Identifying the main indicators to consider when choosing the most profitable property for short-term rental

A minor dissertation presented to the Department of Construction Economics and Management in partial fulfilment of the requirements for the degree M.Sc. in Property Studies

Course Code: CON5010Z

Supervisor: Prof Francois Viruly

Submission date: November 2021

D Visser (Niel)

VSSDAN014

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to three people, for different reasons:

To my supervisor, Prof Francois Viruly, thank you for your consistent support throughout this journey. Thank you for challenging me and for bearing with me. This learning journey has been worthwhile indeed.

To my darling wife Sharon, thank you for your sacrifices during the past two years, and for your unwavering support and patience. Thank you for always reminding me of my true worth.

To my language editor, Amanda Matthee, thank you for your effort and input to make sense of my writing.

DECLARATION

Declaration

I know that plagiarism is wrong. Plagiarism is to use another's work and pretend that it is one's own.

I have used the Harvard convention for citation and referencing. Each contribution to, and, quotation in, this research report from the works of other people have been attributed, and have been cited and referenced.

This research report is my own work.

I have not allowed, and will not allow, anyone to copy my work with the intention of passing it off as his or her own work.

I acknowledge that copying someone else's assignment or essay, or part of it, is wrong, and declare that this is my own work.

This dissertation has been submitted to the Turnitin module and I confirm that my supervisor has seen my report and any concerns revealed by such have been resolved with my supervisor.

Signature: Signed by candidate

November 2021

D Visser (Niel)

VSSDAN014

ABBREVIATIONS

ADR	average daily rate
BtR	build-to-rent
CMA	comparative market analysis
CCI	Consumer Confidence Index
GDP	Gross Domestic Product
HPM	hedonic price model
IVVP	investment value – viewers' preference (model)
P2P	peer-to-peer (lodging)
PPC	pay per click
PPW	personal preference weight
RevPAR	revenue per available rent
RMV	real market value
ROI	return on investment
Rpun	cost per unit night in rand
SE	sharing economy
SFR	single-family rental
STR	short-term rental
T&T	travel and tourism
US	United States (of America)
VP	viewers' preference
VR	vacancy rate
Vrbo	vacation rentals by owner
WFH	work from home
WTTC	World Travel & Tourism Council
YoY	year over year (growth)

ABSTRACT

Short-term rental in the sharing economy has brought about a relatively inexpensive way to complement a normal household's income. In 2008 Airbnb introduced a web-based platform where anybody could advertise their "spare bedroom" for peer-to-peer lodging, and where potential guests could book and pay for this authentic stay away from home. Over the following years other web-based platforms i.e. Vrbo, Bookings.com, TripAdvisor, Google to name a few, have followed the now multi-billion-dollar Airbnb phenomenon.

Income from short-term renting has the potential to outperform traditional residential long-term rent by far under certain conditions. This research investigated those factors to determine the "best buy" in this potentially lucrative market.

Feng (2010) mentioned that in order to analyse a property's liquidity in the short-term rent market one should first know how much rentable traffic to expect. He further mentioned that high tourism levels and heavy buyer competition offer more liquidity, whereas limited tourism and weak competition can render a property illiquid. This means the location of the property plays the most critical role in this market.

The process of finding the "best buy" in terms of short-stay rental property starts by determining the target market's needs – for example, tourists looking for cost savings, household amenities, and the potential of a more authentic local experience (Guttentag, 2015). This will determine the ideal property location. Next, property hosts need to look at the available funds to spend on the investment property in order to earn the return they are looking for. This amount will become the main filter when searching for properties in the identified locations. Finding a short-term rental property at the right price means understanding the cost of living and, importantly, the potential rentable income in the area. This involves taking into account existing rental rates, property taxes, and other indicators providing information on the cost of living in the markets being targeting. The nightly fee (price per unit per night – *Rpun*) becomes the next important indicator. Making sense of all the factors and role-players involved in identifying the "best buy" is difficult without a model, and therefore a decision-making model was developed.

The research findings showed that the main indicators used to establish the "best buy" were the estimated value, annual net operating income, and the buyer/viewers' preference. The

viewers' preference (VP) played a key role as an indicator because the property will become the owner's home while the investment value (IV) rating, derived from dividing the net operating income by the estimated value, indicates the economic prosperity of the property used in the short-term renting sector. This model was therefore called the IVVP model in this dissertation.

