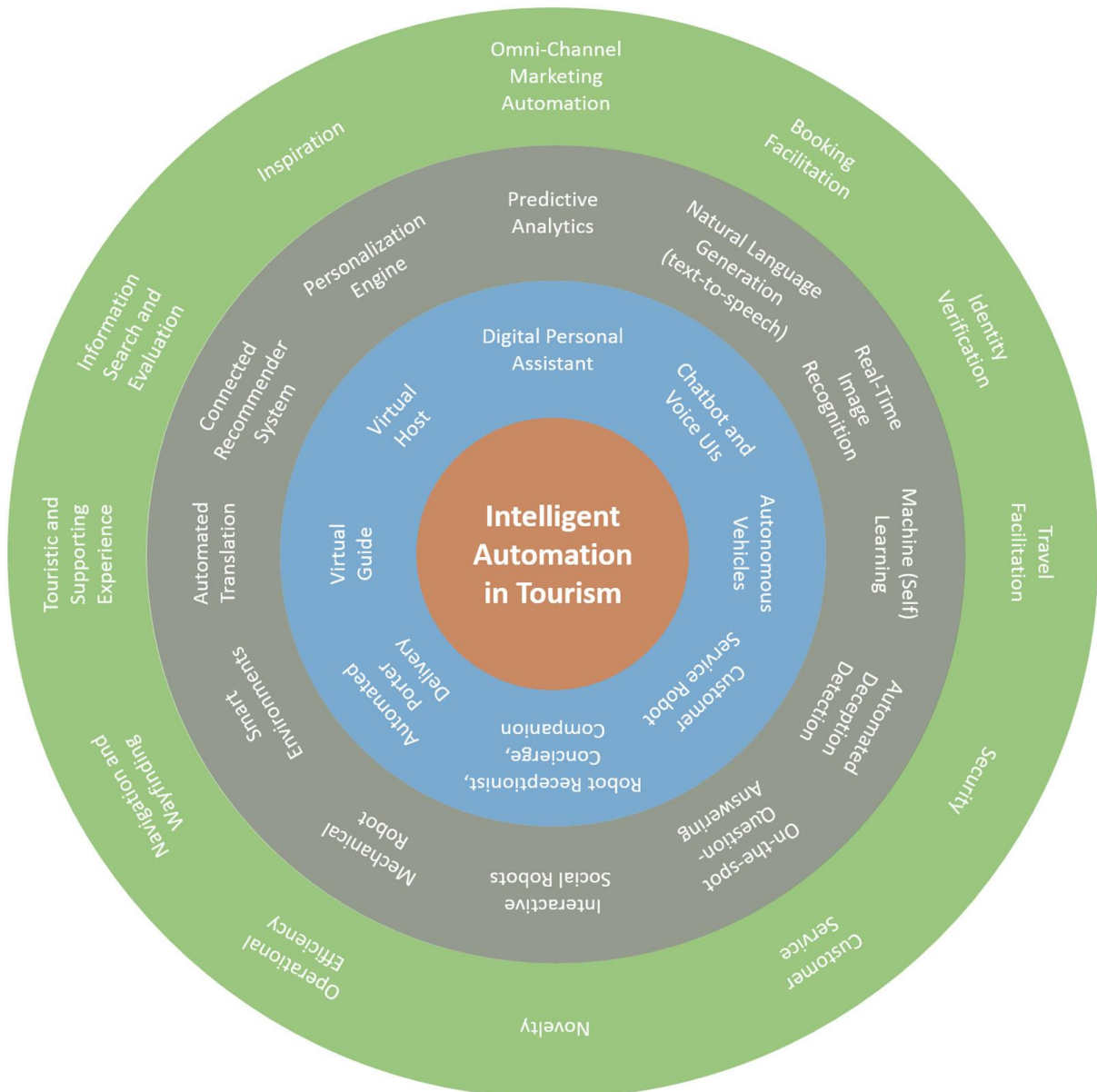


**Figure.1** *Technology framework for intelligent automation in Tourism.* Source: Tussyadiah, 2020

Bec et al. (2021) state that “Virtual Reality (VR) is a computer-generated simulation of an environment, whilst Mixed Reality (MR) presents the co-existence of the real and virtual worlds” (p.2). Bec et al. (2021), further state that “Augmented Reality (AR) is a type of mixed reality where the real environment is overlaid in a digital context” (p.2). Ma and Sun (2020) state that Artificial Intelligence (AI) is “automated systems that make split-second context-dependent decisions”, further stating that they are “implemented using state-of-the-art machine learning algorithms” (p.482).

The combination of the above technologies creates intelligent automation in the tourism sector in the form of virtual tourism, creating an ability to remove human physical contact with destinations (Tussyadiah, 2020). In addition to creating a phenomenal experience that stimulates the senses and engages the faculties emotionally, virtual technology creates platforms that enable tourists to experience virtual guides, security control, interaction, and predictive analysis including personalisation of the encounter among other possibilities open

to the imagination (Tussyadiah, 2020). Figure 2 below, summarises some of the experiences that are enjoyed while using virtual technology that is applied to virtual tourism.



**Figure.2** Application of automation in tourism experiences. Source: Tussyadiah 2020

This facilitates fast and exceptional information dissemination enabling the experience and communication. While the tourism market declined in 2020, sales in virtual reality, augmented reality and mixed reality were projected to increase 21 times from US\$2.9 billion in 2016 to a staggering US\$61.3 billion in 2020 (Flavian et al., 2019).

In 2021, global tourism recovered by 4%, which was an increase from 400 million in 2020 to 415 million (UNWTO, 2022). Nevertheless, the increase was less than the 2019 figures by 72% (UNWTO, 2022). Tourism contributed US\$3,5 trillion before the Covid-19 pandemic

compared to the 2021 estimate of US\$1,9 trillion to the world economy (UNWTO, 2022). Tourism contributed 3,7% to South Africa's Gross Domestic Product in 2019, employing 4,7% of the national workforce whilst contributing US\$209 billion to the national economy (Stats SA, 2020). However, due to the Covid-19 pandemic challenges which resulted in a hindrance to mass tourism through travel restrictions and the closure of tourist destinations, tourists declined by 72,6% in 2020 (Stats SA 2020). The digitalisation of tourism creates a renewed focus that allows continuous improvement and reinvention enabling competitiveness, growth, and sustainability (UNWTO, 2022). Virtual tourism allows destinations to earn revenue remotely without physical contact (Bec et al., 2021). The Covid-19 pandemic has created a paradigm shift in the way tourism is viewed and analysed (Zenker and Kock, 2020). Virtual tourism, which does not require physical travel, experienced phenomenal growth globally during the Covid-19 pandemic due to social distancing requirements, travel restrictions, and economic lockdowns (Zhang et al., 2022), however, studies are yet to integrate the learnings (Loureiro et al., 2020).

## **1.2 Theoretical perspective**

Numerous conferences and increasing trends of studies, both qualitative and quantitative, have been conducted for the past two decades in virtual tourism (Loureiro et al., 2020). Topical interest areas in journals by various authors on virtual tourism are, among others, atmospheric design recommendations, cultural heritage and smart cities, seminal and trend papers, location-based information and image quality, mobile technology, tourism destination marketing, the acceptance in tourism, telepresence, and virtual communities, application of technology to tourism, and augmented reality (Loureiro et al., 2020). This is an indication of the broadness and importance of virtual tourism as an area of study.

However, future studies are recommended in five main areas of virtual tourism. These include the following: developing a virtual tourism-specific model that can be used to understand the behaviour of tourists concerning virtual tourism, an effective adaptation of virtual tourism depending on variables such as age, gender including other socio-psychological variables, and understanding diverse cultural uptake of different entertainment elements included in virtual tourism (Loureiro et al., 2020). These main areas also explore how virtual tourism in different tourist destinations can be applied and benefit the education sector, and how virtual tourism can assist tourists in discovering other attractions and sites to visit (Loureiro et al., 2020).

In more recent years, studies on virtual tourism have focused on the impact of Covid-19 on virtual tourism (El-Said and Aziz, 2022), virtual tourism acceptance (Qin et al., 2021), and virtual tourism sustainability (Gossling, 2021), including the negative challenges of using technology in the tourism industry (Egger et al., 2020) and the need to articulate virtual tourism

research with a focus on Africa, especially post the Covid-19 pandemic. However, before the pandemic, there had been cyber activism or online tourism activism aroused by the killing of animals in Africa through trophy hunting which sparked online interest in African tourism (Mkono, 2018).

Research in virtual tourism has largely been from Europe and Asia, where the development and application of frameworks and studies have been based, with limited studies from the African context (Loureiro et al., 2020). There is therefore a need to understand the concept of virtual tourism in the African setup, in particular the area of focus which is South Africa. Tourism in Africa is a key enterprise that creates economic benefits that ensure alignment with the United Nations Sustainable Development Goals, contributing to more than 7,1% of employment and infrastructure development as well as economic growth (Folarin and Adeniyi, 2020). It is important to have a specific study of Africa as each continent has peculiar characteristics that differ from other environments. A generalised view risks underserving and limiting the study of virtual tourism and its implications. These characteristics can be observed under different factors such as political and social, economic, technological, ecological, and legal factors including administrative differences.

The political environment in South Africa is relatively stable, however, there are challenges with publicised political scandals, corruption, and institutional collapse which potentially negatively affect the stability and attractiveness of the country (Juan and Wegner, 2019) and consequently tourism (Ghalia et al., 2019). Geopolitical stability provides an attractive destination as it ensures swiftness in tourism development such as virtual tourism (Gozgor et al., 2022).

Internet access and experience are key differentiators, many African countries have challenges with access to technology, especially the provision of access to the internet compared with their Asian counterparts such as China who experience greater online access and interest because of better internet (Mahrous and Hassan, 2017). Limitations in technology and internet access in Africa prohibit early and fast adaption of technology enhanced breakthroughs like virtual tourism (Mahrous and Hassan, 2017).

The management of game parks in Africa is different from Europe and Asia, many game parks in Africa are owned by governments, for example in South Africa, South Africa National Parks (SANPARKS), in Uganda they are under Uganda Wildlife Authority (UWA), and Zimbabwe National Parks and Wildlife Management (ZIMPARKS), falling under protected areas (Spenceley et al., 2019). This makes them less adaptable in implementing new technology as there is no motivation towards profitability as the focus is directed towards other key government objectives which are deemed more important such as conservation and community benefits. The protection and treatment of animals in African game parks reflect sensitivity in the care of the animals with policies meant to prevent extinction

(Sheppard and Fennell, 2019). The ownership by the state of game parks results in underfunding of projects and programs, hampering the speed of growth and uptake of developments in the tourism sector (Matshusa et al., 2021).

The ecology, environment, and geography of Africa differ from the European and Asian continents. Some animals are naturally native to the African continent but are not found in the wild in other parts of the world such as the African Civet, Grey Crowned Crane, Guereza Colobus, and African Wild Dog, among others which have distinct African heritage (Tentree, 2022). The unique nature of animals found in different parts of the world has created global attention concerning the care, safari, and tourism, which has led to activism (Mkona and Holder, 2019). There is a need to understand the competition that exists within Africa among the different countries in terms of infrastructure and the variety of wildlife offered by game parks (Manrai et al., 2020). South Africa has developed its game parks to be more sustainable over the years (Baum et al., 2017).

### **1.3 Research aim and objectives**

Considering the lack of research concerning virtual tourism in Africa, this study identified and evaluated virtual tourism utilization and benefits to game parks in South Africa. The Dynamic Capabilities Theory by Teece (2018) is employed in the business model and competitiveness analysis of virtual tourism in South Africa. Dynamic Capabilities are change management and implementation abilities that remodel competencies to align futuristically with altering conditions (Teece et al., 1997). Guided by the identified gap in the literature, this study explores the following objectives focusing on Africa.

- (1) Appraise the understanding of the concept of virtual tourism in South Africa by game parks, that is, sensing the virtual tourism opportunity in the market.
- (2) Assess the extent of the adoption of the concept of virtual tourism in South Africa by game parks, which articulates the seizing of the virtual tourism opportunity and
- (3) Analyse the transformative impact of virtual tourism on the South African game parks
- (4) Assess the economic performance and sustainability of game parks in Limpopo and Mpumalanga Provinces of South Africa because of virtual tourism.

### **1.4 Research contribution**

The research is meant to establish how game reserves in South Africa interacted with virtual tourism, how they have sensed the opportunity, the uptake of the concept and positioning and how it has transformed tourism in light of the Dynamic Capabilities Theory. The research establishes how virtual tourism contributes to sustainability. The research creates awareness of where Africa is concerning virtual tourism. The African context is unique in the abundance of nature and wildlife (Sheppard and Fennell, 2019). The ownership of major

game reserves in Africa is controlled by government with another portion under private ownership (Spenceley et al., 2019). The need to understand how the technology infrastructure challenges in Africa have hampered growth and implementation of virtual tourism (Mahrous and Hassan, 2017).

The research adds to an understanding of the extent of implementation and economic impact of virtual tourism to game parks in Africa where tourism contributes 7% of continental GDP (IFC, 2022) and 3.7% to South Africa's GDP as of 2019 (Stats SA, 2020). By evaluating existing literature and bringing out previously unknown facts about virtual tourism, industry players and scholars will appreciate the current contribution of virtual tourism to African tourism and the improvement areas. As alluded to by Loureiro et al. (2020), research on virtual tourism has mainly focused on Europe and Asia with limited research on other continents, hence the need to explore Africa. Time constraints and financial resources may, however, limit the depth and extent of research. Nonetheless, the study sets a base for further exploring the African context.

### **1.5 Research scope**

Research into virtual tourism was focused on game reserves in the Limpopo and Mpumalanga provinces of South Africa. The researcher interacted with 13 interviewees using semi-structured interviews. The research utilised the Dynamic Capabilities theory which led to the interview being structured into four constructs, that is sensing, seizing and transformation including sustainability. The research objectives mentioned above formed the basis of the research scope and questions. These interviews provided great input into the subject under research with varying and diverse views being expressed. The researcher chose game reserves as specialised destinations which are popular with physical tourists in South Africa and Africa in general. Limpopo and Mpumalanga have some of the best wild animal species and well-developed game reserves that attract many visitors (Chidakel et al., 2020). The research looked at the adoption, economic impact, and implications of virtual tourism to the game reserves.

### **1.6 Research structure**

The current chapter has introduced the context of the research, the aim, and objectives of the study, including the value to be derived from the research including some of the limitations of the study. The following is a structure of the subsequent chapters. Chapter Two is the review of literature by earlier academics to understand the current written literature about virtual tourism including applicable theories. Chapter Three, this chapter focuses on the research questions.

Chapter Four presents the qualitative research methodology of the study, emphasising how and why the research was approached in that manner and the experiences of the research.



Chapter Five presents the results of the research. Chapter Six is the analysis chapter focusing on providing a comprehensive analogy of findings to the research questions, comparing with the literature review, and creating a link with chapter one. Chapter Seven is the concluding chapter, which sets out the outcomes, and future research objectives including limitations and recommendations to business and academics. It highlights the benefits of the research that was conducted.

## **Chapter 2. Literature review**

### **2.1 Introduction**

The study explores the knowledge of virtual tourism and the extent of its implementation including whether it has a positive or negative economic and sustainability effect in South Africa. The purpose of the current section is to present a review of the pertinent literature concerning virtual tourism. The major constructs, in this case, would be virtual tourism, sensing, seizing, transformation, knowledge of virtual tourism, level of utilisation, and economic sustainability or profitability. In addition to reviewing the literature on virtual tourism, we will employ the Dynamic Capabilities Theory by Teece (2018), to understand the business model and competitiveness landscape.

### **2.2 Virtual tourism**

#### **2.2.1 Overview of virtual tourism**

Virtual tourism is as ancient a concept as human existence, human beings have always had the capacity either through imagination, spirituality, or other means to travel and experience other locations without their physical presence (Mura et al., 2017). However, technology elaborated, enhanced, and brought a multiplicity of possibilities to virtual travel, which are widely accessible with the opportunity of commercialisation (Mura et al., 2017).

Many organisations are now using virtual tourism to get visibility and customer appreciation, (Boyd and Koles, 2019). Further, a digital marketing revolution is an insight as organisations adjust from the traditional methods of tourist engagement (Boyd and Koles, 2019). There are different organisations with various activities involved in virtual tourism such as museums, hotels, resorts, and game parks, among other examples of organisations that have implemented virtual tourism (Tussyadiah, 2020), (Gossling, 2021), and (Loureiro et al., 2020).

### **2.3 Dynamic Capabilities Theory**

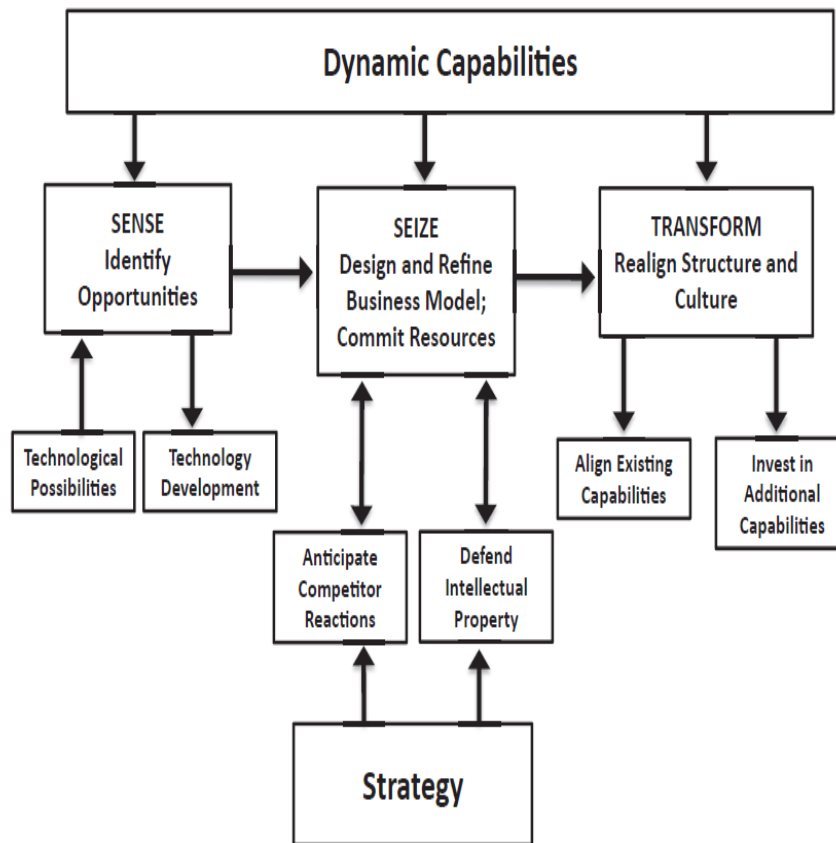
The Dynamic Capabilities Theory (DCT) is a business change evolution model theory that is strategically anchored on three constructs that analyse a firm's responsiveness, that is, sensing, seizing, and transformation (Teece, 2018). The ability of organisations to reinvent is best advocated through the constructs of dynamic capabilities as they emphasise agility (Teece, 2007). Virtual tourism is a digital technology enhanced provision whose familiarity and knowledge was augmented by the Covid-19 pandemic creating immense pressure for tourist destinations, including game reserves, to respond adaptively whether consciously or subconsciously for them to survive (Itani and Hollebeek, 2020).

Sensing capabilities allow an organisation the ability to scan the external environment for opportunities (Warner and Wager, 2019). The ability to interpret disruptive technology, proactively noting changes in consumer behaviour and tests as posed by digital transformation

in the tourism sector is an organisation wide effort that enables enterprise survival and continuity (Teece, 2018). In addition to the more recent Covid-19 pandemic, technological changes that have occurred in the digital environment have resolutely brought significant transformation to the tourism industry, and failure to take note is postponing the inevitable (Teece, 2018).

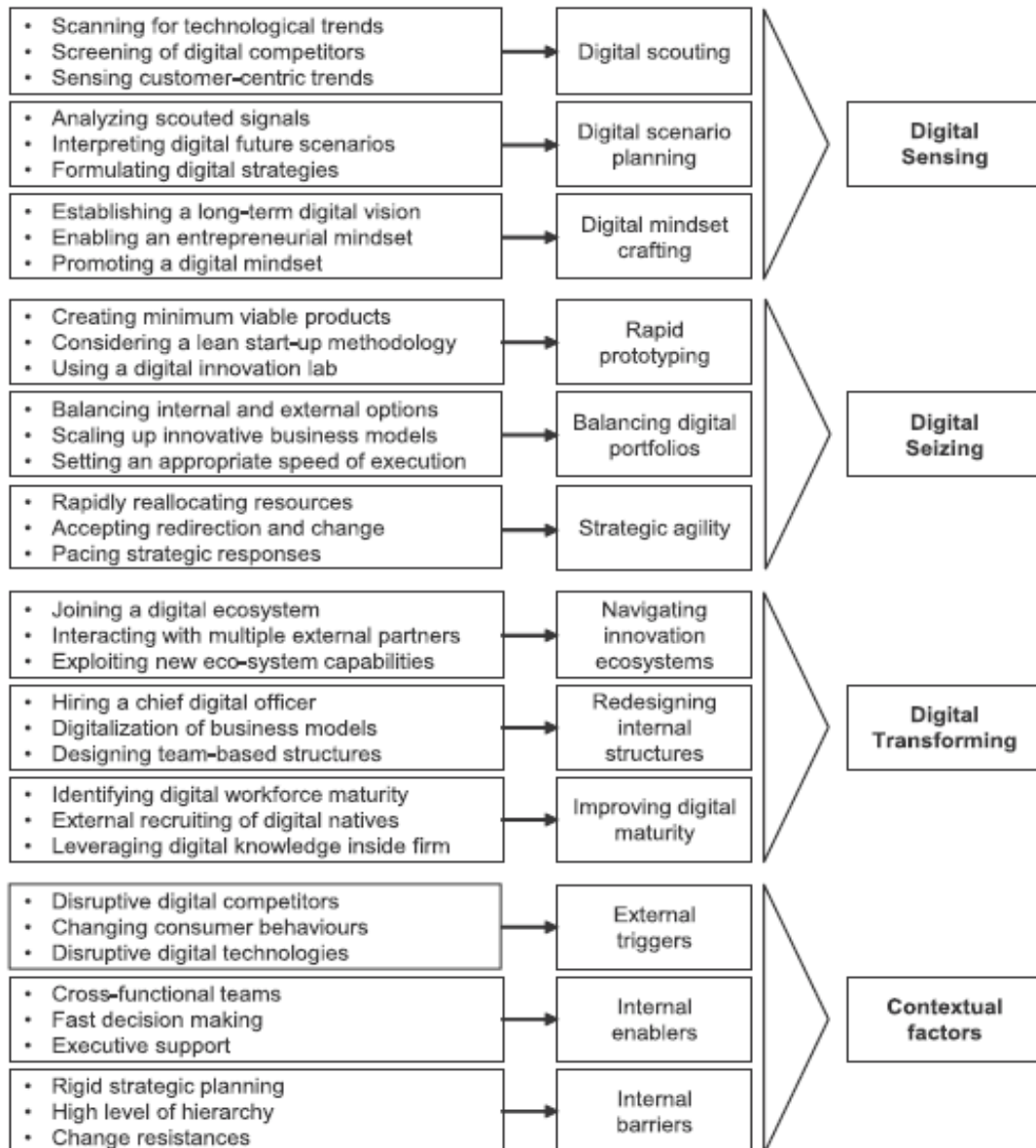
In addition, seizing capabilities allow the firm to exploit and extract value addition from a potential opportunity. Seizing creates an opportunity for game reserves to remodel the business strategy, test new business approaches, and compare with the old and or redundant business models whilst redirecting the future enterprise (Teece, 2018). However, seizing opportunities presented by disruptive events is not always easy to assert in an organisation, especially where there is suspicion of a cultural overhaul and impact on established traditions and business models (Birkinshaw, 2018). The challenge of fixed models and practices is the handicap they impose on the ability to transform into a new order (Birkinshaw, 2018).

Lastly, transformation is an intermittent, either planned or opportunistic, the process of re-engineering competitiveness (Warner and Wager, 2019). Below is a diagrammatic depiction of the Dynamic Capabilities Theory. Transformation is akin to continuous business model restructuring and innovative leadership, and an environment that is aware and flexible to changes that influence its strategic processes (Teece, 2018). As figure 3 below shows, an organization is supposed to continuously reinvent to adapt and remain competitive, and this is a function of many approaches including market intelligence and strategic execution. The organisation in sensing the market should investigate the different technology applications available and how they can leverage existing capabilities and redefining new ones (Teece, 2018). The development of alternative technologies that best suits the vision and strategic objectives of the organisation to remain competitive (Teece, 2018). Intellectual property protection is a huge component in sieving opportunities as its loss can frustrate competitive edge (Teece, 2018).



**Figure.3** *Dynamic Capabilities Diagram*. Source: Teece, 2018, p.44

Similarly, the applicability of the Dynamic Capabilities Theory can be extended to digital technology adoption and consequently virtual tourism (Warner and Wager, 2019). To this end, digital technology utilisation in the form of virtual tourism is the exploitation of technology to create competitive advantages through a collective approach that redefines the business model, collaborative approach, and culture in the tourism industry. In articulating the different components of Dynamic Capabilities, the three constructs can be further split into different components which are reflected below in figure 4 (Warner and Wager, 2019).



**Figure.4** *Digital Transformation*. Source: Warner & Wäger, 2019, P.335

### 2.3.1 Sensing the evolution of technology

Digital sensing works in three phases which include digital scouting, scenario planning, and a flexible mindset that is receptive to change (Warner and Wager, 2019). Scouting creates knowledge of what exists in the business environment to create an alignment between functional departments, operational strategy, and information technology strategy (Yeow et al, 2018). There is usually a dilemma of alignment between functional strategy and digital strategy (Yeow et al, 2018). It becomes pertinent for organisations to observe disruptive technology developments that are making entrant, the trends in the technology space, competitors in the relevant technology, and observing customer trends (Warner and Wager, 2019). In line with

virtual tourism, it is crucial to have relevant technology that is not only buzzwords but applicable, enhances, and resolves limitations in the wider business spectrum (Warner and Wager, 2019). Observations must be made about the extent of utilisation and the availability of support from the technology providers which also affects the popularity of different technology.

Some technologies are applicable in certain locations but not adequate or fully integrated and supported by an existing infrastructure for optimum function as in the case of nascent technology, consequently, their implementation requires resource commitment resolve (Yeow et al., 2018). Therefore, it is pertinent to dissect the impact of varying scenarios presented by the technology shift, to understand the conflicting business models whose future feasibility is defined by the competencies created by the dynamic capabilities (Teece, 2018). The success of models built on the core of disruptive technology is greatly influenced by the strategic craftsmanship in the scenario building, modelling, and the capabilities of the implementation process (Yeow et al., 2018). There are different scenarios posed in the implementation of virtual tourism considering the varied nature of tourism players and dynamics in South Africa, mainly Limpopo and Mpumalanga provinces, which creates tangency of alignment due to the multi-functional impact of information technology strategy (Yeow et al., 2018). Business model alignment with information technology strategy is key for strategic vision to be achieved, and that can be pre-empted through scenario planning (Yeow et al., 2018). The importance of strategic alignment is emphasised as a continuous team process to ensure that organisations are proactive in strategy formulation, especially in a fluid and technologically nomadic environment where continuous process innovation drives relevance and return (Yeow et al., 2018).

Digital strategy by nature assumes a multi-purpose and functional dimension impacting organisation wide resource distribution, employee morale, and overall performance (Yeow et al., 2018). Business models should create and serve customer value creation and steer commitment from stakeholders within the ecosystem (Teece, 2018). The ability to sense market reconfiguration and future inclinations requires an entrepreneurial culture in an environment where change and adaptability are the norms (Warner and Wager, 2019).

### **2.3.2 Seizing the opportunities presented by virtual technology**

Business strategy should enable the seizing of opportunities presented by technology (Teece, 2018). Without migration towards inventive adoption of improved competencies in conducting their enterprise businesses can risk sinking into oblivion (Teece, 2018). Therefore, organisations that endeavour to implement changes in their framework pursue prototyping and business model reengineering and capability capacity innovation (Warner and Wager, 2019).

Adoptive business models are key to driving the seizing of technology (Teece, 2018).

There is a need to maintain a balance between existing capabilities and new competencies (Warner and Wager, 2019). The challenge is building competencies in a dynamic and constantly innovative industry (Warner and Wager, 2019). Prototyping is a necessary step that permits less costly analysis of how viable the information technology project is, how scalable the solution is within and outside the organisation, and its limitations (Warner and Wager, 2019). Prototyping allows for lean exploration of a concept such as virtual tourism through the creation of minimum viable products, providing a chance for stakeholder lobbying and approval, and ensuring commercial viability is understood from a test environment (Warner and Wager, 2019).

Agility is enhanced by the acceleration of employee awareness and training, realignment of resources and processes ensuring business model and technological changes are proactively in sync (Warner and Wager, 2019). Despite the advantage of adoption, managers are keen to maintain the status quo due to organisational inertia and favouring perpetuation of legacy systems, which later becomes inevitable (Yeow et al., 2018). Building new capabilities involve reconfiguring and leveraging resources in the existing paradigm (Yeow et al., 2018). Through prototyping, strategy formulation is undertaken, providing room to proactively anticipate competitor action, and drive toward market share growth and cost management (Teece, 2018). In addition to innovative resource distribution and commitment, the key to seizing is promptness in implementation as technology replaces itself with improvements rendering it obsolete and inefficient compared to later options (Warner and Wager, 2019).

### **2.3.3 Transformation of virtual technology**

Reframing internal structure and processes by changing the composition of skills and blending internal capacity with external capabilities to create a dynamic organisational culture that can leverage team and technology benefits is key to transformation (Warner and Wager, 2019). Change management and building a robust engagement process within the technology ecosystem provide exploitation opportunities to create access to capabilities and partnerships which are imperative in achieving the purpose (Warner and Wager, 2019). There are challenges in the transformation process including failure of calibration between the internal structures and the new external capacity, inadequate structures of governance, and poor or underperforming product innovations (Warner and Wager, 2019). Digital transformation creates new capabilities which include new products and market development enhanced by competencies creating value addition (Teece, 2018). Despite the advantages of transforming digital strategy into virtual tourism, there are addictive challenges and health shortcomings that are brought about by the constant use of digital gadgets (Egger et al., 2020).

### **2.3.4 Contextual factors in dynamic capabilities**

In driving towards dynamic capabilities, there are push factors which are mostly external and internally facilitating elements which encourage implementation of digitalisation such as virtual tourism (Warner and Wager, 2019). The external triggers for sensing include the aggressive market positioning by innovative competition which are quick to embrace technological changes and willing to try new methods of doing business (Warner and Wager, 2019). Consumers are constantly on the lookout for service providers whose offerings align with their changing needs and appetite, especially the young tourists who are more inclined towards technology (Zhang et al., 2022). To respond appropriately and on time, there is need to have a constructive team spirit from the operational teams and management working in sync towards a common goal, which enables flexible decision making (Warner and Wager, 2019). However, bureaucratic structures and resistance to change are obstacles to creation of dynamic capabilities to assume leadership of changes occurring in the industry and this affects competitiveness (Warner and Wager, 2019).

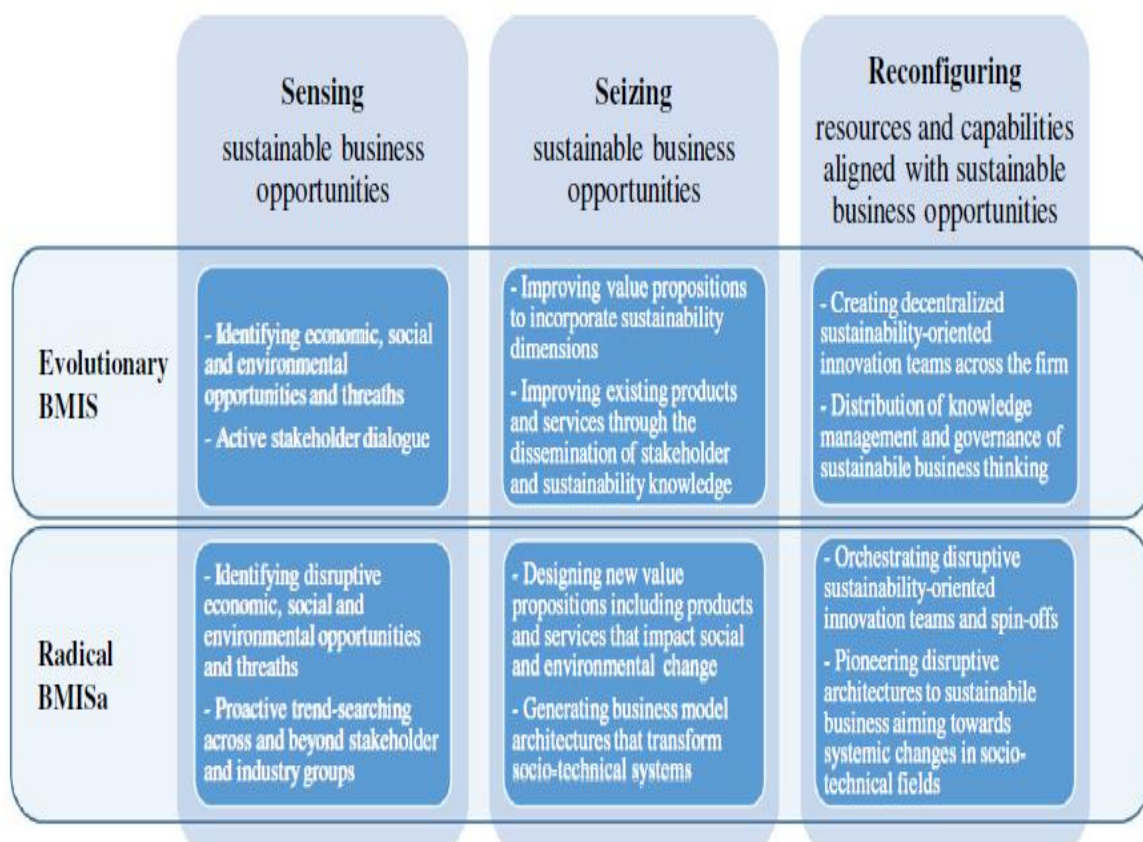
### **2.3.5 Economic Impact and sustainability of virtual tourism**

Sustainability is a communal function and practice whereby present generations indulge their needs whilst they encourage and protect the needs and ability of future generations to meet their own (United Nations, 1987). Sustainability has matured to occupy a pivotal role in strategy, with organisations that fail to incorporate it into their strategy and capabilities finding it difficult to exist in the modern world (Cezarino et al., 2019). Technology such as virtual tourism aims to protect nature maintaining it in a natural environment enabling less contamination encouraging ecotourism and sustainability (Khanra et al., 2021). Ecotourism is harmony with nature encouraged in less commercialised and accessed environments preserving their natural pristine state (Khanra et al., 2021). Ecotourism is like sustainable tourism, however, minute differences exist, that is, ecotourism is demand influenced and responds to tourist appetite whilst sustainable tourism is driven by the service providers, for example, the game reserves (Khanra et al., 2021). There are many ecological areas of concern to sustainability some of which include valuing and safeguarding the interests of the animals, nature, and residents at the destination areas, reduction in carbon emissions from physical tourist activities, and the psychological mindset and behaviour of tourists concerning sustainability (Khanra et al., 2021). The challenge in business, in the face of changing technology, is creating a balance between profitability, and social as well as environmental and nature protection, however, there is a growing number of organisations focusing resources towards sustainable and value adding business methods (Inigo et al., 2017).

Business models are the architecture for enterprise value creation that creates a link between capabilities, stakeholders, and the ecosystem (Inigo et al., 2017). Sustainable



business models redefine business to accommodate sustainability issues creating value for both internal and external stakeholders (Inigo et al., 2017). Technology innovations, such as virtual tourism, create an opportunity for business to remodel their impact on the environment (Inigo et al., 2017). The changing of business practices and culture to encourage sustainability is called Business Model Innovation for Sustainability (BMIS), (Inigo et al., 2017). Business models focusing on sustainability are effective in harnessing technology advancements, and nature's concerns to build protection for the environment and animals, maintaining the objective of business (Inigo et al., 2017). The following diagram sourced from, Inigo et al, 2017, shows how business models impacted by technology can be changed to contribute to sustainable approaches in different industries which also includes tourism (Inigo et al., 2017).



**Figure.5** *Business Model Innovation for Sustainability (BMIS)*. Source: Inigo et al., 2017, P.536

There are two approaches by organisations in repositioning business models either evolutionary or radical, while sustainability is output and creation of long-term competitiveness, evolutionary is gradual whilst the radical approach is disruptive and sudden (Inigo et al., 2017). The evolutionary process is a response to stakeholder and community triggers creating a slower virtual circle of business model renewal, cost, and risk management is closely tracked (Inigo et al., 2017). However, the radical approach to BMIS is proactive and

disruptive creating a leapfrog effect from one dimension to another completely different sustainability inclined model (Inigo et al., 2017). Business model changes are key to ensuring that technology innovations create value through sustainable practice (Inigo et al., 2017).

## **2.4 Virtual Tourism link with dynamic capabilities**

Virtual technology has created an unsettling development in the form of virtual tourism that has disrupted strategic competencies in the tourism sector. The readiness and impact of virtual tourism in South Africa will be analysed using the Dynamic Capabilities theory with the link to the following objectives clarified.

- 1) Appraise the understanding of the concept of virtual tourism in South Africa by game parks, that is, sensing the virtual tourism opportunity in the market.
- 2) Assess the extent of the adoption of the concept of virtual tourism in South Africa by game parks, which articulates the seizing of the virtual tourism opportunity and
- 3) Analyse the transformative impact of virtual tourism on the South African game parks
- 4) Assess the economic performance and sustainability of game parks in Limpopo and Mpumalanga Provinces of South Africa because of virtual tourism.

### **2.4.1 Sensing the evolution of virtual technology within the tourism sector**

Sensing is identifying technological opportunities which lead to technological development (Teece, 2018). The current atmosphere of technological advancement requires flexibility to remain relevant. Indeed, information technology advancement and adaption are affirmed as key ingredients of organisational growth and a factor for overall competitiveness (Jiang and McCabe, 2021). Moreover, there is a positive correlation between company profitability, competency, and resource utilisation (Jiang and McCabe, 2021). For instance, the recent Covid-19 experience has exposed the volatility in the tourism sector which experienced a global decline due to lockdown measures (Rastegar et al., 2021). To this end, the pandemic ushered a technology adoption awaking which has seen many organisations scramble to introduce virtual tourism (El-Said and Aziz, 2022). However, the Covid-19 pandemic effects are an opportunity for the tourism industry to transform into a more impactful industry as pandemics are expected to continue (Sigala, 2020).

Further, the convergence between the tourism ecosystem and the dynamic capabilities anchored on technology advancements and resource capabilities ensure competitive advantages for operators which creates long-term profitability (Jiang and McCabe, 2021). Effecting sustainable technological change such as virtual tourism requires a flexible mindset that supports the idea of change (Garay et al., 2019). However, despite the experiences and the abundance of information on virtual tourism (Loureiro et al., 2020) and (Gossling, 2021), there is an absence of adoption and a futurist approach to generating strategic options in some

global locations (Sainaghi and Baggio, 2017). Tourists' post-pandemic intention to visit destinations either physically or virtually is not a function of restrictions such as social distancing (Itani and Hollebeek, 2020). The growing popularity of virtual tourism further emphasises the need for firms to become agile by building and implementing additional capacities and business models that ensure relevance in the new digital order (Warner and Wager, 2019). This will ensure continued survival and existence as an enterprise, otherwise, they will become obsolete. In addition to the creation of firms with strong dynamic capabilities, the willingness to pay of customers is a function of many attributes including user-friendliness, and the attractiveness of design which allure customers' interest enticing them at pre-purchase creating lasting customer interest and relationships (Huang, 2021). Therefore, this increase in virtual tourism extends to game parks, and thus the need to create new competitive advantages is highlighted.

Emotional support among global citizens will overcome the challenges of the pandemic, as pandemics are predicted to continue and possibly become more severe (Joo et al., 2021). The complementarity or exclusive view of virtual tourism is subject to the conditions or state of the world as it exists at a particular time. However, despite the immense advantages of virtual tourism, it removes the attachment associated with a physical presence (Zhang et al., 2022).