CHAPTER 1: INTRODUCTION TO THE RESEARCH PROJECT

1.1 Introduction

Over the past 10 years, the demand for tourist accommodation has grown exponentially and has become a phenomenon worldwide as well as in South Africa, turning short-term rental property into an investment alternative (Guttentag, 2019; Visser *et al.*, 2017). This phenomenon is based on the old peer-to-peer (P2P) lodging concept but is now driven by online distribution platforms that are revolutionising this industry to the point where almost anyone with a spare room can "lock into" this business to generate wealth for themselves (Guttentag, 2015).

As the industry has grown, different platforms have been developed, all aimed at enhancing P2P lodging and making it easier to become a host renting out "your spare bed". National travellers in South Africa are familiar with platforms like www.lekkeslaap.co.za, www.roomsforafrica.com, www.wheretostay.co.za, www.sa-venues.com, www.safarinow.com, and www.places.co.za. Well-known international platforms www.booking.com and www.airbnb.com, which also operate in South Africa, have undoubtedly set the benchmark in P2P lodging (Visser *et al.*, 2017).

According to a May 2018 press release by Airbnb (2018), two million hosts have made use of Airbnb listings since the founding of the organisation in 2008, with about 50% of these listings made in the 12 months prior to May 2018. During this period, the listings had an approximate impact of R8.7 billion on the South African economy. Hosts across Africa have earned over $400 million in income from hosting since Airbnb's founding (Airbnb, 2018; Malherbe, 2019). It therefore comes as no surprise that potential property investors are seeking property for short-term renting to benefit from this purported prosperous property market. According to Malherbe (2019), revenue from short-term renting has the potential to be three times higher than rentals from traditional residential property.

To help with the decision-making process when buying this type of property, the notion does exist to use traditional property indicators in order to determine the location, type of property and price required to generate market-related growth or above.

With revenue directly related to the quality and number of photographs used in marketing the property, it could be that the main indicators for buying the most profitable short-term rental property are different from the main indicators for buying traditional long-term rental property (Guttentag, 2019). For this reason, the researcher attempted to determine the main indicators for short-term rental property in order to identify the most profitable buys in this residential market for specific investors at the time.

1.2 Background to the study

Short-term rental income is now offering residential property investors an alternative with the potential of high revenues compared to traditional long-term rental income. The online platforms, as mentioned earlier, have significantly dropped the entry barriers to these markets. This is making short-term rental property a worthwhile investment for just about anyone (Guesty, 2019).

Property management platform Guesty, in a 2021 report, identified "5 Ways to Evaluate Your Market for Short-term Rental Potential", which will underpin the methodology to determine the indicators of this market:

> Identifying a location "**appealing to tourists**" may involve examining the following: access to public transport, appropriate selection of restaurants, shops and suitable entertainment, and a high volume of tourists throughout the year.
>
> According to a 2020 survey by Deloitte,[1] millennials choose experiences over things. This was echoed by the Harris Group[2] who found that "72% of millennials would open their wallets based on experiences rather than on material items". These reports also indicated that 70% of millennials prefer "locally owned rentals and 42% want to stay some place unusual when they travel" (Guesty, 2021). In this case, the "**target market**" appears to be millennials. This means their most desired experiences and behaviour patterns would need to be satisfied, which could serve as the main indicators for producing high revenues.

[1] The Deloitte Global Millennial Survey 2020: Millennials and Gen Zs hold the key to creating a "better normal". https://www2.deloitte.com/global/en/pages/about-deloitte/articles/millennialsurvey.html

[2] Millennials Ignited The Experience Economy, Here Is How To Cash In. https://www.inc.com/anne-gherini/cash-in-on-experience-economy.html

An exploration of the "**local economy**" to determine whether the economy is booming and/or has staying power will increase the growth potential of the property investment. The challenge will be to obtain reliable economic indicators per location or to identify indicators that confirm economic growth potential.

The "**cost of living**" will be investigated using local rental platforms to determine averages of rent, property taxes and fees, and utility costs, among others. This will enable the calculation of net revenue potential. Data on seasonal market forecasts will help to determine the probability of a high occupancy rate. This information is essential to determine the investment needed in order to earn appropriate returns.

To establish how lucrative or saturated the neighbourhood is, companies offer proprietary "**analytics**" which provide insight into industry-leading data that drives the market,[3] e.g. average daily rate (ADR), occupancy, rental revenue, revenue per available rent (RevPAR),[4] active listings, booking lead in time, marketing and occupancy rates. These indicators may help to determine the "best buy".