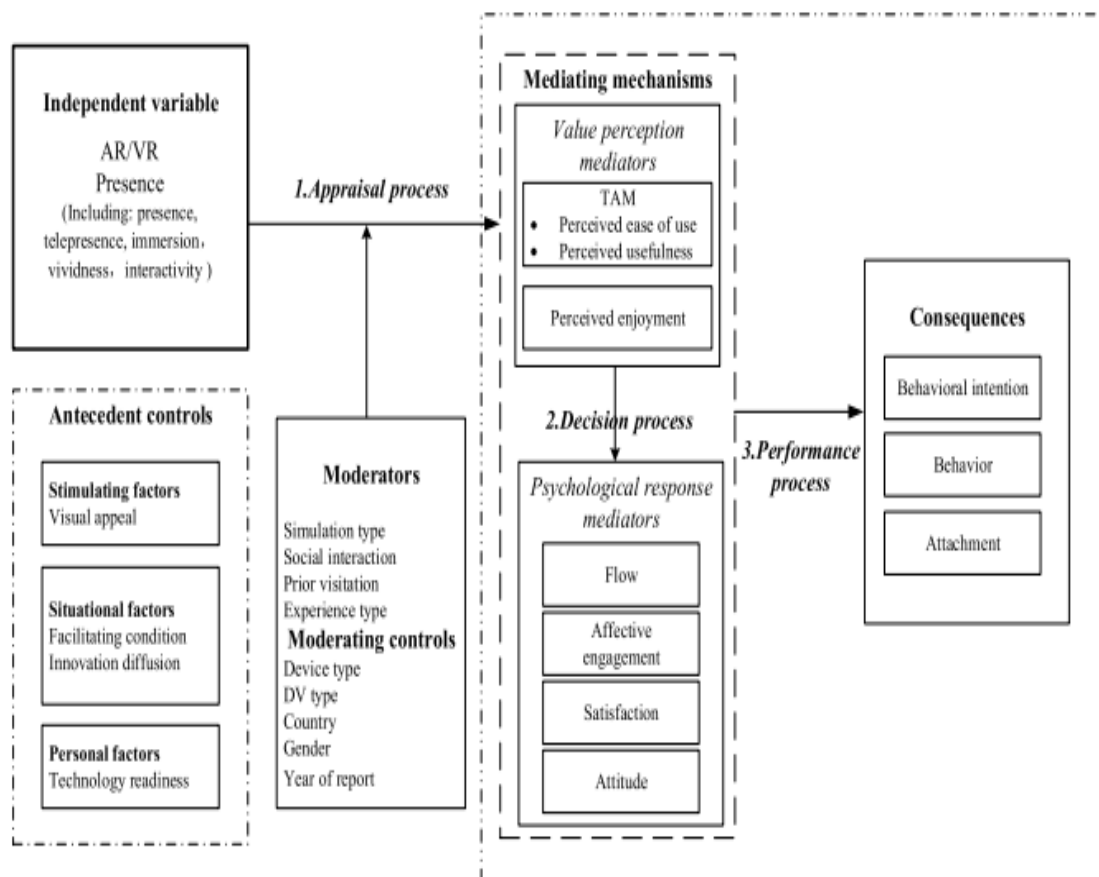
#### **2.4.2 Seizing the opportunity presented by virtual tourism**

The next aspect of the Dynamics Capabilities Theory of seizing, involves the strategic aspect of the business, that is, committing resources, anticipating competitor behaviour, and defending intellectual property (Teece, 2018). Covid-19 pandemic challenges must be converted into opportunities for the industry (Sigala, 2020). The travel restrictions which led to localised closed economies are a prime example that fosters an appetite for agility (Rastegar et al., 2021). Moreover, virtual tourism is an opportunity that tourism players should approach to seize the gap (Gossling, 2021).

Various factors influence the adoption of virtual tourism technology both on the service and destination. Consideration for the adoption of virtual tourism includes the stand-alone value of the technology, functionality, and user-friendliness, the level of integration with existing or alternative technology, the availability of expertise and third-party service providers who can facilitate the technology requirements, the availability of other users and market effectiveness rating, affordability, and availability of support (Laurell et al., 2019). For technology to be utilised it's dependent on practicality and convenience (Brandon-Jones and Kauppi, 2018). Perceived level of risk, performance expectation, and trust are key determinants in determining acceptance of technology, consequently virtual tourism technology (Ribeiro et al., 2022). Technology adoption is also a function of social and environmental risk management (El-Said and Aziz, 2022). However, other entities fail to seize opportunities as they are caught

in the dilemma between satisfying the old system and building new digital capabilities (Svahn et al., 2017).

Further, the adoption is not difficult if technology can protect consumers from social and environmental disasters or reduce their exposure (El-Said and Aziz, 2022). Simulation of the actual environment is a factor that allows virtual technology adoption, especially if it provides an exact preview of the actual practical experience (El-Said and Aziz, 2022). The following are some determinant factors of adopting new technology, that is, trust, perceived usefulness and perceived ease of use, social influence, facilitating conditions, technological anxiety, resistance to use, perceived risk, and privacy as a determinant for technology adoption (Kamal et al., 2020).



**Figure.6** Technology Acceptance Framework (Fan et al., 2022).

Past experiences and attitudes towards a new experience can derail the adoption of a technology as risk avoidance strategy (Manis and Choi, 2019).

### 2.4.3 Transformation of the tourism industry

Transformation is a realignment of structure and culture, redefining the business model, aligning existing strategy, and investing in additional capabilities (Teece, 2018). Technological

transformation is a continuous process demanding agility and strategic reconditioning in business models, collaborative approaches, and culture (Warner and Wager, 2019). Additionally, for tourism to transform the concept and approach must be redefined (Rastegar et al., 2021). Therefore, a need to create a new business model which aligns effectively with the paradigm shift becomes imperative (Teece, 2018).

The biggest threat to transformation is when there is resistance to accepting the change (Rodríguez et al., 2020). Further, the resistance emanates from misinformation and lack of clarity on challenges and potential risks that innovation comes with, including failure to appreciate the advantages brought about by digitalisation (Rodríguez et al. (2020). In an environment where globalisation is not hindered, mass tourism and virtual tourism can positively exist as compliments (Song et al., 2018). For example, in a localised setup where access, communication, and travel technology do not exist or do not function, then neither mass tourism nor virtual tourism can prevail. In a semi-localised or semi-globalised environment that allows information technology to exist such as virtual tourism, then mass tourism and virtual tourism are complementary, such as in the case of covid-19 pandemic restrictions. However, the measure of complementarity or exclusiveness is a function of many variables such as access to technology, affordability, quality of virtual technology, and cost of travel and accommodation, among other considerations.

Furthermore, perceived similarity is a key determinant in the choice between mass tourism and virtual tourism (Deng et al., 2019). If the virtual experience is deemed indistinguishable from the physical experience, at a lower cost than the real encounter, their interest in the real experience will diminish (Deng et al., 2019). Quality of authenticity and attachment are key determinants in the choice of virtual tourism (Kim et al., 2021). Destination visits can also be encouraged by the attachment developed during the virtual experience (Kim et al., 2021). That is, the feeling of presence from a psychological understanding, the feeling of being there, determines an individual's choice concerning virtual technology (Tussyadiah et al., 2018). In addition, virtual technology is a great marketing tool for actual visitation as it can also potentially create anxiety and the need for indulgence in physically experiencing the destinations (Tussyadiah et al., 2018).

Despite the opportunities or affordances of virtual tourism, virtual tourism will not lead to the destruction of the actual mass tourism market but will be both a complement and a substitute (Itani and Hollebeek, 2020). It is not fully known whether virtual tourism will completely result in the obsolescence of mass tourism, however, this is a research gap. It is important to establish its impact on the existing mass tourism ecosystem sustainability.

#### **2.4.4 Contextual Factors in Virtual Tourism**

There are varying challenges with the adoption of virtual tourism, others are external emanating from the limitations such as lack of government support and lack of information (Ehigiamusoe, 2020). Health challenges resulting from use of electronic devices create a difficulty when virtual tourism is being considered, as further costly investments are made for it to be user friendly (Merksnd Nawijn, 2021). The challenge with acceptance of virtual tourism hugely centres on whether the physical experience can be replicated virtually with similar levels of emotional and sensual connection (Zhang et al., 2022). The campaign for Digital Free Tourism (DFT) is taking hold especially as digital technology used in virtual tourism has resulted in antisocial activities as it impedes relationship building and personal growth (Egger et al., 2020). Management lethargy and inertia including lack of resources and skill cripple the uptake of virtual tourism hampering development of dynamic capabilities.

#### **2.4.5 Economic Impact and sustainability of virtual tourism**

As a new form of tourism, virtual tourism can create new forms of economic advantages, in addition to its preservation of natural destinations' advantages (Zhang et al., 2022). However, the potentially addictive nature brought about by the isolation and constant focus on gadgets creates a health hazard that makes virtual tourism a short-term solution (Merks and Nawijn, 2021). Virtual tourism will result in skills redundancy; however, new industries will emerge, new skills will be developed, and new avenues of revenue generation will be created, thus ensuring a new economic transformation takes place (Tussyadiah et al., 2018). Tourism development is an avenue for economic growth in Africa, as it brings infrastructure investment, alternative tax revenue, and destination marketing (Folarin and Adeniyi, 2020).

Tourism sustainability, tourist mobility, and technological developments have generated significant interest in recent years (Loureiro et al., 2020). Excessive numbers physically frequenting a location can result in sustainability challenges which virtual tourism mediates through the immersion of participants, allowing multiple access from different locations at the same time through telepresence with real time action and sensational interaction with the environment (Loureiro et al., 2020). Over tourism to physical destinations has led to deterioration and loss of attractiveness (Bec et al., 2021).

United Nations development goals on sustainability to tourism are a vehicle that can either advance or obstruct social sustainability, environmental sustainability, economic sustainability, and governance using either a sharing economy or collaborative consumption (Gossling and Hall, 2019). Further, there must be a proper alignment between information and communication technology with tourism to achieve, the United Nations Sustainability

Development Goals, (2022), of sustainable economic growth, innovation, sustainable consumption, and production, and peaceful and inclusive societies (Gossling and Hall, 2019).

The literature review indicates the emergent nature of virtual tourism and the need to further understand the concept to ensure benefits to the sector (Gossling, 2021). Virtual tourism is hugely unexplored in Africa as the bulk of the literature focuses on other continents (Loureiro et al., 2020). Therefore, a beneficial study into the African context would assist in creating a knowledge base that is applicable and relevant, as each continent or geography is unique with varying factors that impact adaption, and results thereof.

## **2.5 Conclusion**

The literature review was structured to highlight how the virtual tourism industry in South Africa has conformed to the Dynamic Capabilities Theory. The literature has highlighted gaps in research from the African perspective concerning virtual tourism. Guided by the set research objectives of this study, the chapter reviewed literature that provides an understanding of the concept of virtual tourism, that is, sensing the virtual tourism opportunity in the market. The literature also revealed the extent to which the concept of virtual tourism has been adopted in the tourism industry, which articulates seizing of the opportunity. In addition, the chapter analysed the transformative impact of virtual tourism and assessed the economic performance and sustainability of virtual tourism.

## **Chapter 3. Research questions**

### **3.1 Introduction**

The research is an inquiry into the concept of virtual tourism in South African game reserves focusing on the Mpumalanga and Limpopo provinces. The research aim was to establish the development of dynamic capabilities and sustainability of virtual tourism including its economic impact, challenges in its implementation, and the value addition. The research was formatted using constructs of the Dynamic Capabilities Theory which include sensing, seizing, and transformation of virtual tourism and its sustainability. The research questions were developed with an appreciation of the global developments in virtual tourism as informed by the literature review in Chapter 2, including the potential benefits. The following highlights the research objectives and the research questions that formed the basis of the research.

### **3.2 Objectives and Research Questions**

#### **3.2.1 Objective 1**

Appraise the understanding of the concept of virtual tourism in South Africa by game parks, that is, sensing the virtual tourism opportunity in the market.

##### **Research Questions**

1. How familiar is the concept of virtual tourism in South Africa?
2. To what extent are game parks dependent on people visiting parks physically?

#### **3.2.2 Objective 2**

Assess the extent of the adoption of the concept of virtual tourism in South Africa by game parks, which articulates the seizing of the virtual tourism opportunity.

##### **Research Questions**

3. To what extent have game parks in South Africa adopted and implemented virtual tourism?
4. How is virtual tourism being encouraged through government policy?
5. What are the challenges in implementing virtual tourism?

#### **3.2.3 Objective 3**

Analyse the transformative impact of virtual tourism on the South African game parks

##### **Research Questions**

6. How would virtual tourism affect skills within the tourism industry?
7. What is being offered through virtual tourism?



### **3.2.4 Objective 4**

Assess the economic performance and sustainability of game parks in Limpopo and Mpumalanga Provinces of South Africa because of virtual tourism. The Business Model Innovation for Sustainability (BMIS) provides great influence in the analysis of models being utilised and the contribution of virtual tourism to sustainability (Inigo et al, 2017). The BMIS model provided influence in structuring the research questions to unpack the sustainability impact of virtual tourism.

#### **Research Questions**

8. How are game parks economically benefiting from virtual tourism?
9. What drives the economic benefits?
10. How sustainable is virtual tourism?

### **3.3 Conclusion**

The research questions were designed to cover the objectives sought to be addressed by the researcher using the Dynamic Capabilities Theory. The research objectives were investigated using 10 questions that cover the three constructs of the Dynamic Capabilities Theory namely sensing, seizing and transformation including the sustainability of virtual tourism.

## **Chapter 4. Research methodology**

### **4.1 Choice of methodology**

Interpretivism is the paradigm chosen as the area of investigation focuses on an emerging research space that will assume an exploratory study (Neuburger et al., 2018). Exploratory studies allow us to observe independently, to understand without preconceived notions, as we formulate an understanding of the new phenomenon, which is virtual tourism, appreciating the effect of dynamic capabilities in tourism (Nguyen et al., 2022), through negotiation for meaning via Interpretivism (Bell et al., 2019). Moreover, exploratory research investigates nascent areas to develop hypotheses that can be later tested using quantitative methods of research (Bell et al., 2019). The study explored the knowledge of virtual tourism within the game parks in South Africa, the extent to which they have implemented it, and the economic impact it has had on them. This will facilitate understanding relationships that exist for us to come up with industry recommendations while employing dynamic capabilities theory to understand how virtual tourism impacts game parks (Jiang et al., 2019). The researcher used the qualitative research approach inductively to understand virtual tourism in Limpopo and Mpumalanga Provinces. This was done by collecting and analysing data to address the understanding, adoption, and economic impact of virtual tourism interpreting how the sense-making, seizing, and transformative aspects of the Dynamic Capabilities Theory have been infused (Teece, 2018). Due to limited time and resources, this was limited to a cross-sectional study (Bell et al., 2019).

### **4.2 Population and/or research setting**

Chief Executives or in their absence senior executives and or managers of game parks and nature reserves in Limpopo and Mpumalanga Provinces of South Africa were the population. They were chosen as they are the leadership who make decisions and provide direction and implementation of strategic decisions that impact the dynamic capabilities of the game reserves (Teece, 2018) This population was aware of developments in the tourism industry that immediately affected them and were able to articulate responses, and how it has affected or not impacted the South African market. Limpopo and Mpumalanga provinces were chosen as location for the research since the province are home to Kruger National Park which is one of the largest wildlife and nature parks in Africa, and attracts considerable global attention (Matshusa et al., 2021).

There is a total of 91 game and nature reserves in Limpopo and Mpumalanga Provinces (South Africa Venues, 2022). The sample contacts were accessed through recommendations from googling game reserves in Limpopo and Mpumalanga and calling

them directly to secure an interview. In addition, colleagues and fellow students assisted with references and assisted in setting up the meetings. Once the relevant participants were identified they were reached out to via phone calls or email and their colleagues or fellow students, and thereafter a meeting was arranged for direct engagement with the potential participants. The other recommendations were provided by fellow interviewees.

The nature and game reserves per province are distributed as follows.

Province	Number of Game and Nature Reserves
Limpopo	68
Mpumalanga	23
Total	91

**Table 1.** *Game Parks in Limpopo and Mpumalanga Provinces*, Source: South Africa Venues, 2022

Please note that the two provinces share Kruger National Park, but it was recorded under Limpopo because the main gate to the park is in that province.

#### **4.3 Unit of analysis and level of analysis**

As this proposed study was exploratory and qualitative, the units of analysis were the executive management of the game parks. Executive management of the parks are the individuals responsible for the operations of the game parks, providing direction and leadership on a day-to-day basis. These were selected because they are custodians of the success of the parks, and they have important and strategic information about the game parks including knowledge of what they have done and what they intend to offer to tourists. Strategic matters that impact the sensing, seizing and transformation of the game reserves are the responsibility of executives and management (Teece, 2018). The level of analysis was rich and deep in that the guiding research question focused on understanding relationships, perspectives, and experiences of upper management of game parks in South Africa's, abilities, and capacity to sense, seize and transform their businesses in line with opportunities in virtual tourism. The executive management knows the success and failures of initiatives in the industry and therefore articulates industry responses to virtual tourism.

#### **4.4 Sampling method, sampling frame or criteria, and sample size**

For this qualitative exploratory study, non-probability sampling was used, leaning on the convenience sampling method coupled with snowballing. Given the time constraints, it provided a balanced opportunity for the interested population to be part of the sample, allowed focus within the research context, reduced the error rate, and while extracting

invaluable information from smaller samples (Bell et al., 2019). Qualitative research tends to benefit from a smaller sample size than quantitative data (Bell et al., 2019). The population was extracted from the 91 game parks using convenience sampling coupled with snowballing to achieve my sample size which was between 10 and 15. The researcher obtained contact details from colleagues as well as from google search. Once the researcher contacted the prospective participants, he would send a follow-up email to those that had shown interest in being interviewed. Phone calls were a faster way of getting a response as most game reserves were not keen to participate. The email included the participant consent form which had to be signed before the interview commenced. Some agreed to go ahead with the interview but would sign the letter as soon as the interview was concluded. As this study made use of semi-structured interviews, the researcher collected data from 13 participants who consisted of 6 Directors, 4 General Managers, and 3 Operations Managers from 6 game reserves based in Mpumalanga and 7 game reserves from Limpopo Provinces of South Africa.

The executives were from a sample selected using convenience sampling, those who responded first and confirmed interest to participate in the interview requests were selected, through direct inquiry with the game parks soliciting their participation as well as referrals. The reasoning behind the criteria of upper management, as opposed to low-level employees at the game parks, is that they strategically define and map the operations of the game parks and are expected to have information about developments in their industry, and as mentioned previously they are responsible for ensuring dynamic capabilities for the organisation (Teece, 2018). Likewise, the sample size was justifiable because of the limitation of time and cost as well as the amount of data analysis that is required in the qualitative research (Sandelowski, 1995). In addition, the data collected was representative of the other parks as alluded to in Section 4.8, the interview and data were collected until no new input, themes, or codes were uncovered (Rijnsoever, 2017).

In terms of the sampling strategy, the research employed non-probability sampling, leaning on the convenience sampling method. This strategy was selected because it helps focus on the relevant groups with information that provide direct value addition to the research which reduces the margin of error and the convenience sampling to assist with quicker interview processes given the time constraints (Bell et al., 2019). In addition, it allowed different qualitative approaches to be utilised (Bell et al., 2019).

#### **4.5 Research instrument – Interview**

The researcher collected data through semi-structured interviews with the participants. Semi-structured interviews benefit qualitative research because they are focused and provide room for the enrichment of responses through depth due to being open-ended as

well (Delve, 2022). Further, they are a hybrid combination of structured and unstructured interviews with a diversity of responses (Delve, 2022). Interviews are a great way of collecting data as they enable research in areas where observation is not adequate or impossible, allow participants room to remember experiences and articulate responses, ensure focus, participant consent, easier, and allow richer and broader information (Bell et al., 2019). In addition, the data collected from semi-structured interviews allow flexibility and independence among respondents, which affirms the unbiased and quality of responses making them more reliable (Lewis and Saunders, 2018). The interview guide was continuously reviewed and updated, and it focused on aspects concerning sense-making, seizing, and transformation within the Dynamic Capabilities Theory (Kump et al., 2019). Numerous scales have been developed to quantitatively assess dynamic capabilities such as the 14-point scale developed by Kump et al. (2019). However, in acknowledgment of the developed quantitative scales, the interview guide emerged from factors to address the fundamentals set by dynamic capabilities theory about virtual tourism in South African game parks (Teece, 2018). Table 2 below indicates the research questions asked during the interviews.

<b>Research Question</b>	<b>Interview Question</b>
<p><b>Category I. Sense-Making</b></p> <p>Appraise the understanding of the concept of virtual tourism in South Africa by game parks, that is, sensing the virtual tourism opportunity in the market.</p>	<ol style="list-style-type: none"> <li>1. How familiar is the concept of virtual tourism in South Africa?</li> <li>2. To what extent are game parks dependent on people visiting parks physically?</li> </ol>
<p><b>Category II. Seizing</b></p> <p>Assess the extent of the adoption of the concept of virtual tourism in South Africa by game parks, which articulates the seizing of the virtual tourism opportunity.</p>	<ol style="list-style-type: none"> <li>3. To what extent have game parks in South Africa adopted and implemented virtual tourism?</li> <li>4. How is virtual tourism being encouraged through government policy?</li> <li>5. What are the challenges in implementing virtual tourism?</li> </ol>
<p><b>Category III. Transformation</b></p> <p>Analyse the transformative impact of virtual tourism on the South African game parks</p>	

	<p>6. How would virtual tourism affect skills within the tourism industry?</p> <p>7. What is being offered through virtual tourism?</p>
<p><b>Category IV. Economic Impact and Sustainability</b></p> <p>Assess the economic performance and sustainability of game parks in Limpopo and Mpumalanga Provinces of South Africa because of virtual tourism.</p>	<p>8. How are game parks economically benefiting from virtual tourism?</p> <p>9. What drives the economic benefits?</p> <p>10. How sustainable is virtual tourism?</p>

**Table 2.** Interview Guide

#### 4.6 Data gathering process

It is a requirement that before embarking on data collection ethical clearance is obtained, hence the first step was obtaining ethical clearance from GIBS Business School.

The second stage of the data-gathering process was the presentation of the study to potential participants which led to the recruitment of participants. As mentioned in Section 4.4, the research employed a convenience sampling strategy leaning on snowballing to contact and recruit potential participants. To contact potential participants, the researcher reached out by telephone to the game parks to introduce himself and the project. The researcher used google to obtain the contact numbers of the game reserves in Limpopo and Mpumalanga Provinces. After each phone call, in the affirmative, the researcher sent a follow-up email to have the communication on file for the sake of convenience. Once the researcher had presented the study and received 13 interested potential participants who met the desired criteria, Section 4.4, he stopped recruitment.

The third stage of the data-gathering process consisted of the researcher and the interested participants arranging a time to conduct the semi-structured interviews. The interviews were conducted online using Google Meet for time and travel convenience for both parties. Interviews provided an opportunity for an intimate engagement with the respondents ensuring that they are engaged in the exercise e in the process gathering detailed in-depth responses (Lewis and Saunders, 2018). At the start of the online session, the researcher asked the participant if they had any questions about the study. Then, the researcher requested verbal and written consent from the participant to engage in the study, including that the interview be audio-recorded. Once the participant had consented to be in the study, the interview would

begin. However, in many instances the potential interviewees were too busy to commit time for an interview and opted to send written responses to the interview questions.

The interview stage followed the protocol, Section 4.5, in terms of the structure and order of the interview, including the questions asked by the researcher to the participant. It was estimated that an individual semi-structured interview will last no more than 60 minutes. The table below shows the time taken to conduct the interviews.

Description	Quantity
Number Of Interviews	13
Interviews Conducted Online	4
Interviews Responded in Writing	9
Average Interview Duration	1 Hour
Duration Of Shortest Interview	55 Minutes
Duration Of Longest Interview	1 Hour 10 Minutes
Total Duration of Interviews	4 hours

**Table 3.** Number of Interviewees and interview duration

#### 4.7 Data analysis approach

Thematic analysis was used to extract value, which involved extracting key themes, removing repetition, and finding common concepts (Merx and Nawijn, 2021). The semi-structured interview data were transcribed, coded, and thematically analysed.

First, the audio-recorded Google Meet interviews were transcribed using the Otter.ai program, the researcher then performed quality control of the transcriptions to ensure their correctness. Next, the researcher performed coding in two stages, that is, open coding and then focused coding. Open coding was the initial coding where the data was distinctively set in unique themes and descriptions (Delve, 2022). Whereas focused coding was a streamlined process and finalised coding extracted from the open codes (Delve, 2022). Once the transcriptions had been coded, the researcher then conducted the thematic analysis. The thematic analysis was preliminarily organised by the three categories of Dynamic Capabilities Theory of Sense-Making, Seizing, and Transformation. After the preliminary analysis, the researcher finetuned the analysis according to various codes or small themes that emerged from the analysis. The data will be stored in electronic format on a hard drive as well as on my cloud using google drive.

#### 4.8 Research quality and rigour

In qualitative research, research quality and rigour are typically grouped by trustworthiness (Connelly, 2016). Trustworthiness is an encompassing analysis that is observed in varying ways including as a minimum consideration for credibility, dependability, conformity, transferability, and authenticity (Connelly, 2016). In addition, recruiting procedures, data analysis, and the procedures undertaken should align with the research design (Connelly,

2016). In conducting the research credibility ensured adherence to proven methods and procedures for conducting qualitative research (Polit and Beck, 2014). The research process maintained an audit trail of processes and procedures as conducted, detailing the subject of the study and outcomes for the results to be dependable (Polit and Beck, 2014). To avoid bias, the research process was elaborately documented to ensure that the results of the research can be tested and proven independently using the approach utilised (Polit and Beck, 2014). The research outcome provides a setting that allows for replicability and application in similar environments, with a conscience of peculiar location (Polit and Beck, 2014). The use of personnel directly linked or involved in the management of game parks ensured that appropriate and authentic data was collected consequently providing results that are dependable (Polit and Beck, 2014).

#### **4.9 Limitations of the research design and methods**

The current study was exploratory, and inductive, and used qualitative methods to answer the research question. Qualitative research is mainly subjective as the researcher can manipulate the interview questions and process, as well as the personal relationships that are potentially developed with the participants (Bell et al., 2019). The interview path and quality are directed by the attributes and influence of the researcher (Bell et al., 2019). The lack of standardisation and structured approach to qualitative research makes it difficult to replicate research with equal certainty and accuracy (Bryman,1994). Qualitative research takes a generalised view that findings are applicable across the sector, this creates reliability challenges and inaccuracy where the environments change or are different (Bell et al., 2019). Transparency challenges are greater with qualitative research especially because of the subjectivity and heavy influence of the researcher at every stage of the process (Bell et al., 2019).

The research participants were mostly not available for the interviews due to their work schedules. It proved difficult to convince them to participate hence the written responses that were provided by some of them. Although the interviews were designed to be undertaken online and some responded in writing, the time limitations and lack of financial resources hampered the quality of the research.

#### **4.10 Conclusion**

The chapter documented the qualitative process utilised in the participant selection, data collection and analysis process. The semi-structured interviews focused attention on the African perspectives using South Africa as a research location. The qualitative research was conducted to reach conclusion on the Dynamic Capabilities Theory and sustainability of virtual



tourism. The research sought to adequately discover and contribute additional knowledge to literature concerning the African context.

## Chapter 5. Results/Findings

### 5.1 Introduction

This chapter presents the research outcomes of the interviews conducted with executives and managers of game reserves to inquire concerning the adoption, economic impact, and implications of virtual tourism to game parks within the Limpopo and Mpumalanga Provinces of South Africa. The findings attempted to provide answers to the following.

- (1) Appraise the understanding of the concept of virtual tourism in South Africa by game parks, that is, sensing the virtual tourism opportunity in the market.
- (2) Assess the adoption of the concept of virtual tourism in South Africa by game parks, which articulates the seizing of the virtual tourism opportunity and
- (3) Analyse the transformative impact of virtual tourism on the South African game parks
- (4) Assess the economic performance and sustainability of game parks in Limpopo and Mpumalanga Provinces of South Africa because of virtual tourism.

The researcher used convenience sampling. A total of 53 game reserves were contacted, however, 13 interviews were conducted. The following table shows the profile of the interviewees.

Interview Number	Organisation	Position	Province	Reference Name
1	Game Reserve	Operations Director	Limpopo	GR1
2	Game Reserve	Managing Director	Limpopo	GR2
3	Game Reserve	Operations Manager	Mpumalanga	GR3
4	Game Reserve	Operations Manager	Limpopo	GR4
5	Game Reserve	General Manager	Limpopo	GR5
6	Game Reserve	General Manager	Mpumalanga	GR6
7	Game Reserve	General Manager	Mpumalanga	GR7
8	Game Reserve	Operations Manager	Mpumalanga	GR8
9	Game Reserve	Managing Director	Limpopo	GR9
10	Game Reserve	Managing Director	Limpopo	GR10
11	Game Reserve	General Manager	Limpopo	GR11
12	Game Reserve	Managing Director	Mpumalanga	GR12
13	Game Reserve	Managing Director	Mpumalanga	GR13

**Table 4.** Interviewee Profiles

The researcher performed inductive coding of the transcripts. To do so, he conducted multiple rounds or iterations of coding which started with loose initial coding to familiarise himself with the data, followed by line-by-line coding. The purpose of going through multiple iterations of coding was to ensure consistency of the codes across the dataset as well as to promote coding saturation by focusing on the words or phrases that were repeated numerous and unique contributions that may not have been repeated by others. In addition, the researcher used Microsoft Word to keep track of his thought process throughout the

multiple iterations of coding. Finally, the researcher also took note of noteworthy participant quotations.

## **5.2 Category I. Sense-Making**

In this category of inquiry, the researcher aimed to establish the level of awareness game reserves have concerning virtual tourism and to assess their dependence on physical visitors. Towards that end, two questions were asked during the interviews, that is, how familiar is the concept of virtual tourism in South Africa, and to what extent are game parks dependent on people visiting parks physically? The outcomes of the research will be discussed below as well as the conclusion of this section.

### **5.2.1 How familiar is the concept of virtual tourism in South Africa?**

The question aimed at establishing whether virtual tourism is present and known in South Africa and the extent to which it has gained popularity. There were conflicting views, however, the consensus among the respondents was that they have heard about it, especially during the Covid-19 pandemic. There were divergent opinions concerning the manner and extent to which it has been implemented with 11 participants claiming that they do not provide the service and one participant having been providing virtual tourism during the Covid-19 pandemic, and one having been providing virtual tourism for almost 24 years. In arriving at the codes and the main issues, the researcher took note of repetitive phrases and words which indicated the greater impression from the interviews. The views of the interviewees as highlighted in the above codes have been summarized in the paragraphs in question one.

To help clarify the meaning of virtual tourism, one interviewee argued that presence without physical presence embodied in full emotional and sensual consciousness is virtual tourism. Virtual tourism is a function of many components, key is the ability to live the actual experience remotely, in the same manner as those who are physically present.

*“In simple terms, it’s creating an environment in which people can feel that their consciousness is present somewhere, yet the bodies have not landed in that place, the presence is a tourist experience. Virtual tourism could feel like you are surfing in Hawaii, could be like you are on a safari in Africa, and virtual tourism could be like you are in a spaceship, virtually remote presence”* interviewee GR13

One participant confirmed that virtual tourism is known and widespread, however, some who enjoy it are quite oblivious to its existence. The challenge is that some view it as normal television programming without consciously relating it to tourism.

*“The concept of people being able to go on virtual game drives is now quite well-established. I think that the concept of being able to go on a virtual game drive amongst, for example, television premium subscribers, while the concept of doing it is quite well established, however, nobody sees it as virtual tourism. Okay, so it's kind of counterintuitive here in the sense that on the one hand, there are a lot of people that know that you can go on a virtual Safari, they just don't think that it's tourism. I think that people understand these services exist, but they are not very aware of the concept of virtual tourism”* interviewee GR13

One participant providing a divergent stated that there is no formal approach to managing virtual tourism yet reflecting that it is mainly a private concept without much public knowledge or structure and formality to it.

*“Virtual tourism has not been really or formally introduced in South Africa”* interviewee GR3

The Covid-19 pandemic has been highlighted by several interviewees as the main trigger that created awareness of virtual tourism. This raises the question of its future as the pandemic has come to an end with many destinations opening to the public and travel being permitted.

*“What comes to mind is what happened during the pandemic, when several lodges had virtual game viewing, and live streaming of what is happening on the reserve”* interviewee GR4

*“It's become more familiar to the South African public during the Covid pandemic. I think that's where virtual tourism got a bit of a push into a direction, especially with people who wanted to travel but couldn't”* interviewee GR5

However, another interviewee argued that virtual tourism is not yet pronounced in South Africa as tourists want to come into the country to experience more than just the animals. The experience of the natural environment and the ability to engage with others physically takes away the loneliness creating a chance for friendships.

*“People want to come to South Africa because of what we've got to offer, its wildlife, its people, its climate, It's the big five, and we are a world in one country”* interviewee GR10

However, it was noted by another interviewee that participation in virtual tourism is only being done by the private sector, without any participation by government-owned national

parks. Government parks are not active in virtual tourism, this is also influenced by the lack of legal framework encouraging virtual tourism.

*“It’s available on some private podcasts, but I’m not aware of any live government virtual tourism sites”* interviewee GR11

Another view is that virtual tourism has a niche market, especially those who have financial, physical, and other limitations that hinder them from physically traveling to preferred game reserves.

*“For people that cannot travel or don't have the budgets, I think there's an opportunity to look at virtual links”* interviewee GR10

### **5.2.2 To what extent are game parks dependent on people visiting parks physically?**

The question was intended to provide a measure of reliance by game reserves on physical tourists, and whether virtual tourism can provide adequate revenue for them to continue operating. There were varying inputs from the interviews with different levels of emphasis on model options. The codes were extracted from the interviewee responses to question two, and these were the outstanding issues raised and repeated by the participants. The views of the interviewees as highlighted in the above codes have been summarized in the paragraphs in question two.

However, there is a common thread that is emanating from the interviews that suggest that game reserves in South Africa rely heavily on physical visits as opposed to virtual tours. The arguments are diverse with one interviewee mentioning guiding expertise as key for one to enjoy virtual tourism and that skill is not easy to come by. Further stating that tourism is a function of sensual gratification.

*“Virtual safari experiences are only limited to the guiding experience and in my view, the guest loses out on the tactile experience”* interviewee GR2

*“If you're doing anything in virtual reality, you are using two of your senses, you are not using all your senses at the end of the day. The experiences where you use most of your senses are the experiences that you remember”* interviewee GR5

Another interviewee states that without physical guests to spend time in the lodges they wouldn't survive. Game reserves depend on physical tourists who occupy the beds and enjoy

the hospitality. The game reserves invested highly in accommodation and letting virtual tourism take over creates a risk on their expected return on the investment.

*“If there aren’t any bums in beds, game parks will not survive”* interviewee GR4

There is a distinction that was made by another interviewee who emphasizes that there are real travellers, and this group is particularly driven by nature preferring the adventure of the outdoors. They relate more with nature through interaction, hence there is dependence on being physically present in the game reserves, and reciprocatively reserves depend on them to serve that craving.

*“Virtual tourism is accessible, it's easy and it is a fun thing to do. But I feel like the traveller, the real traveller wants to go and experience a South African safari in the bush, to physically see the animal and experience the roar of a lion next to them”* interviewee GR5

*“it's nice to see them on TV on a virtual platform, but it's not the same. You know, it does not give you that real-life thrill and goosebumps when you see a leopard with a kill in a tree or when a lion walks past your game viewer vehicle and roars”* interviewee GR5

Further for the parks to survive, along with the entire ecosystem, they need access to financial resources. They need to support employment, and communities within their locations benefit in numerous ways through business that emerges from the physical tourists, conservation fees, and levies resulting from tourists who come in person.

*“Game parks are depending on visitors, you know, visitors that pay entrance fees, conservation fees, community levies, stay over in camps, go for safari activities and other entertainment, which creates jobs and pays people salaries”* interviewee GR10

*“there's a market but the majority of parks depend on international and South African visitors”* interviewee GR10

*“In South Africa, we are still in the phase where most people see tourism as the mechanism by which you fund conservation. What the game parks are looking to do is to increase the amount of tourism that they have in the parks because that's how they generate revenue and that's how they conserve those parks”* interviewee GR13

In addition, communities have a sense of belonging and ownership to the game parks as they are part of the ecosystem. They are actively involved in anti-poaching activities and have

an attachment to the game as their animals thus helping in the fight against poaching and extinction. If the community loses the benefits, they derive from physical tourists consequentially illegal activities such as poaching can increase, and there won't be a game to show via virtual tourism.

*“that's the way that communities will contribute to conservation, take ownership of reserves, and hopefully assists you knowing that poachers will not come and poach our rhinos and other game for meat”* interviewee GR10

However, despite the overwhelming suggestion that game reserves strictly depend on physical tourists, there is another view that virtual tourism is an alternative offering that game parks can rely on. More revenue can be earned where virtual tourism is viewed as an alternative offering that is either complimentary or independent of physical tourism

*“Game parks depend on people visiting however, there are virtual tourism concepts, one of them is Wild Earth where people from all over the world can log in and go on a virtual safari”* interviewee GR10

### **5.2.3 Conclusion**

In seeking to understand how familiar virtual tourism is in South Africa and the level of dependency of game reserves on physical visitors, the divergent views reflect how disjointly broad tourism is in South Africa. This creates options for the tourist and the game reserves, however, knowledge of the existence of virtual tourism was deemed beneficial regardless of whether it is implemented or not. There is awareness and knowledge of virtual tourism from all the interviewees although admittedly it's not viewed as a priority area. The legacy structures, the COVID pandemic impact on the industry, and the challenges associated with change hugely perpetuate traditional reliance on physical tourism.

### **5.3 Category II. Seizing**

This category sought to investigate the level of adaption to the new spectacle of virtual tourism, how the government has positioned itself, and the limitations including challenges being faced in the process. Three questions were asked in this inquiry, that is, to what extent have game parks in South Africa adopted and implemented virtual tourism, how is virtual tourism being encouraged through government policy, and what are the challenges in implementing virtual tourism? Views both in alignment and at tangent were provided by the different interviewees, and the following paragraphs discuss their contributions.

### 5.3.1 To what extent have game parks in South Africa adopted and implemented of virtual tourism?

This is an attempt at providing a measuring scale to determine whether virtual tourism is now a reality in South Africa or still a myth. The evidence seems to provide murky and uncertain measures as the actual level of adoption is not known, however, admission was made that the concept is yet to be fully appreciated by most of the parks. There are a few game reserves that have become specialists in virtual tourism and have commercialised. Nonetheless, most of the responses focused more on challenges hindering implementation. The views of the interviewees as highlighted in the above codes have been summarized in the paragraphs below.

Divergent views have been expressed with some interviewees arguing that virtual tourism is done by third parties who partner with game reserves, and not necessarily by game reserves themselves. This is mainly a skill and resource challenge limitation that is faced by game reserves.

*“No game parks have implemented virtual tourism, not even one of them. Virtual tourism experiences are done by private parties which partner with the game reserves. Game reserves don't have the technical capabilities, or the ability to grow an audience. You need to have the technical capabilities to be able to create the experience virtually, and then you need to be able to distribute that experience. Game reserves completely they don't have those capabilities. None of them have been able to try to, as far as I'm aware. Creating virtual tours and experiences is always done by outside companies that then partner with game reserves”*  
interviewee GR13

However, there is the evident implementation of virtual tourism according to some interviewees, however by private parks. Private game reserves are more agile because of being resourceful and the absence of bureaucratic processes.

*“I have noticed various parks including Kruger that have water holes that are monitored by cameras and companies that take you on a virtual Safari, but I think most national parks have not implemented virtual tourism yet”* Interviewee GR10

An interviewee argued that the level of adoption is a function of culture, the technology culture in South Africa is relaxed, whereas in some countries they have an avid and strong technology appetite which encourages concepts such as virtual tourism.

*“I think some countries are keener to jump into new technology. South Africans or I think we*



*are all keen, but I think we are more reserved when it comes to something like that”* interviewee GR5

One interviewee mentioned there is minimal adoption due to a lack of information dissemination. Knowledge is a key component in growth and acceptance of a new learning or instrument, which is lacking locally concerning virtual tourism. Most of the game reserves are oblivious to the concept consequently losing potential revenue.

*“The adoption of the concept is very minimal since the concept is unknown to both customers and game park owners or managers”* interviewee GR12

However, some respondents stated that promotional videos and podcasts are more popular compared to virtual tourism. Podcasts and promotional videos are mostly marketing endeavours that are not fully invested in all aspects of virtual tourism.

*“there's a big difference between a promotional video and a virtual tour, so I think a virtual experience is fantastic as an add-on for marketing”* interviewee GR5

*“Most of these virtual tours are hosted by private individuals on their podcasts”* interviewee GR11

Although admitting minimal adoption, they were quick to relate equipment, internet connection, and lack of resources to the level of implementation. Most game reserves are located in under resourced and underserved remote locations far from technology infrastructure such as internet reach.

*“It requires capital investment in equipment, and good internet infrastructure, which is often lacking in the bush, and it is difficult to combine with visiting safari guests”* interviewee GR2

*“There is plenty of opportunity for it but the resources to make it happen are limited as all parks currently are still forging their way out of the effects of covid and attached regulations”* interviewee GR8.

The argument advanced by another interviewee is that before the Covid-19 pandemic virtual tourism was simply viewed as a marketing concept. There were a lot of negativities as many game reserves were fixed on traditional means of tourism and the fear of change. The idea of a different model of conducting business did not sit well with them given their lack of

understanding of the concept. That changed when the pandemic destabilised the industry due to restrictions on human mobility and travel, leading to increased demand as it became the only gateway to nature, and many game reserves implemented it to survive.

*“Essentially, before the Covid pandemic, virtual tourism only had one application for physical tourism, which was marketing. The physical game lodges simply didn't think in terms of virtual tourism. They just thought, well, if we come and market their reserve, then they'll have an increase in the number of physical tourists. In the early days, when I would talk to various reserves, they would say, well, we don't want to put a web camera, we don't want to have a team come here and broadcast live because then people won't want to come and travel. They argued that the tourist wouldn't travel to the physical location because you're giving them access for free. This is not true, it's not true at all. When the pandemic hit and the lockdowns came, we saw a 500% growth in our global audience over one month. This was because we suddenly had people realise that being able to access nature was such an important and valuable thing, and they couldn't do it, now they were locked down. Virtual tourism became a mechanism to aid the physical world to go into a virtual world where you can still enjoy the tourist experience when you can no longer move physically. This concept of remote presence gained traction because human beings are like any other animal, we're able to project consciousness, and suddenly during the pandemic that became obvious to people”* interviewee GR13.