The challenges envisaged include obtaining reliable data and analysing and synthesising the data to use as input for a model that will allow comparison of different investment opportunities in order to help determine the "best buy".

1.3 Problem statement

In the short-term property market, as in other property markets, a significant number of variables is involved in determining the best buy for specific property investors. In addition, the lucrative tourist property market is extremely seasonal and driven by traveller behaviour (Guttentag, 2019). This study aimed to establish indicators that can be used in a model to compare different property opportunities in different cities or areas of a city. This study concentrates on the Eastern part of the Western Cape of South Africa, better known as the Garden Route. Tourist data is not as available as in bigger cities i.e., Cape Town, Durban and Johannesburg from the Airdna platforms.

[3] Airdna at https://www.airdna.co/vacation-rental-data provides analytical data about the Airbnb platform.

[4] RevPAR is the Revenue Per Available Rental and is calculated by dividing the total revenue earned by the number of available listings for short-term listings. However, in the hotel industry RevPAR is Revenue Per Available Room and is calculated by multiplying the Average Daily Rate (ADR) by the occupancy rate.

This short-term property rental model should also be able to provide personalised pricing recommendations as to the "best buys" for potential property investors.

1.4 Research questions

The research questions were firstly based on revenue, and secondly on return over the property life cycle:

Is it possible to define the "best buy" for the short-term rental property sector by using certain indicators? 1.5 Research aim

The aim of the study was twofold: To determine the indicators for short-term rental investment property that can be used in a model to compare different opportunities, and to use these indicators to establish the "best buy" for a specific investor.

1.6 Research hypothesis

Critical parameters determine the financial success of property for the short-term leases.

1.7 Objectives

The research objectives were the following:

Determine indicators in the short-term rental property market that.

a. Firstly, can identify the most profitable short-term rental property by predicting the vocational rent, property growth and travellers' behaviour for a specific location.
b. Secondly, will the indicators be of such a nature that they can be used in a model to establish the "best buy" for potential investors?"
c. Create indicators from market-driven data, e.g. vacancy rates (VR), average daily rate (ADR), cost per unit per night (Rpun), revenue per available rent (RevPAR),[5] active listings, and booking lead in time.

1.8 Method

This study depended on the processing of historical data. Hence, it was important to obtain reliable data from authoritative sources. What made this more challenging is the fact that this

[5] RevPAR is the Revenue Per Available Rental and is calculated by dividing the total revenue earned by the number of available listings for short-term listings. However, in the hotel industry RevPAR is Revenue Per Available Room and is calculated by multiplying the Average Daily Rate (ADR) by the occupancy rate

study focused on specific areas in the Western Cape, i.e. George, Mossel Bay and Knysna, where historical data on the research topic was not as readily available as in Cape Town for instance. Therefore, the planned method for researching property for the specific purpose of short-term rental was the following:

a. Source and review historical literature on searching for types of indicators, property data and model building for the study.
b. Research potential high-traffic tourist destinations with investment potential in order to determine the final geographical areas for the study.
c. Determine data availability and suitability in order to identify areas and target markets.
d. Extract the potential indicators based on the data analysis.
e. Interpret the results with reference to the literature findings, and determine whether to create new indicators and/or use traditional indicators in the model.
f. Create a decision-making model using the identified indicators.

1.9 Significance of the study

Based on preliminary research, very few scholars have explored short-term rental property as an investment option, and therefore the emphasis of this research was to identify the best buy for this purpose. The study therefore attempted to identify the best location for the tourist market in a specific area as well as to determine the growth potential of the identified properties.

1.10 Structure of the research

This research will be structured into the following five chapters:

Chapter 1 will consist of an outline and challenges of the study, followed by the questions and proposition for this research. The aim and objectives of the research are defined as well as methods to be used. The significance of the project is also commented upon.

Chapter 2 will report on a critical literature review addressing the following question: *How does one determine the "best buy" in short-term rental property?* This chapter will look at past tenancies in short-term renting, guest and host experiences, and forecasting of lucratively peer-to-peer lodging.

Chapter 3 will explain the research method adopted to address the research questions: *(a) Is it possible to determine indicators in the short-term rental property market that firstly can identify the most profitable short-term rental property and, secondly, predict vocational rent, property growth and travellers' behaviour for the next five years?* and *(b) Will the indicators be of such a nature that they can be used in a model to establish the "best buy" for potential investors?* This chapter will also discuss the data collection method, based on Guesty's "5 Ways to Evaluate Your Market for Short-term Rental Potential" (2019), to identify the indicators under five headings: Tourist appeal, Target market, Local economy, Cost of living, and Analytics of the market.