### **5.3.2 How is virtual tourism being encouraged through government policy?**

Government policy and support have always been key in the development of any industry, especially in the developing world. Question 4's objective was to ascertain how the government is participating. Different views were expressed reflecting a wide range of experiences and observations. The researcher took note of various codes from the interview scripts which provided an impression of the discussions.

A view from an interviewee highlighted that government does not understand what virtual tourism is, hence, there are no policies or support from them. Government support is crucial for success of any enterprise in the country. Lack of government support creates pressure on the private players and limits industry growth.

*“There is no government policy encouraging the adoption of virtual tourism by game parks. It looks like the concept is also not well known to government officials and policymakers”* interviewee GR12

Another factor being drawn into the debate is that existing government policy does not

support physical tourism, which makes it too ambitious for game reserves to expect them to be at the forefront of virtual tourism. There are competing interests between the government and virtual tourism practitioners. The government's failure to align with global law has hindered the growth of the virtual tourism industry. This has also led to virtual tourism being conducted in privately owned game reserves without any direct benefit to government-controlled parks.

*"Government policy does not even encourage regular tourism"* interviewee GR2

*"The South African National Parks require a filmmaker operating in a national park to give up half of their intellectual property rights to the South African National Parks. This has been caused by a deep misunderstanding of how intellectual property rights work throughout the rest of the world. It is the only country in the world where they misunderstand this. Everywhere else in the world, where you go to nature reserves and film you need to secure a filming permit but the intellectual property rights that are created when you make a film belong to the filmmaker"* Interviewee GR13

*"They think they lose out on structure to get some form of revenue of sorts. It's not just revenue loss but marketing as a result. They've had no revenue as a result. It doesn't matter because South Africa has a very large number of privately owned reserves which are amongst the best in the world, therefore, we're able to operate privately owned reserves and just ignore the government altogether"* Interviewee GR13

However, some chose not to be too critical arguing that government effort is becoming more pronounced. Government support visibility creates confidence and administrative stability required to successfully implement virtual tourism.

*"The government is slowly but surely really reaching out and assisting in the tourism industry"* interviewee GR5

*"Well, I sit in meetings with SATA and those types of forums often, and to be very honest, I think the government is slowly but surely really reaching out and assisting in the tourism industry. So yes, the answer is yes. There is always something that they can do to help but I have to be honest and say that they, in the last year at least, have really been stepping up and reaching out through associations like SATA to see where they can help and how they can assist"* interviewee GR5

Other interviewees state that their efforts are not visible, regardless of whether policies are

in place or not. The perceived lack of understanding of virtual tourism by government creates a delay in policy formulation.

*“Not clear, a policy without action is fruitless”* interviewee GR9

*“Lack of government support affects the small and medium game parks that struggle to stand on their own”* interviewee GR12

To promote public and private sector collaboration government has created partnerships with relationships with known players in the industry.

*“Tourism SA has partnered with a few established brands to ensure that our major attractions had virtual tour videos of people going to see them”* interviewee GR8

Government methods are said to lag behind modern trends of technology, with encouragement to lip frog into the new era.

*“The marketing departments of SANPARKS, Limpopo Tourism, and Mpumalanga Parks Board, I still believe their marketing material is quite outdated, old fashion certainly not relating to the latest trends in marketing and social media”* interviewee GR10

### **5.3.3 What are the challenges in implementing virtual tourism?**

This question was posed to investigate limitations that are hampering the diversification into virtual tourism. Notable contributions were provided by the various interviewees and some of them are discussed below.

Virtual tourism is a new concept within the tourism sector. This has created a challenge in creating a business model that drives balanced stakeholder expectations. The failure to craft a comprehensive model creates a challenge for operators to venture into it as a long-term focus.

*“The other big challenge and maybe even arguably the biggest challenge has been economics. Having pioneered virtual tourism globally for the last 25 years it's been extremely difficult to build business models sustainably to make this work. It is real challenge books have been written on the subject. It's getting better, and we are methodically overcoming all the various business challenges, but I would say that the business model challenge is the number one challenge, and technical challenges are number two”* interviewee GR13

Another interviewee mentioned that there is a lack of expertise and skill, including the required capital expenditure, which hampers the implementation of virtual tourism. Virtual tourism heavily depends on a reliable, strong, and fast internet connection, which lacks locations where most of the parks are located.

*“There is a lack of ICT infrastructure to support the concept in some remote areas. Some game parks owners, managers, and employees lack the required ICT skills to drive the concept”* interviewee GR12

*“The one challenge has always been technology and the incredible difficulty of being able to create a quality virtual experience for viewers around the world. There’s a whole series of technical challenges. It’s not just one there are a lot of challenges in getting a high-definition stream from a remote location to our control room. There are a lot of challenges in distributing that High-Definition Stream to the end consumer globally and in a consistent, cost-effective way”* interviewee GR13

Lack of information on what virtual tourism is has created a misconception that leads to other sections of media society exploiting game reserves. There is a need for knowledge to understand what virtual tourism is and to create appropriate mechanisms for awareness.

*“I think the first would be information, there isn’t a whole lot of it going around, which has bred influencers in the market who demand incentives from parks and lodges to mention them in the hope of acquiring more guests and visitors”* interviewee GR8

*“They would say, well, we don’t want to put a web camera, we don’t want to have a team come here and broadcast live because then people won’t want to come and travel. They argued that the tourist wouldn’t travel to the physical location because you’re giving them access for free”* interviewee GR13

The perception of virtual tourism as a platform that leads to physical tourists creates a perception that it is an operational function. Virtual tourism positively creates an increase in the number of tourists to a destination. This results from the curiosity created by the virtual tours.

*“I will say marketing wise for marketing material is fantastic, but to try and use it as an alternative for the real thing, I don’t think it would go a long way”* interviewee GR5

*“At the game reserve where we pioneered virtual tourism, they were able over 10 years to move from a tour operator-based model where they were giving up an average of 3% commission on each booking that came through. They were able to move to a direct model were able to increase their margin dramatically and drop their price. There was a benefit to the consumer as their prices dropped, but at the same time, they were able to increase the margin and remove the middleman. That was entirely due to virtual tourism”* interviewee GR13

According to some interviewees traditionally tourism is associated with a physical presence, and the transition to telepresence proves overwhelming and lacks somatic connection.

*“To try and portray virtually the true essence and experience of being on a game reserve, the smells, the sounds, and the feelings is hard”* interviewee GR5

Another interviewee stated that many people have it as a to visit South Africa to experience the big 5 physically. The argument is that physical indulgence is an ultimate experience.

*“With the change in consumer behaviour, most people have it on their bucket lists to visit Africa and see the big 5”* interviewee GR11

*“it's nice to see them on TV on a virtual platform, but it's not the same. You know, it does not give you that real-life thrill and goosebumps when you see a leopard with a kill in a tree or when a lion walks past your game viewer vehicle and roars”* interviewee GR5

Further, interviewees argued that virtual tourism is unattractive to South Africa where there is high unemployment and many other socio-economic challenges as it creates a displacement of other skills worsening unemployment, as well as the overall profitability of parks

*“Resistance by managers or owners can also be a challenge to the adoption of the concept. Managers and owners still believe in the traditional way of tourism as it guarantees the status such as jobs and economic well-being”* interviewee GR12

#### **5.3.4 Conclusion**

The extent of implementation of virtual tourism seems debatable, most of the interviewees

stated that they are not implementing it, whilst others have come across it being provided elsewhere, especially during the Covid-19 pandemic. Government participation and encouragement through policy and structure do not appear to be present or gained traction. However, a section of the interviewees confirms that the government is making efforts to support game reserves through its various departments. The biggest challenges sighted include lack of information, resistance to change, skill, finances, and equipment among other setbacks.

#### **5.4 Category III. Transformation**

The purpose of this category was to ascertain how game reserves have managed to transform their strategic vision and operations, how that has affected the industry skills, and what is being offered. Towards that end interviewees were asked two questions, that is, how would virtual tourism affect skills within the tourism industry, and what is being offered through virtual tourism?

##### **5.4.1 How would virtual tourism affect skills within the tourism industry?**

With this question, the researcher sought to understand how virtual tourism would impact existing skills as well as future skills required in the tourism industry. All interviewees provided input to this inquiry, displaying their varied opinions.

There is a challenge of skills availability and development for professional and technical skills required for virtual tourism to be successfully implemented. However recent developments in the industry are allowing upskilling at a local level to ensure continuity and less disruption in the economic developments in the destination locations.

*“We have a real skill shortage particularly when you look at engineering and professional skills. Previously there was very little investment in technical upgrading skills in Africa because these people were essentially coming into the country, extracting the content, and going away. Virtual tourism is quite different from that because we don't come in for a short period and then leave there forever. We build economic models that rely on continuous daily operations at these locations forever and do not constantly import the camera operator from London to come in and do this. You must work and upskill the people in that area. We work throughout Africa and the rest of the world, and we have a very simple policy that doesn't matter if we work away in India or South Africa work with the local people and build up long-term relationships and employment for those people. This is not because we're good guys, although we are good, it's good business because economics, you know, just economics. These people are employed on a long-term basis, they're not temporary. In all the locations where we operate, we must find people that we can upskill and train on those specific roles. For example, when we opened in Kenya, in 2017 we arrived with a South African crew of 25 staff, and within eight months it*

*was 100% Kenyan. Our entire engineering team in Johannesburg is 100% black and the directing team is 90%, black. We believe empowerment is a good thing, is good business simply is wonderful”* interviewee GR13

Virtual tourism will introduce new skill sets that are not familiar in the current setup. These skills, however, are feared to be concentrated in the information technology department leading to a decline in other expertise.

*“It is a different skill set. It will require a professional competency, analysis based on a defined model or approach, the how-to for virtual tourism”* interviewee GR2

*“Is it worth gaining experience and skill set in one department, which essentially it is, and losing skill sets in another, from the front of the house to the kitchen, to housekeeping, to management, to the farm staff, and rangers because you will be losing those skill sets?”* interviewee GR5

However, South Africa does possess excellent skills directly linked to animal knowledge with exceptional skills. A big concern from other interviewees is the change to perceived lesser important roles that are not the mainstay of their profession.

*“However, what we have is some of the most incredible skills when it comes to being able to understand animals, find animals, and interpret animal behaviour. Africans have excellent communication skills when it comes to being able to provide people with experiences in nature. There are a really large number of people who are good at providing the soft skills of being able to work, interact with human beings, and lead them through the environment and share that environment with them. The problem has always been that it's very difficult to scale access to that environment, on a global scale. If somebody wants to come in and experience the African wild, they fly to South Africa”* interviewee GR13

*“It will turn many nature guides into TV presenters than what we work hard to train for, that will be taking away the meaning of guiding”* interviewee GR3

*“The more tourism depends on virtual experiences the more attention will have to be placed on developing skills for video and technology”* interviewee GR4

Virtual tourism is seen as an opportunity for the youth to learn future skills to earn income and to share proudly their heritage.



*“I think this is a great opportunity for the youth, and it’s a challenge to catch up with the latest gadgets if you are old. it’s a great opportunity for the youth to get involved and become proud ambassadors of tourism and ecotourism in this country and create content for people all over the world”* interviewee GR10

It was highlighted that there is a need for professional upskilling to ensure skill relevance and capacity building, especially in the public sector.

*“There is currently a lack of ICT skills among game parks in the tourism industry. The wide adoption of the concept would only be possible through the training of game park owners, managers, and employees. Elderly customers might also struggle to use the concept due to a lack of ICT skills”* interviewee GR12

*“In the marketing departments of SANPARKS, Limpopo Tourism, and Mpumalanga Parks Board, I still believe their marketing material is quite outdated, old fashion certainly not relating to the latest trends in marketing and social media”* interviewee GR10

The rate of unemployment is feared to worsen because of virtual tourism, with a negative impact on the informal sector.

*“I think that if you put it on a scale, it will tip over, that the loss would be too big on other skill sets, and obviously, we do not want that at the moment in South Africa”* interviewee GR5

*“This will increase the rate of unemployment to some extent”* interviewee GR9

*“Tourists bring much required revenues to the respective provinces and the communities that reside there, virtual tourism would destroy the livelihoods of many”* interviewee GR11

#### 5.4.2 What is being offered through virtual tourism?

This question sought to highlight what is being offered by game reserves through virtual tourism in South Africa. The diversity of the offering is streamlined towards the animals that are within a particular game reserve.

There are mixed views concerning what virtual tourism is offering. One interviewee indicated that Limpopo and Mpumalanga focus is on game drives, game walks, however, there are increasingly complicated products being offered in some diversified locations.

*“In addition to virtual game drives, bush walks a bush walk, is very exciting. We pioneered*

*virtual scuba diving in the Caribbean in Grand Cayman in 2018. A product called dive live. We did two dives in Delhi in Grand Cayman scuba diving. We ran a similar product from Cape Town until South African National Parks shut us down because we couldn't get a filming permit. They wanted to own half of the intellectual property. We had a product where we did free diving. The customers follow free divers as they went through the ocean looking at sharks. We did a lot of interesting virtual tourism using drones. it's quite an experience to feel like you're flying over the bush in search of animals. We primarily use that as a tracking tool, rather than an experience, but it has been successful as an experiment. We've also done interesting things with robots. We have had a robot at a waterhole where the experience is for the viewers to feel like they are down at ground level amongst the herd of animals. I'll be doing more of that again soon and just focus on something else now. We have also done a lot of private Safaris, for corporates where it's not a public broadcast. We also do private bookings and private safaris where companies will pay us to, incorporate their Chief Executive Officer, or talk about their customers. it's still an experience, only for a closed group of people. In the future, we are going to explore the solar system and the universe” Interviewee GR13*

One interviewee stated that virtual tourism offers an idea and not an experience. The interviewee argues that the lack of direct interaction with the environment and presence denies the tourist full enjoyment of the attraction.

*“What would be offered is an idea of the experience one could have but not the experience”*  
interviewee GR8

*“A reprieve from current reality and a new way to interact with the world”* interviewee GR4

Game reserves no longer provide virtual tourism which they had started during the COVID pandemic

*“In our industry, it was limited to the virtual safaris presented by a handful of properties but by and large, this has stopped now that the travel to SA and safari destinations has resumed”*  
interviewee GR2

### **5.4.3 Conclusion**

The interviewees suggest that if virtual tourism were gain momentum as a replacement for regular tourism, many traditional industry skills will become redundant or subordinate to new skills that are mostly media and technology related. This development is currently unwelcome as it would increase unemployment, create a game reserve decline, and interrupt the ecosystem. Many offerings by the virtual tours are mainly animals and virtual tour guides. However, their offerings are subject to increase if virtual tourism becomes a popular option.

## 5.5 Category IV. Economic impact and sustainability

This category of questions sought to understand the gains achieved from implementing virtual tourism. Interviewees were asked three questions, that is, how are game parks economically benefiting from virtual tourism, what drives the economic benefits and how sustainable is virtual tourism?

### 5.5.1 How are game parks economically benefitting from virtual tourism?

This question was asked to seek an understanding of the economic benefits accruing to game parks.

Diverse views were expressed with one interviewee stating that marketing is the greatest benefit that is accruing to game reserves. One interviewee mentioned that the game reserves are not receiving payment for their partnerships with third parties, but they are receiving marketing benefits which then translate into a financial benefit when physical tourists visit their game reserves.

*“We don’t directly pay them. What we do to the game parks is provide them with marketing benefits”* Interviewee GR13

*“The game reserves in South Africa are getting marketing benefits. At the game reserve where we pioneered virtual tourism, they were able over 10 years to move from a tour operator-based model where they were giving up an average of 3% commission on each booking that came through. They were able to move to a direct model where they were able to increase their margin dramatically and drop their price. There was a benefit to the consumer as their prices dropped, but at the same time, they were able to increase the margin and remove the middleman. That was entirely due to virtual tourism. We provided direct marketing opportunities to those lodges. For another example, we worked with a game reserve in the Kalahari that had a 95% foreign occupancy. When the pandemic struck, they lost 100% of the tourists. However, within six months, they were able to recover an 80% occupancy rate of which 100% was South African, and it was because of our virtual tourism offering on different channels. We were able to help them completely get back on foot before the borders were opened to foreign tourists. Our benefits in South Africa to the lodges is 100% marketing benefit, but our benefit to the reserves outside of South Africa means that we’re able to provide access to the environment”*  
Interviewee GR13

The value of game reserves is undervalued as the appreciation of their worth is determined by the physical tourists able to visit a destination. However, the value of an ecosystem is dependent on more considerations than physical visits, that is where virtual

tourism creates awareness of nature's value.

*“Our actual mission is to increase the value of nature to people, we do that by scaling ecosystem services. In the physical tourism world, you can put about eight people onto a game drive vehicle, and you will have four tires pressing down onto the ground, damaging the environment, okay, but in the virtual world, I can put 8 million people on the same vehicle for a time, scale access, that way we are increasing the value of that natural resource”* Interviewee GR13

Some interviewees claimed that there are no economic benefits since the concept has not been implemented, and if implemented would result in negative growth for the game reserves.

*“No economic benefits are accruing to the game parks due to the lack of adoption of the concept. However, if adopted, game parks are likely to benefit through viewing fees and cut costs like labour costs, accommodation costs, and foreign currency”* interviewee GR12

Another interviewee did not see the justification for why one should pay for virtual tourism since it is not fully engaging, additionally, there are free videos on various internet platforms.

*“I've watched many documentaries in my life on wildlife and none of them come close to being next to the animal or having that encounter, and I don't know if I would pay money to have a virtual experience, I would rather pay the money to have the actual real-life experience”* interviewee GR5

*“ as the General Manager you know, your job is to make money at the end of the day, and my concern is whether will people pay money for it, and to be frank I don't think so, because with what is available currently, for free on the Internet, whether you go to YouTube, or you go to Facebook or you go to Instagram or you go to tick-tock with the absolute plethora of information out there, I think it's saturated, for free. The fantasy and the end dream are fantastic, but at the end of the day, it must come down to the bottom line and it has to be brought back down to the rands and cents”* interviewee GR5

However, some interviewees thought it's a great tool for marketing which can eventually lead to physical visits that can also boost revenue.

*“Private parks would also benefit by being better known and not always stuck being considered after the major parks of the country”* interviewee GR8

*“As far as I am concerned it serves as a marketing tool that will benefit you in the longer run, creating exposure that might lead to more bookings”* interviewee GR7

### **5.5.2 What drives the economic benefits?**

This question was asked to identify the drivers for the economic benefits which game reserves enjoy when they implement virtual tourism.

There are different views concerning what economic benefits mean for the tourism industry in general with a particular focus on virtual tourism. The argument by one interviewee is that the desire for economic benefits drives down the real value of nature, which is the core of tourism offered by game reserves. The more economic benefits are sought the more ecological and environmental degradation and depletion, creating a dwindling spiral.

*“We need to recognize that if we focus only on the economic benefits, we misunderstand the purpose of what we're trying to do here, economic benefits are the biggest exploiter of the environment. What we want to do is to increase the value of the ecosystem to people. Only as we increase the value of the ecosystem to people, do we create the necessary economic incentives for conservation. If we are limiting our ability to scale from an ecosystem using a physical mechanism, we inhibit the value of that ecosystem”* interviewee GR13

There is a need to understand the approach to tourism and how this has impacted economic models that will help us appreciate the drivers of the economic benefits. They argue that economic models drive economic benefits. One respondent argued that there are three different models of tourism that drive economic benefits. The first approach is economic benefits that accrue due to acts of depletion and selling of animal trophies, that is, those that are driven by hunting the animals. Then those which are driven by using nature and wildlife to attract tourists to the destination, supported by a physical ecosystem that tempers with the balance between the environment and tourist proportion. Lastly, those which are based on virtual tourism, without tempering with nature and wildlife. However, the main argument is that economic value is driven by creating and increasing the value of the ecosystem.

*“How do we scale that value without having to physically visit that environment? This is the next phase, each time you're able to scale the revenues with less impact on the environment you increase its value. Virtual tourism is the new age in tourism, using the metaverse and specifically Non-Fungible Tokens (NFT). We are allowed to purchase an NFT where a percent*

*of that purchase price is passed back to the custodian of the habitat in which that animal lives. This becomes an incentive to conserve that habitat and the animal without having to shoot it. When the NFT sells in the metaverse a percentage of that purchase price is transferred back to the custodian, which then becomes the ongoing incentive to conserve that habitat. What we are trying to do is to create an environment one day in the future where the owner could be a community, doesn't have to be the government, it could be anybody that is the custodian of an ecosystem of wildlife habitat. They can get revenues, not donations, and revenue from the conservation of their habitat, where they are incentivized to do nothing. because you don't have to do anything to conserve the environment. Nature has figured out over millions of years how to conserve itself, all you must do is get out of the way. We are trying to imagine a future where the ultimate way is to create an incentive and just leave it alone. I believe we will have succeeded when a community owns a reserve and they do nothing with the reserve, nothing right, don't hunt and don't have tours, and they get money out of that which they can then go and live with. That's when we've gotten the mathematics working correctly” Interviewee GR13*

Several interviewees believe that virtual tourism is greatly impacted by the viewer traffic with a higher volume leading to increased economic benefits if there is cost management.

*“It is more cost-effective and accessible to more people – especially at this time when instant gratification is key” interviewee GR4*

*“The number of customers viewing the platform as well as the cutting on costs associated with traditional tourism” interviewee GR12*

In addition, to use volume and cost management, other interviewees indicated the need to have fresh and exciting content that entertains the subscribers.

*“Consistently uploading good quality fresh virtual content, of the happenings in the parks, communicating with viewers, and hearing what they would like to see and giving them more of that when they finally visit the game reserves to give them a better real-life experience” interviewee GR8*

Having the right technology and skills within reach were highlighted as significant primary resources for economic benefits to be attained.

*“Making use of the correct technology and skills, that are cost-manageable to that company and can be recovered from the customer subscriptions” interviewee GR12*

### 5.5.3 How sustainable is virtual tourism?

This question was asked to probe the future contribution of virtual tourism looking at economic sustainability and the United Nations' sustainable development goals, especially towards the environment. There were conflicting views concerning the future contribution of virtual tourism to sustainability.

In trying to understand whether virtual tourism can be sustainable varying contribution was made with one interviewee arguing that virtual tourism is the only form of tourism that is sustainable. The argument is that physical tourism has reached the end of its lifecycle and is on a decline as evidenced by the stretched environment and fees charged.

*"I'll tell you this. Virtual tourism is the only sustainable form of tourism. The current model of tourism is not sustainable, it doesn't work. The way our global economic world works, the way capitalism works is that it requires growth to be sustainable. The problem is that you can't have a sustainable business model if it's not growing. The problem with tourism is that to continue to maintain growth in tourism revenues, you need to either increase the number of tourists going into the environment, or you need to increase the amount of money that each tourist is paying, both of which are problematic. In South Africa, in places like the Sabi Sands, the guys are charging a couple of \$1,000 a night. You can't just keep on increasing that amount. We've also maxed out the number of people that can physically go into the environment without destroying it. Essentially, what's happened is tourism has reached its peak it can't continue to grow. if it can't continue to grow, it's not sustainable"* interviewee GR13

The view from a group of interviewees suggests that virtual tourism's contribution to sustainability is not clear. The concept is yet to gain traction and impact for it to be considered a sustainable approach to tourism.

*"Hard to judge as it is non-existent in our industry"* interviewee GR2

*"This is a work in progress, it's too early to measure its sustainability"* interviewee GR9

*"Human beings have woken up a bit and said listen, it's time now, it's better late than never, in a few years this type of animal might not even be around anymore"* interviewee GR5

Further, proponents who argue for virtual tourism suggest that through its products and nature there is less harm to the environment. Virtual tourism increases the value of nature through conservation without the need to exploit it physically and kill wildlife.

*"Our real challenge in the next phase of virtual tourism is all about being able to create digitally"*

*transportable experiences, which is what these tokens are used to allow us to build Metaverse, which allows us to generate the incentive money to conserve the natural environment without increasing the cost to that environment. What's going to happen here is with the help of the metaverse, you will get in virtual tourism, we're going to massively increase the value of nature because hunting and tourism have artificially kept the value of nature down, which is why countries like South Africa are not properly pricing their efforts. They are calculating the asset price of nature, least on its exploitative and harvesting value. A complete misunderstanding of pricing. The value of the National Park is 1000s of times higher than we're currently giving it because they're calculating the value of that resource based on its tourism revenue potential"* interviewee GR13

While other interviewees thought there is a growing trend of virtual tourism but will not effectively replace physical tourism.

*"Video is the most effective way of communication in this day and age, with more and more people using YouTube as a search engine instead of google indicating that it is a growing trend"* interviewee GR4

*"I don't think it will ever substitute tourism, but rather become a supporting influence on future travellers"* interviewee GR4

However, some interviewees felt that virtual tourism does little benefit to the environment as there must be a balance between nature and humanity.

*"If all human beings stay in their rooms and just order online for deliveries and only go anywhere via virtual tourism, then the impact on the environment would be phenomenal, but what is the impact on humankind? Weren't we given dominion over Earth to look after it and not ignore it? That is why game reserves and lodges normally charge a conservation fee is an audit to look after the environment and make sure that there is sustainability and the progression of everything from fish to the animal species left for our children to inherit"* interviewee GR5

*"Humanity has a responsibility to look after the environment and you can't do that by never leaving your house, you can't look after the environment by just ignoring it because you might step on a blade of grass, everything in life should be balanced"* interviewee GR5

Virtual tourism has been accused of encouraging unemployment



*“If you close all lodges and game reserves, and you have three people running the virtual tours, is that sustainable? No. No, it’s not”* interviewee GR5

Further note from an interviewee indicates that sustainability depends on government involvement through policy and the measures the government implements as they manage their environments. In countries where policy direction is more developed, attempts are towards reducing physical tourism whilst encouraging virtual tourism which is seen as environmentally friendly and sustainable.

*“However, in places like India, for example, it’s a very different age. There because of the size of the population and just where they are in the evolution of tourism, they see tourism as the biggest threat to conservation. The reason for that is because they have reached the stage of over-tourism and they’ve got too many tourists and their engagement with the authorities is different. They have separated the forestry department, which is the ministerial department focused on the conservation of the environment, from the tourism department. Whereas in South Africa, we have the Department of the Environment and Tourism, we still bundle the environment and tourism together. In India, if you ask the minister of forestry in India, what is the biggest threat to conservation, he will point to the Ministry of Tourism. South Africa does need to catch up quite quickly because by the time they realize that tourism is the problem, not the solution it will already be too far along. In Kenya, they are already starting to realize after many years of thinking that tourism is what they needed to do to conserve the environment. They’re already now seeing that in the Maasai Mara and other places, the tourists are destroying the environment”* interviewee GR13

#### **5.5.4 Conclusion**

The economic contribution of virtual tourism is hugely debated since, from the interviews, the concept is yet to gain influence and uptake. The interviewees did indicate that virtual tourism sustainability is yet to be fully explored since the concept is still new, however, it was highlighted that a balance between nature and humankind should always be achieved for sustainability. Economic sustainability was also in question as currently it is still being viewed in the plight of the Covid-19 pandemic consequences and time is still required to test its future contribution.

#### **5.6 Conclusion**

The wide ranging and robust engagements of the online interviews as well as the insightful written responses contributed immensely to satisfying the research objectives laid out in

Chapter 1. Although the research was conducted in the Limpopo and Mpumalanga Provinces, it articulated matters that have a wide application in the South African context and to a greater extent, the African continent due to similarities in wildlife and nature dynamics.

## Chapter 6. Discussion

### 6.1 Introduction

This chapter integrates and showcases the research outcomes set out in Chapter 5 with the framework of the study set out in Chapter 1 and the literature review presented in chapter 2 to provide confirmation or invalidate the research findings. The findings from the interviews will be analysed relative to earlier research and studies that focus on virtual tourism. In addition to comparing the literature review and research findings, it also presents the study's limitations and provides recommendations for future studies.

This research aims to address the following objectives.

- (1) Appraise the understanding of the concept of virtual tourism in South Africa by game parks, that is, sensing the virtual tourism opportunity in the market.
- (2) Assess the adoption of the concept of virtual tourism in South Africa by game parks, which articulates the seizing of the virtual tourism opportunity and
- (3) Analyse the transformative impact of virtual tourism on the South African game parks
- (4) Assess the economic performance and sustainability of game parks in Limpopo and Mpumalanga Provinces of South Africa because of virtual tourism.

### 6.2 Category I. Sense-Making

Sense-making is the realisation that change has become inevitable with a need to realign the competitive edge to survive in a dynamic environment (Teece, 2018). This section of the research sought to appreciate whether game reserves are aware of virtual tourism and the extent to which their traditional business methods are established for the changing environment.

#### 6.2.1 How familiar is the concept of virtual tourism in South Africa?

Research question 1 focused on investigating the extent to which the concept of virtual tourism is known by the game reserves. This is important to create a basis to begin interrogating the subject further by initially understanding how familiar it is.

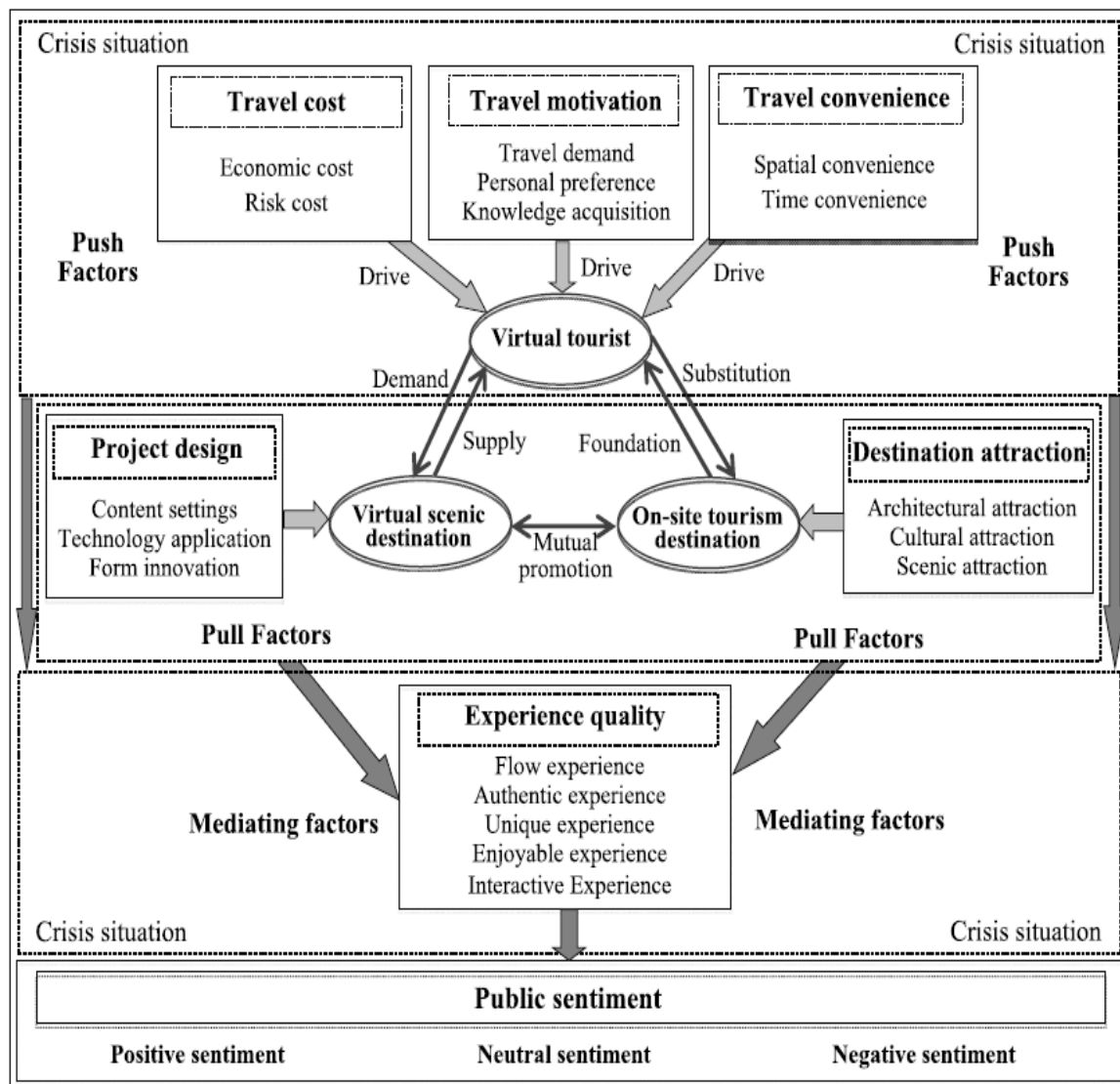
An analysis of the interview transcripts and keywords indicates that virtual tourism is known by the game reserves with the Covid-19 pandemic being accredited as the event that heralded its existence. The private game reserves are the ones who are familiar with the concept and take constructive measures for its awareness and implementation.

Virtual tourism has garnered influence and penetration in almost all aspects of tourism, although still unpopular among other sections of tourists, especially during the Covid-19 pandemic when many destinations were effectively closed, and travel restrictions forbade human movement across different locations and countries as it created a convenient tourist experience (Zhang et al., 2022). Further, virtual tourism is popular because it does not require a lot of financial resources demanded by physical tourism as it streamlines the investment

(Bogicevic et al., 2019).

However, the challenge is whether it will remain popular after the Covid-19 pandemic since tourist destination areas have re-opened, with domestic and international travel resumed (Zhang et al., 2022). Many tourism agencies are considering the use of virtual tourism as an alternative or competitor to physical tourism as it helps create revenue even for declining destinations (Zhang et al., 2022).

Therefore, the research findings and the literature above indicate that game reserves are familiar with the concept of virtual tourism, especially due to the Covid-19 pandemic. However, the concern is whether the concept will have a similar momentum post the pandemic. Figure 7 below highlights the pressure on virtual tourism observing the different factors to encourage it and the environment for it to excel.



**Figure. 7** Model diagram of influential factors of public sentiment in virtual tourism, Source: Zhang et al.2022

During the pandemic, the push factors indicated in figure 7 became more aggressive due to the travel restrictions that were imposed globally to contain the spread of the Covid-19 pandemic (Zhang et al., 2022). This created awareness and demand for virtual tourism with agile organisations sensing the need to position and undertake technological developments in virtual technology (Zhang et al., 2022). To encourage greater tourist attraction virtual technology developed authentic experiences which simulate the actual physical environment (Zhang et al., 2022). The findings from the research resonate with the sentiments expressed in figure 7.

### **6.2.2 To what extent are game parks dependent on people visiting parks physically?**

Research question 2 focused on examining the dependency of game parks on physical tourists with the hope of determining whether there is room to consider an alternative. Toward this end, the researcher analysed the interview transcripts and keywords from the interview. Most of the views suggest that game reserves in South Africa heavily depend on physical tourists to access entrance fees, and conservation fees as well as to ensure their staff remains employed and their dependent communities benefit from the economic benefits that happen because of the game reserves. Another factor is that the majority believe that virtual tourism does not create an environment that stimulates all the senses, and they need to serve the tourists physically. However, another view suggests that access to virtual tourism provides destination marketing and access to fees that are paid by viewers when they access the virtual tourism platforms.

Destination sites in addition to physical tourism can benefit from virtual tourism (Zhang et al., 2022). Telepresence is a phenomenon in which tourists are immersed in the environment through the virtual space, transported in mental imagery as well as a physical dimension (Bogicevic et al., 2019). By creating a virtual environment, virtual tourism ensures the stimulation of the senses (Loureiro et al., 2020). There are technological developments that focus on brain activity and senses known as Brain-Computer Interface (BCI) are being combined with virtual reality (VR) to create an environment that activates all senses including smell and touches (Loureiro et al., 2020). Nanotechnology also creates a bridge that ensures an immersion into the virtual environment (Loureiro et al., 2020). In addition, there is clothing that stimulates human senses as they are in their natural environment to ensure the tourist senses are the same as in the desired physical environment (Loureiro et al., 2020).

There is a convergence between the interview outcomes and the literature concerning the current dependency of game reserves on physical tourists. However, complete immersion like physical presence is possible due to updated technology developments (Loureiro et al., 2020).

Therefore, game reserves don't necessarily need to be fully dependent on physical tourists but can depend on both, with virtual tourism potentially being a major contributor to their operations.

### **6.3 Category II. Seizing**

This section is underpinned by the need to inquire concerning the strategic agility of the game reserves and reinventing their competitive advantage in line with the changing environment. Interviewees were asked three questions in pursuance of this purpose, that is, the extent of adoption and implementation, government intervention, and challenges being encountered.

#### **6.3.1 To what extent have game parks in South Africa adopted and implemented virtual tourism?**

To create a context to establish a measure of the extent to which game reserves have replicated and offer virtual tourism, the researcher drew from interview transcripts and keywords therefrom. The common thread is that the majority have not implemented virtual tourism except for one that works with a third-party service provider.

However, all the participants utilise the internet for basic marketing of their service offerings and booking arrangements. In addition, virtual tourism can act as a highlight of what is offered physically, therefore, being a marketing tool that shows tourists an idea of the destination before traveling which encourages mass tourism (Loureiro et al., 2020). Virtual tourism gained momentum as a destination marketing campaign with a breakthrough in 2017 (Bogicevic et al., 2019). Essentially the results of the interviews indicate that game parks in Limpopo and Mpumalanga have not implemented virtual tourism except for one participant game reserve. One of the participants noted that virtual tourism requires the construction of high-quality immersive platforms to gain the confidence of tourists in simulating the actual environment. In some instances, the virtual tourist sites are more attractive than the actual destination rendering a challenge in the implementation for fear of diluting the natural ambiance and attractiveness of the physical location (Zhang et al., 2022). The concern in some quarters is that virtual tourism may not be a good investment as the demand surge is temporary that will soon lose the market once the Covid-19 pandemic restrictions are removed (Zhang et al., 2022).

#### **6.3.2 How is virtual tourism being encouraged through government policy?**

Question 4 of the research interviews inquired how the government is prioritising tourism and most importantly virtual tourism. The researcher reviewed the interview scripts, as well as the key points from the interviews, and conflicting views were provided.

Several of the interviewees claimed that government participation is minimal to non-existent

with the hope that its participation can improve their knowledge of virtual tourism and its adoption. However, there is another group of participants who argued that government efforts are visible through policy and its agencies. The need for government participation has been advocated for.

It is encouraged for virtual tourism to be approached at the macro and policy levels if the industry is to achieve the utmost utilization and benefit from virtual tourism (Loureiro et al., 2020). The lack of policy initiatives and strategic initiatives to guide knowledge dissemination, training to manage capacity challenges, awareness, and the structure of automation in the tourism industry creates a gap in the adoption of virtual tourism (Tussyadiah, 2020). Government policy and intervention are necessary to manage the challenges presented by technology such as a potential increase in joblessness emanating from technology dependency (Tussyadiah, 2020). In addition, government policy is required to advance research in human and technology, such as robots and artificial intelligence, use in the tourism industry and how it can co-exist with the human ability for society's benefit to avoid abuse and overuse of robots to the peril of human comfort and life, especially in communities affected by virtual tourism implementation (Tussyadiah, 2020). Some governments outside Africa are at the centre of encouraging virtual tourism, for instance, the Chinese government encourages technology adoption in tourism through its national strategy (Jiang and McCabe, 2021). The Egyptian government launched "explore Egypt from Home" a virtual tourism initiative meant to boost the tourism of its heritage sites and tourist destinations (Bogicevic et al., 2019).

Therefore, as discussed above, government policy and participation are crucial to enhance developments in the virtual tourism industry, which currently is not too visible to inspire confidence among most game reserves in South Africa.

### **6.3.3 What are the challenges in implementing virtual tourism?**

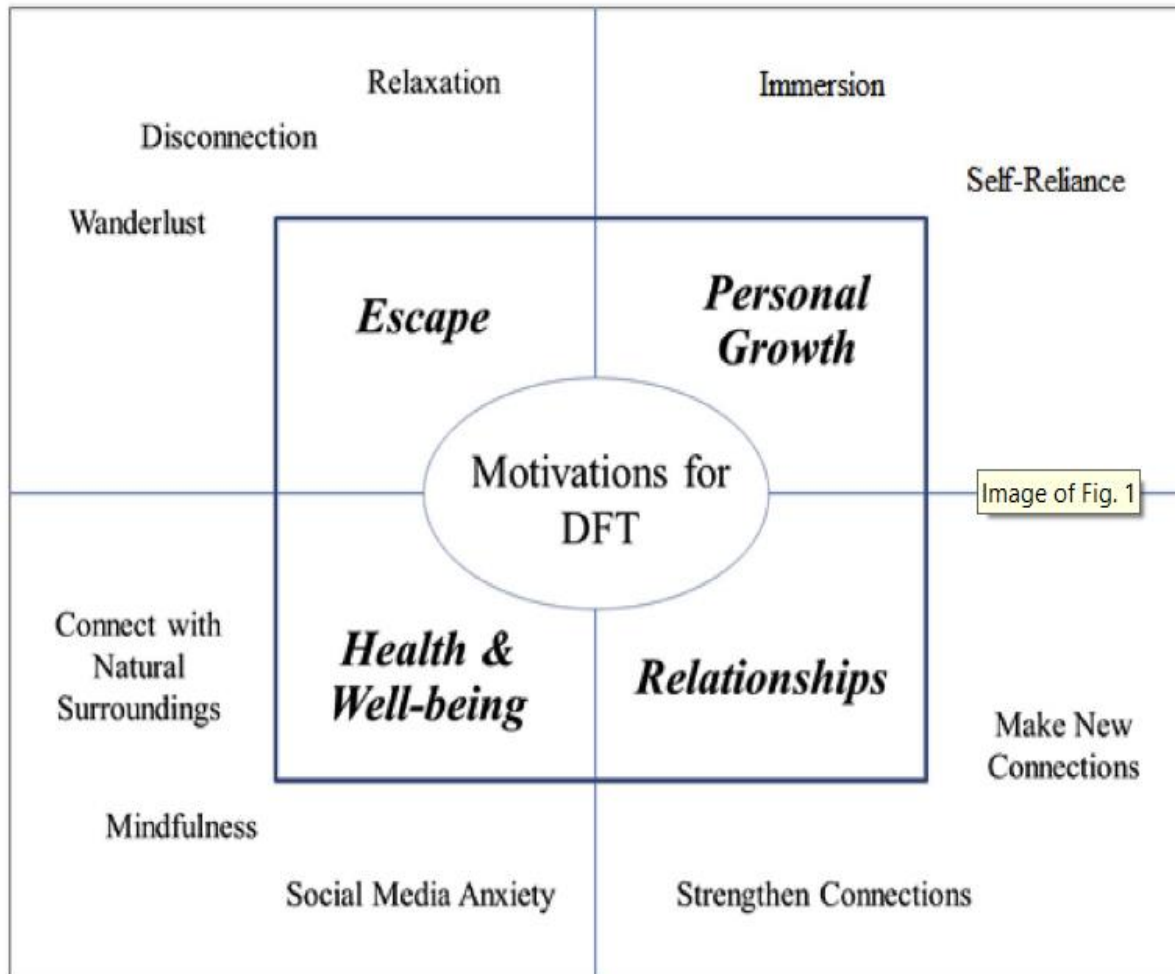
The researcher posed question 5 to the interviewees to appreciate the challenges leading to the low adoption of virtual tourism. The interviewer reviewed interview transcripts and key takeouts from the interviews, and the participants generally agreed with each other that there are numerous challenges such as shortage of the necessary skills, lack of access to the appropriate technology infrastructure, lack of financial resources, the fear of change, ingrained cultural and industry practices including lack of adequate knowledge for them to pursue virtual tourism.

There is a need to manage the fear of technology and the potential job loss (Tussyadiah, 2020). The challenge with automation creates a challenge of machines such as robots replacing human beings, and it's reported that in the tourism sector women are at a big risk of being replaced by technology compared to men (Tussyadiah, 2020). The risk of a breach of security of personal information exposes both the game reserve as well as the customer

(Tussyadiah, 2020). The frequent interaction with technology that is demanded by virtual tourism creates a sub-human that is stripped of their natural being with a risk of psychological consequences such as loneliness and antisocial among other drawbacks (Tussyadiah, 2020). There is a lack of research into the limitations of tourism automation and transformational leadership in the sector which provides information and guidance on adopting virtual tourism. (Tussyadiah, 2020). This also should highlight the limitations of virtual tourism, especially where robots are utilised and interact with human beings (Tussyadiah, 2020). The research should also discuss changing roles in decision-making and human interaction in the process so that current managers have job comfort and can upskill to prepare beforehand (Tussyadiah, 2020). There is a great need for game reserves to adapt to changes in customers' tastes and preferences as well as to service delivery methods. (Jiang and McCabe, 2021). Customer needs and market dynamics are frequently changing in the new age that is pronounced by technology and game reserves should leap towards capacity reconfiguration (Jiang and McCabe, 2021). There is a lack of technology infrastructure such as the internet in destination areas, and game reserves are encouraged to lobby government and infrastructure companies as this improves communication and service quality (Jiang and McCabe, 2021). The coherence of information technology and functional departments allows managers access to information leading to the creation of competitive advantages (Jiang and McCabe, 2021). It is feared that virtual tourism will dilute the natural and authentic nature of destinations as it creates an artificial appeal (Zhang et al., 2022).

Therefore, there is a host of limitations that are making it difficult for game reserves to pursue virtual tourism as an alternative or complementary service provision including health challenges and anti-social behaviour (Egger et al., 2020). To escape the health and social challenges caused by virtual tourism a new form of tourism has emerged called digital free tourism" (DFT) (Egger et al., 2020). Figure 8 below articulates the reasons for an emergent form of tourism that contrast virtual tourism for its shortcomings.





**Figure 8,** Motivations for DFT, Source: Egger et al., 2020

DFT is motivated by the need to escape the distractions caused by technology and the need to be engaged by the destination and its surroundings (Egger et al., 2020). The desire to achieve personal growth and achieve first-hand learning are the yearnings of tourists which are robbed during virtual tourism (Egger et al., 2020). Tourism creates an opportunity to engage with fellow enthusiasts which is absent during virtual tourism creating a lonely encounter (Egger et al., 2020). Social media anxiety and lack of connection with the environment including fear of missing out create addictions that affect interest in virtual tourism by interested parties (Egger et al., 2020). The challenge of isolation creates boredom in the experience which affects the health and confidence in the virtual technology experience (Merkx and Nawijn, 2021).

#### 6.4 Category III. Transformation

In this section, the researcher sought to establish how game reserves had transformed because of the adoption of virtual tourism. To determine that the researcher asked two questions in the interviews concerning skill dynamics and the products being offered through

virtual tourism.

#### **6.4.1 How would virtual tourism affect skills within the tourism industry?**

The researcher was inclined to understand how virtual tourism impacted skills within the tourism industry. The researcher reviewed the interview transcripts and the key inputs thereof and various contributions were noted from the interviewees.

The consensus was that some of the traditional skills which provided direct assistance to physical tourism might become obsolete or reduce in importance, whereas new skills will be required to serve virtual tourism. However, not all skills will be affected, others will maintain their importance and influence.

Virtual tourism leads to a decline in low-tech jobs as the demand for high-tech roles take precedence, with an estimated 400 million to 800 million jobs to be replaced by automation by 2030 (Tussyadiah,2020) As highlighted earlier, virtual tourism also utilises technology such as robots in trying to create tourist immersion and pleasure, however, the use of robots creates a conflict with existing skills. The danger of technology completely replacing human skill and civilisation becomes undesirable especially where it is uncontrollable and dominates incapacitating humans. There are notable consequences created by automation used in virtual tourism including inequality in income distribution, loss of skill, a jobless society, creation of ghost towns as communities migrate to other locations, and gender issues (Tussyadiah, 2020). The ability to create and recognise convergence and the ability to integrate new technologies with existing skills creates competitive advantages and enables flexibility for game reserves (Jiang and McCabe, 2021).

Therefore, there is a need to ensure that a balance is achieved depending on the skills demanded between physical and virtual tourism. There is a requirement for training and investing in the new skills that have become important, and to retiring those that have become redundant.

#### **6.4.2 What is being offered through virtual tourism?**

This question was asked to determine what is being offered through virtual tourism. The researcher reviewed interview transcripts including the key inputs from the participants. There were different products mentioned by the interviewees, but a majority were limited in their knowledge, however, most of the product definitions were obtained from GR13 which provides virtual tourism. The products mentioned included live animal and nature drives and walks, nature guides, Non-Fungible Tokens (NFTs), and the metaverse.

In addition, several products are being offered through virtual tourism including virtual interactive theatres whereby multiple tourists virtually interact with avatars and themselves

(Loureiro et al., 2020), and virtual theme parks (Loureiro et al., 2020). Virtual tourism provides access to educational institutions and students around the world to pursue studies in environments they would otherwise not access physically due to different reasons such as disability, socio-economic limitations including other limitations (Loureiro et al., 2020). Virtual tourism can be used as an educational instrument, for understanding cultural and heritage destinations (Loureiro et al., 2020). Virtual space and galactic tourism including the solar system are some of the virtual tourism offerings which also utilize brain-computer interactions which will be the trend of the future (Loureiro et al., 2020).

Therefore, as presented by the literature and interview transcripts, a diverse range of products are on offer. For virtual tourism service providers to survive and reduce dependency on physical tourism continuous product development is crucial. However, accessibility by tourists is key for the game reserves to benefit from providing the service.

## 6.5 Category IV. Economic Impact and Sustainability

The researcher aimed to appreciate the impact of virtual tourism on sustainability including its impact economically to the game reserves.

### 6.5.1 How are game parks economically benefiting from virtual tourism?

The researcher sought to establish how game reserves are benefiting economically from virtual tourism. The consensus was that they benefit through platform subscription fees and marketing which in turn leads to increased physical visitors who pay entrance and conservation fees.

In addition, digital transformation through virtual tourism creates new models of conducting business that enhance economic transformation that benefits tourist destination sites (Warner and Wäger, 2019). Virtual tourism results in overhead reduction and focuses on customer preferences creating opportunities for greater profitability (Warner and Wäger, 2019).

Therefore, close attention is required to enable game reserves to optimise their earnings as well as to create a variety of products that meet changing tourist requirements and tastes.

### 6.5.2 What drives the economic benefits?

The researcher aimed to interrogate the push factors that lead to game reserves reaping economic benefits. This brings us to the question of the appropriate business model, the value of the ecosystem, and the purpose of engaging in tourism more specifically virtual tourism including the nature of game reserve ownership, that is either private or public ownership. The ability of an organisation to create strategic agile competencies in a changing environment is directly linked to its potential economic survival (Teece, 2018). An interviewee suggests that economic benefits are driven by the number of tourists using

virtual tourism from interest generated and the uptake of the concept. Further, the economic benefits are mostly driven by factors such as convenience and cost of travel, the quality of attractions, and mediating factors such as the emotional and sense of immersiveness (Zhang et al., 2022) The practice and survival of enterprises have mostly been linked to their ability to acquire and amass economic benefits as incentives for their survival with social and environmental issues being driven either to enhance commercial advantage or in some cases being the focus (Schaltegger and Horisch, 2017).

The main driver of economic benefits in the new era as identified from the research are sustainable practices that create value for their entire ecosystem. Corporate sustainability drives both the economic endeavour of business and addressing environmental and ethical global citizenship (Schaltegger and Horisch, 2017). Virtual tourism has been proposed to be a sustainable form of tourism by the research contributions from the transcripts that takes conscience of ecosystem value. There is therefore a need to understand whether the virtual tourism framework is influenced or advances towards either a social or commercial business model which underpins the nature of drivers of the economic benefits. Social and commercial models both have sustainability as a concern, however, their value is driven by different factors (Spieth et al., 2019). Expanding on the ecosystem value creation advocated by virtual tourism as determined from the transcripts, the economic benefits can be driven by a reactionary business model, collaborative business model, reputational business model, and or responsible business model (Schaltegger and Burritt, 2018).

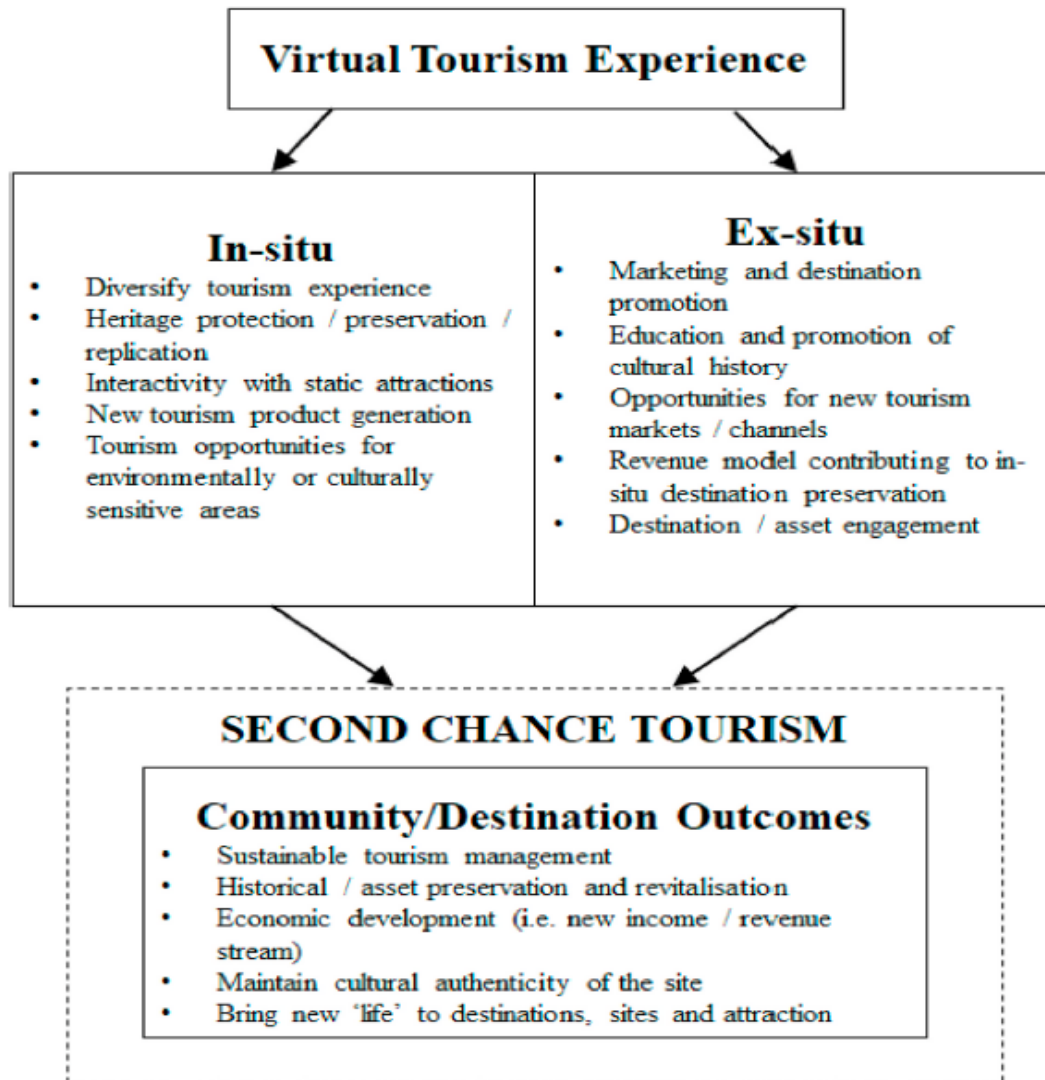
A reputation business model is focused on the media and brand image of the organization, and its efforts although benefiting the ecosystem value are inclined towards a positive portrayal of the company consequently advancing its commercial interests (Schaltegger and Burritt, 2018). The responsible model is driven and consumed by the desire to achieve excellence in sustainable practices which in turn drives value (Schaltegger and Burritt, 2018). The collaborative model is driven by a stakeholder value creation and engaging narrative which creates a composite value addition (Schaltegger and Burritt, 2018). The main driver in a reactionary model is profitability and commercial survival, therefore engaging in sustainable practices, such as virtual tourism, is driven by the commercial need for continuity and relevance for profit gain (Schaltegger and Burritt, 2018).

### **6.5.3 How sustainable is virtual tourism?**

Question 10 was asked to unpack how virtual tourism addresses United Nations Sustainable Development Goals, especially focusing on sustainability. The researcher reviewed the interview transcripts including the key inputs from the conversation. There were varying contributions from the interviews some of which were at a tangent with each other, some suggesting that virtual tourism is positive for sustainability while others thought

otherwise. The biggest argument was that a balance must be achieved between tourism and nature, while some advocated for virtual tourism as the most sustainable form of tourism others disagreed while others chose to be indifferent arguing that it's too early to determine.

Virtual tourism allows for sustainability by limiting the number of visitors to a location (Loureiro et al., 2020). The continued deterioration of the environment is continuously posing danger to humankind, and tourism is a big contributor to carbon emissions accounting for 6% of global emissions estimated to increase by 5.3% in 2030 (Talwar et al., 2022). This creates conflict and competing interests between profitability and environmental care, with a balance needed to ensure a sustainable environment (Talwar et al., 2022). Corporate social responsibility concerns the environment and ensures sustainability (Schaltegger and Horisch, 2017). Virtual tourism by its nature avoids direct interaction and depletion of the natural environment (Lu et al., 2022). As stated by one interviewee virtual tourism has taken hold in countries like India and Kenya as a solution to over-tourism which led to environmental and natural deterioration. Second Chance Tourism (SCT) provides restoration to destinations that have been severely destroyed by over-tourism, and virtual tourism is an approach that assists to ensure sustainability (Bec et al., 2021). Figure 9 below shows how virtual tourism encourages sustainability.



**Figure 9**, Virtual technology for second chance tourism model., Source: Bec et al., 2021

Virtual tourism has proven to be a means through which sustainability can be achieved ensuring value creation for the entire ecosystem (Talwar et al., 2022). Therefore, tourism operators are encouraged to pursue sustainable business practices that do not destroy the environment. Physical and virtual tourists place reliance on well-preserved nature, which is an important appreciation of the concept in the industry (Talwar et al., 2022).

## 6.6 Conclusion

There are gaps in the literature that have been elaborated by the research contributions from the transcripts. The view among the game reserves is that virtual tourism does benefit tourism, however, the debate is whether it can be a compliment or an alternative offering in the long run post the covid pandemic literature. The game reserves in Africa have not fully embraced virtual tourism implying that the dynamic capabilities have not been created to take

advantage of the virtual technology developments in tourism. Sustainability is central in the implementation of disruptive technology, with virtual tourism impressing as a sustainable form of tourism.

## **Chapter 7. Conclusion**

### **7.1 Introduction**

The research was inspired by the need to understand virtual tourism from an African perspective, especially in South Africa within the Limpopo and Mpumalanga Provinces. This concluding chapter provides a review of the research objectives and contributions laid out in the previous chapters including the findings presented from the research. The research is cognisant of the limitations, setting out practical implications and recommendations for future studies. The research was conducted with the aim to establish responses to the following research objectives as presented in Chapter 1.

- (1) Appraise the understanding of the concept of virtual tourism in South Africa by game parks, that is, sensing the virtual tourism opportunity in the market.
- (2) Assess the extent of the adoption of the concept of virtual tourism in South Africa by game parks, which articulates the seizing of the virtual tourism opportunity and
- (3) Analyse the transformative impact of virtual tourism on the South African game parks
- (4) Assess the economic performance and sustainability of game parks in Limpopo and Mpumalanga Provinces of South Africa because of virtual tourism.

The global tourism industry is under transformative pressure from new technology that is being presented to the industry, especially virtual technology. The Covid-19 pandemic created a global panic, and Africa was not spared. During the pandemic period, travel restrictions created increased opportunities for virtual technology which had already started to experience a tremendous surge in interest. The virtual technology industry is expected to grow globally and in Africa. Traditionally physical tourism has been the means through which interaction was achieved between tourists and destinations of interest, and still a dominant form of tourism. However, the new developments in technology have presented an alternative, which is virtual tourism, that has brought along both benefits and challenges. The findings from the research were considered in the context of Dynamic Capabilities Theory and the implementation of virtual tourism in game reserves in Limpopo and Mpumalanga Provinces of South Africa.

### **7.2 Findings**

Organisation agility and adaptability are key aspects for organisations to ensure competitive structures and advantages remain relevant in an increasingly transformative environment. The quality of this exploratory study was dependent on the input from 13 semi-structured interviews of game reserves that are based in the Limpopo and Mpumalanga Provinces of South Africa. The research was structured into the three constructs of the Dynamic capabilities Theory and the need to establish the sustainability of virtual tourism.



### **7.3 Sensing the evolution of virtual technology within the tourism sector**

The research aimed to establish familiarity with the concept of virtual tourism as well as to understand the level of dependency on physical tourists by game reserves. There is a renewed emphasis on businesses to continuously innovate into futuristic entities to amass value by harnessing developments in technology.

The research outcome seems to suggest that many game reserves are not familiar with the concept of virtual tourism. Quite debatable would be the reasons why virtual tourism is not familiar among game reserves, among them the challenge of keenness to scout and keep up with trends in the tourism sector (Warner and Wager, 2019). The complacency created by reliance on physical tourism has eroded game reserve management's willingness to seek alignment with disruptive technology or alternative means that challenge established norms. The gap created by this scenario is the lack of awareness and the absence of digital orientation in the game reserves. For game reserves to be able to sense the disruptive technology they need to pursue digital planning and scouting which is not visible from the interviewee responses. The lack of government support and the lack of technical infrastructure creates a lack of awareness which has hindered potential interest in upcoming technology that enables virtual tourism.

Most of the virtual tourism is being done by private third parties that do not necessarily own or operate game reserves. This creates a dependency and reduces the investment in alternative options by game reserves. Virtual tourism strategy creation then becomes the responsibility of third-party solution providers leaving the game reserves without full knowledge and awareness.

The lack of implementation of virtual tourism by most game reserves creates a dependency on physical tourism. The game reserves that have implemented virtual tourism have been able to increase revenue through increased visitors due to the marketing and awareness created. If virtual tourism is being implemented by third parties, this means the bulk of the revenue accrues to the third party, whereas the biggest benefit to the game reserve would be increased traffic from tourists. However, where game reserves can implement virtual tourism, they benefit from the wider audience creating an alternative product that potentially competes with physical tourism reducing complete dependency thereon.

The contractual commitments with employees, local community, and legacy infrastructure created to support physical tourism as well as the cost and complexity of implementing virtual tourism hinder its uptake, therefore perpetuating reliance on physical tourism for entrance fees and conservation fees. However, the goal, as suggested by an interviewee, is to create value through virtual tourism to permanently expel dependency on physical tourism to drive sustainability of both the natural environment and long-term economic benefits.

#### **7.4 Seizing the evolution of virtual technology within the tourism sector**

Seizing is redirecting focus by creating capabilities that promote continuous growth in a changing environment (Teece, 2018). This is enabled by creating prototypes and business model reconfiguration to ensure the viability and value addition of virtual tourism (Warner and Wager, 2019). Virtual tourism has not been implemented by most game reserves in South Africa due to the perceived complexity of creating a model that is not disruptive to the status and is economically viable and the lack of government support. During the Covid-19 pandemic a handful of game reserves embarked on it to access tourists and finance to facilitate continuity either by themselves or through third parties. The end of the pandemic led an end to virtual tourism as they reverted to focusing on physical tourism, and virtual tourism focused on marketing. Third parties who have created specialties are the ones that have continuity although working in partnership with game reserves to access nature and wildlife for their content.

Government efforts have been perceived to be little or -existent in encouraging game reserves to remodel their business approach to tourism and conservation. The current framework does not discourage virtual tourism however the bias encourages physical tourism as it promotes more access to tourist spending creating revenues within the tourism ecosystem. The government's knowledge of virtual tourism is limited, especially given the interpretation of copyright law and the emphasis on tourism and the environment as a similar unit, yet they have opposite and competing focuses. Policy framework, information, competitive infrastructure support, and research into virtual tourism would create growth.

The agility to redirect efforts is being hampered by a lack of resources and required skills that are focused on virtual tourism. The other challenge that hampers the implementation of virtual tourism is the lack of research, management fear of change, and inertia, which is stimulated by the physical tourism model. However, the above challenges are being overcome by working in collaboration with established third-party organisations that have developed specialised competencies in virtual tourism and working business models. The shortcoming is that they do not get direct access to revenue from the virtual experience by the customers.

#### **7.5 Transformation of the evolution of virtual technology within the tourism sector**

Transformation focuses on redefining and repositioning the organisation's strategic capabilities and competencies, culture, and business model (Teece, 2018). There is a steady transformation in the tourism industry brought about by virtual tourism. The transformation includes skill set capacity building, creating partnerships to access capabilities that are not

present internally, adjusting service offerings to meet changing customer needs and tastes as well as reviewing organisational structure (Warner and Wager, 2019).

Virtual tourism has brought a demand for information technology skills, and media skills with a potential decline in traditional skills that specifically support physical tourism. Since the update of virtual tourism by game reserves has been quite reserved and steady, the impact of the skills in the industry has not been dramatic. However, there is a growing trend of game reserve guides becoming media personalities providing wildlife guidance virtually. This development creates hybrid careers and a potential decline in traditional roles as perception is being divided toward advancing the digital angle of tourism. South Africa has excellent wildlife expertise and skills which have matured over the years in physical tourism, a blending that supports virtual tourism. Game reserves have partnered with third-party players in the virtual tourism industry to bridge technical and marketing gaps in their structures cross-pollinating their organisations.

Transformation involves redirecting the business model to create value for the changing market, which includes attending to shifts in customer preferences and tests (Warner and Wager, 2019). Game reserves either on their own or in association with third-party service providers have created products that are aimed at the virtual market that excite the imagination of their viewers such as virtual walks, guided tours, and more recently utilization of the metaverse to create products and interactive simulation. Immersion, emotions, and activation of all human senses have been a concern for most game reserves; however, virtual technology has developed to offer a stimulant environment that activates senses and emotions.

#### **7.6 Category IV. Economic Impact and Sustainability**

Sustainability has become an important aspect of humanity to preserve and encourage the continuity of natural resources including the environment and wildlife. Economic growth and its impact are arguably the biggest culprits to sustainability.

Technological developments bring efficiencies and effectiveness in processes and output including quality, and virtual tourism is no exception. Revenue growth is the most notable economic benefit that comes from virtual tourism. The benefits accrue differently through increased booking traffic from physical tourists as well as increased subscriptions to those that directly offer virtual tourism. However, the real economic benefit is the increased value of the ecosystem which is created by sustainable practices.

The interaction between human beings and nature is good where a balance is maintained. The current impression, however, is that over-tourism through physical tourism has hurt the environment and wildlife. Although virtual tourism is a new concept whose impact is still being investigated, it minimises human contact with the natural environment. With products such as

the metaverse and non-fungible tokens, as described in Chapters 5 and 6, the ownership and conservation of the environment and wildlife become a borderless communal function with resources made available to the game reserve owners. There are countries such as India and Kenya that have embraced virtual tourism after realising the damage that has been caused by physical tourism to their environments due to over-tourism. Without another alternative available, compared to physical tourism, virtual tourism becomes the only best form of tourism available to achieve sustainable tourism.

### **7.7 Research contribution**

The research has attempted to bridge the research gap concerning theoretical knowledge available focusing on other continents namely Europe, Australia, America, and Asia with the reality of virtual tourism in Africa using South Africa as the area of study specifically in Limpopo and Mpumalanga Provinces. The qualitative research utilised game reserves to unpack the unique nascent experience as they are a prominent tourist attraction in the region which is being provided virtually. Although the focus of this qualitative inquiry on virtual tourism was on Limpopo and Mpumalanga Provinces, the nascence resonates with the broader South African context, and the African continent at large. Despite the location of the study, the findings can be applied to other African contexts as they share similar dynamics.

The research revealed that virtual tourism is truly an evolving phenomenon in Africa that is being implemented by private enterprises with restricted government support. The future of virtual tourism in Africa is dependent on creating optimum business models that guarantee a balance between ecosystem value creation and sustainability. As opposed to other geographies which are technically and financially well-resourced, virtual tourism in Africa is further hindered by a lack of research and a fear of destroying legacy structures that support physical tourism.

### **7.8 Recommendations to managers**

Since the industrial revolution, disruptive technology has caused a stir in business modelling, and strategic responses to changing global dynamics and consumer tastes. Organisations that have failed to respond proactively have mostly lost competitiveness and are replaced by more agile enterprises. Virtual technology developments have been introduced into the tourism sector at a time when the world is more focused on global sustainability. As discussed earlier in the previous chapters, India and Kenya have experienced the disadvantages of over-tourism due to physical tourism which has created unrepairable damage to nature and wildlife.

Game reserves in South Africa, with emphasis on Limpopo and Mpumalanga, are encouraged to adopt the Dynamic Capabilities Theory concerning virtual tourism to remain relevant as the inevitable industry shift has commenced. The future of tourism has arrived

considering the new technology-inclined generations that are focused and motivated by technological advancement. The game reserves are encouraged to invest in research and prototyping to create business models that are sustainable in the face of changing trends and tourism phenomena. The results of the research indicate that very few game reserves have implemented virtual tourism. Where resources do not permit creating synergies with entities that possess the skill and resources to leapfrog the game reserves into a competitive edge beyond the status.

Further, it is important for management to note the following.

- Physical tourism is not an option for the future of tourism and virtual tourism is the only sustainable form of tourism
- Government efforts do not promote virtual tourism, the lack of a legal framework and provision to support developments in the sector. African tourism is different from other continents due to peculiar dynamics that exist such as copyright law interpretation and
- Virtual tourism creates ecosystem value and helps in allowing the environment to take care of itself unhindered by human beings.
- Business modelling flexibility and agility are critical, especially where disruptive technology and events occur

### **7.9 Recommendations for future research**

Virtual tourism is a developing concept that has limited literature. The following are recommended areas to explore the concept to gain further insight.

- There is a need to conduct quantitative research into effective business models that can provide a strategic best fit for tourism destinations to utilise to realize incremental value when they implement virtual tourism.
- In the African context, future research could be focused investigate third-party entities that work with game reserves in the provision of virtual tourism post the Covid-19 pandemic
- Further qualitative research into the sustainability of virtual tourism and its implications for the ecosystem in comparison to other forms of tourism such as physical tourism. The research would be helped to consider the economics of pollution in the manufacturing process of virtual technology equipment.

### **7.10 Research Limitations**

- It was difficult to get participants to undertake interviews as most of the potential participants were too busy to entertain requests for interviews hence some of the responses were return submissions from the interviewees. This created a lack of interpersonal depth and observation of body language.

- The sample was limited to game reserves in South Africa, possibly an expansion to include third-party companies that provide virtual tourism as well as an engagement with the tourists who have experienced virtual tourism as part of the sample.
- The industry representation is quite limited to have an overall conclusion on virtual tourism. Virtual tourism is not only conducted in game reserves, but the experiences of museums, hotels, and other places of tourist interest might provide additional information that provides a wider and deeper appreciation concerning the concept.
- The research time and submission of the dissertation are too limited to provide a comprehensive report that can help articulate the subject under investigation and redefine the myths concerning virtual tourism in a manner that is adequately fortified academically.

### **7.11 Conclusion**

The researcher, in pursuance of the research objectives, has managed to outline the unique challenges that virtual tourism faces in Africa including lack of government support, technical and skills shortages, financial resources limitation, challenges with legacy structures, and inherent limitations in the applicable business model. The use of the Dynamic Capabilities Theory proved useful in establishing how game reserves have responded to technological developments, and in so doing bringing out virtual tourism as a sustainable form of tourism.

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## Appendices

### Appendix 1: Invitation letter to participate in the research

**Gordon Institute  
of Business Science**  
University of Pretoria

04 August 2022

Dear Sir / Madam

Participant Consent Letter

I am writing to request for your participation in a research interview on the adoption, economic impact, and implications of virtual tourism to game parks within the Limpopo and Mpumalanga Provinces of South Africa. The research project will be submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Philosophy (Corporate Strategy). My name is ....., I am pursuing a Master of Philosophy (Corporate Strategy) degree with Gordon Institute of Business Science, University of Pretoria.

Our interview is expected to last for an hour and will help us understand how game parks in South Africa have sensed the changes in the industry through virtual tourism, seized the opportunity and how it has transformed the tourism industry. Your participation is voluntary, and you can withdraw at any time without penalty. Please be assured that the interview and responses thereto will be treated with the utmost confidentiality and anonymity. By signing this letter, you are indicating that you have given permission for:

1. the interview is to be recorded.
2. the recording is to be transcribed using the Otter.ai program.
3. verbatim quotations from the interview to be used in the report, we will ensure anonymity as we will not refer to or identify your name and the game park that you work for or represent.
4. the data to be used as part of a report that will be publicly available once the examination process has been completed; and
5. all data to be reported and stored without identifiers.

If you have any concerns, please contact my supervisor or me. Our details are provided below.

Researcher name: ...

Research supervisor name: ....

**Email: ....**

**Email: ....**

Phone: ....

Phone: ....

Signature of participant: \_\_\_\_\_ Date: \_\_\_\_\_

Signature of researcher: \_\_\_\_\_ Date: \_\_\_\_\_

## Appendix 2: Consistency matrix

**TITLE: A qualitative inquiry into the economic impact and implications of virtual tourism to game parks within Limpopo and Mpumalanga Provinces of South Africa**

Research Questions	Literature Review	Data Collection Tool	Data Analysis
<ul style="list-style-type: none"> <li>▪ Sense-Making</li> </ul> <p>What is the understanding of the concept of virtual tourism in South Africa by game parks, that is, sensing the virtual tourism opportunity in the market?</p>	<ul style="list-style-type: none"> <li>▪ 1.2 Theoretical Perspective</li> <li>▪ 2.3 Dynamic Capabilities Theory</li> <li>▪ 2.3.1 Sensing the evolution of virtual technology</li> <li>▪ 2.4.1 Sensing the evolution of virtual technology within the tourism sector</li> </ul>	<ul style="list-style-type: none"> <li>▪ Interview questions 1 and 2</li> </ul>	Thematic Analysis
<ul style="list-style-type: none"> <li>▪ Seizing</li> </ul> <p>To what extent has the concept of virtual tourism adopted in South Africa by game parks, which articulates the seizing of the virtual tourism opportunity?</p>	<ul style="list-style-type: none"> <li>▪ 1.2 Theoretical Perspective</li> <li>▪ 2.3 Dynamic Capabilities Theory</li> <li>▪ 2.3.2 Seizing the opportunities presented by virtual technology</li> <li>▪ 2.4.2 Seizing the opportunities presented by virtual tourism</li> </ul>	<ul style="list-style-type: none"> <li>▪ Interview questions 3, 4 and 5</li> </ul>	Thematic Analysis
<ul style="list-style-type: none"> <li>▪ Transformation</li> </ul> <p>What is the transformative impact of virtual tourism on South African game parks?</p>	<ul style="list-style-type: none"> <li>▪ 1.2 Theoretical Perspective</li> <li>▪ 2.3 Dynamic Capabilities Theory</li> <li>▪ 2.3.3 Transformation of virtual technology</li> <li>▪ 2.4.3 Transformation of the tourism industry</li> </ul>	<ul style="list-style-type: none"> <li>▪ Interview questions 6 and 7</li> </ul>	Thematic Analysis
<ul style="list-style-type: none"> <li>▪ Economic impact and sustainability</li> </ul> <p>What is the economic performance and sustainability of game parks in</p>	<ul style="list-style-type: none"> <li>▪ 1.2 Theoretical Perspective</li> <li>▪ 2.3.4 Economic impact and sustainability of virtual tourism</li> <li>▪ 2.4.4 Economic impact and</li> </ul>	<ul style="list-style-type: none"> <li>▪ Interview questions 8, 9 and 10</li> </ul>	Thematic Analysis

Limpopo and Mpumalanga Provinces of South Africa because of virtual tourism?	sustainability of virtual tourism		
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### Appendix 3: Interview guide

Research Question	Interview Question
<p><b>Category I. Sense-Making</b></p> <p>Appraise the understanding of the concept of virtual tourism in South Africa by game parks, that is, sensing the virtual tourism opportunity in the market.</p>	<ol style="list-style-type: none"> <li>1. How familiar is the concept of virtual tourism in South Africa?</li> <li>2. To what extent are game parks dependent on people visiting parks physically?</li> </ol>
<p><b>Category II. Seizing</b></p> <p>Assess the extent of the adoption of the concept of virtual tourism in South Africa by game parks, which articulates the seizing of the virtual tourism opportunity.</p>	<ol style="list-style-type: none"> <li>3. To what extent have game parks in South Africa adopted and implemented virtual tourism?</li> <li>4. How is virtual tourism being encouraged through government policy?</li> <li>5. What are the challenges in implementing virtual tourism?</li> </ol>
<p><b>Category III. Transformation</b></p> <p>Analyse the transformative impact of virtual tourism on the South African game parks</p>	<ol style="list-style-type: none"> <li>6. How would virtual tourism affect skills within the tourism industry?</li> <li>7. What is being offered through virtual tourism?</li> </ol>
<p><b>Category IV. Economic Impact and Sustainability</b></p> <p>Assess the economic performance and sustainability of game parks in Limpopo and Mpumalanga Provinces of South Africa because of virtual tourism.</p>	<ol style="list-style-type: none"> <li>8. How are game parks economically benefiting from virtual tourism?</li> <li>9. What drives the economic benefits?</li> <li>10. How sustainable is virtual tourism?</li> </ol>

#### Appendix 4: Qualitative codes

Category I. Sense-Making	Code Summary
How familiar is the concept of virtual tourism in South Africa?	<ul style="list-style-type: none"> <li>▪ the concept is totally unknown</li> <li>▪ several people are oblivious to it</li> <li>▪ popularity spread during the COVID pandemic</li> <li>▪ virtual tours are a means to an end during the pandemic</li> <li>▪ private establishments provided virtual tourism</li> <li>▪ it's the big five to watch in person</li> <li>▪ we are a world in one country</li> <li>▪ travel restrictions</li> <li>▪ limited budgets and physical handicaps</li> <li>▪ government does not have virtual tourism sites</li> <li>▪ virtual tourism is known and accessed through widely available media</li> </ul>
To what extent are game parks dependent on people visiting parks physically?	<ul style="list-style-type: none"> <li>▪ tourism is a tactile experience</li> <li>▪ marketing tool</li> <li>▪ tourism industry depends on it</li> <li>▪ virtual tourism is a good alternative when your situation doesn't allow you to travel</li> <li>▪ extremely dependent on actual visits for operating finance from conservation fees and entrance fees</li> <li>▪ the technology is not available hence the dependence on physical visits</li> </ul>
Category II. Seizing	Code Summary
To what extent have game parks in South Africa adopted and implemented virtual tourism?	<ul style="list-style-type: none"> <li>▪ not fully implemented, resources and technology limitations</li> <li>▪ still more focused on having people come in physically</li> <li>▪ only use media to advertise</li> <li>▪ big private reserves with funding have been implemented and skills</li> <li>▪ physical tourism is not the same as watching on a device</li> <li>▪ being done by private reserves</li> <li>▪ not popular, it's rather difficult to implement</li> <li>▪ isn't a whole lot happening, lack of resources</li> <li>▪ being done in private parks</li> <li>▪ good marketing tool</li> </ul>
How is virtual tourism being encouraged through government policy?	<ul style="list-style-type: none"> <li>▪ government participation is not known</li> <li>▪ government agencies like SATA encouraging it.</li> <li>▪ tourism SA with major brands to do virtual tourism</li> <li>▪ SANPARKS and government agencies not adding value and need revamping</li> <li>▪ SANPARKS is not up to date with copyright law</li> </ul>

What are the challenges in implementing virtual tourism?	<ul style="list-style-type: none"> <li>▪ skills to guide in a virtual mode</li> <li>▪ lack of infrastructure and internet in remote areas</li> <li>▪ combining virtual and physical safari experiences is difficult</li> <li>▪ being able to create presence and emotion</li> <li>▪ lack of adequate resources</li> <li>▪ lack of technical and communication infrastructure</li> <li>▪ lack of support from the government</li> <li>▪ change in consumer behaviour</li> <li>▪ Management fear of change</li> <li>▪ Challenge of creating business models</li> <li>▪ Challenge of creating business models</li> <li>▪ sickness</li> <li>▪ Antisocial</li> </ul>
<b>Category III. Transformation</b>	<b>Code Summary</b>
How would virtual tourism affect skills within the tourism industry?	<ul style="list-style-type: none"> <li>▪ require a professional competency that is analytics based</li> <li>▪ emphasis on information technology and media skills</li> <li>▪ traditional skills become obsolete</li> <li>▪ closure of non-technical departments</li> <li>▪ established skills that support physical tourism become redundant</li> <li>▪ guiding skills will evolve to become television personalities</li> <li>▪ opportunities for the younger technology-inclined generation</li> <li>▪ increased demand for digital marketing skills</li> <li>▪ government departments to upskill personnel to serve better</li> <li>▪ writers and journalists demand increases</li> <li>▪ decline in local communities' economic system and skills demand</li> <li>▪ lack of information technology skills both at the customer and supplier level</li> <li>▪ spotlight for African wildlife guiding skills</li> </ul>
What is being offered through virtual tourism?	<ul style="list-style-type: none"> <li>▪ limited to wildlife and nature</li> <li>▪ an opportunity for growth and diversification in wildlife</li> <li>▪ nothing is being offered post-Covid-19 pandemic</li> <li>▪ focus is now on physical tourists</li> <li>▪ marketing what game reserves are offering</li> <li>▪ safari hunting programs and tracking</li> <li>▪ wildlife reality shows</li> <li>▪ diving, private safari shows, corporate shows, wildlife tracking</li> <li>▪ metaverse and Non-Financial Tokens (NFTs)</li> </ul>
<b>Category IV. Economic Impact And Sustainability</b>	<b>Code Summary</b>
How are game parks economically benefiting from virtual tourism?	<ul style="list-style-type: none"> <li>▪ benefits from marketing, attracting physical tourists, and increasing revenue</li> <li>▪ no financial benefit to game reserves</li> <li>▪ causing financial crisis due to job termination from skills redundancy</li> <li>▪ there are no economic benefits because the concept is not adopted</li> <li>▪ increase in physical tourists and demand for accommodation</li> <li>▪ getting conservation finance</li> </ul>
What drives the economic benefits?	<ul style="list-style-type: none"> <li>▪ value created by marketing</li> </ul>

	<ul style="list-style-type: none"> <li>▪ visitors boost tourism finance</li> <li>▪ cost-effective operations</li> <li>▪ good quality fresh virtual content</li> <li>▪ quality customer virtual tourism experience</li> <li>▪ increasing the value of the ecosystem</li> <li>▪ allowing nature to be free</li> <li>▪ good business model that is sustainable</li> </ul>
How sustainable is virtual tourism?	<ul style="list-style-type: none"> <li>▪ non-existent in our industry</li> <li>▪ It's not, in the long-term technology always fails</li> <li>▪ cannot replace physical tourism</li> <li>▪ human beings are part of the ecosystem, nature manages itself</li> <li>▪ too early to measure its sustainability</li> <li>▪ only sustainable form of tourism</li> <li>▪ increases the value of nature including game reserves</li> </ul>