In Chapter 4, the research analysis and interpretation will be discussed, after analysing the data collected as described in Chapter 3, in order to identify the guest and host needs in terms of the property location. Properties in these locations will then be identified and compared to establish the "best buy" based on a real-time case study using a decision-making model.

Concluding arguments and recommendations will be pursued in Chapter 5.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The aim of this study was to identify the main indicators to consider when choosing the most profitable property for short-term rental. To provide context for this study, a literature review was undertaken to gain a deeper understanding of the key indicators that have been identified by previous authors under the headings suggested by Guesty (2019), namely tourist appeal, target market, local economy, cost of living, and decision-making modelling.

Logically, the review looked at two objectives, namely investing in property for the purpose of short-term rental (STR), and choosing the optimal location, i.e. finding out where to buy in order to keep the *vacancy rate* as low as possible. The review also covered research on decision-making modelling for the purpose of evaluating properties to establish the "best buy".

According to Guttentag (2019), most of the studies on STR have been published very recently. This comes as no surprise as the phenomenon of peer-to-peer (P2P) lodging was initiated by Airbnb only in 2008. From 2011 onwards, rapid growth has turned Airbnb – an online marketplace for lodging, primarily homestays for vacation rentals, and tourism activities – into a multi-million-dollar P2P lodging organisation, with others emerging soon afterwards (Molla, 2017).

The concept of the sharing economy stems from ancient times when unwanted or under-utilised items were shared among villagers (Chen, Cheah & Shen, 2019). Now, this type of behaviour gets utilised in P2P lodging. In this context, literature was explored using key words like behaviour intention, past experience, economic appeal, perceived value, risk, and social appeal pertaining to the short-term rental sector. Literature on decision-making models for short-term rental property was not found.

Short-term rental property could be described as a hybrid between investment property and owner property, and therefore literature covering both ends of this property spectrum was researched.

2.2 Main issues and arguments

- At the time of the study, no indicators could be found to help determine the best buy for short-term renting.
- With reference to travellers' behaviour, find out how to satisfy travellers' needs, from pre-booking to post-booking, with the aim of turning them into return customers.
- Is the target market the determining factor when choosing a location?
- Is it possible to determine the vacancy rate in the short-term rental market?
- Determine the value of potential property for short-term rental.
- Develop a user-friendly decision-making model that provides acceptable outcomes.

2.3 Critical themes from the literature

Most of the literature sources on P2P lodging and the sharing economy (SE) refer to Airbnb, which is understandable given the organisation's growth since 2011. Most of the researchers in this field have referenced Airbnb in their studies. Guttentag (2019) reviewed research on Airbnb up to 2018, mentioning that various researchers have indicated the importance of

"money in motivating" the guest, while the hosts typically highlighted the attributes of the room and guest capacity to determine the listing price. Guttentag (2019) also emphasised the importance of the location for sustainability, as alluded to by various other researchers. Chen *et al.* (2019) undertook an empirical study on the behaviour of short-term guests. The findings from this study were used as pointers for the behaviouristics of travellers pertaining to, among others, perceived value, perceived risk, and repurchase intention.

Literature on decision-making models for this specific sector was limited. As previously mentioned, alternative literature was used that was closely related to the attributes of this sector's economic environment.

To stay within this dissertation's framework the review covered the following key concepts, namely analysis of the market, tourist appeal, target market, local economy, cost of living, and decision-making modelling.

2.3.1 Analysis of the market

Market analysis approaches for investment properties or single-family houses will differ from those for short-term rentable property. Maximum growth is the main driver when looking at investment property, while vacancy rate is the main driver when looking at short-term rentable property (DiPasquale & Wheaton, 1992).

DiPasquale and Wheaton (1992) argued that when rooms in a single-family house have been earmarked for short-term renting, a percentage of the household becomes an income-generating unit. When this happens, decisions about the size and location of the house are no longer only informed by what the household can afford but also by what income the rentable portion of the property can generate (DiPasquale & Wheaton, 1992). Both these asset classes are driven by demand and supply. Therefore, DiPasquale and Wheaton (1992) used a four-quadrant model (rent, stock, construction, price) to illustrate that change in one quadrant

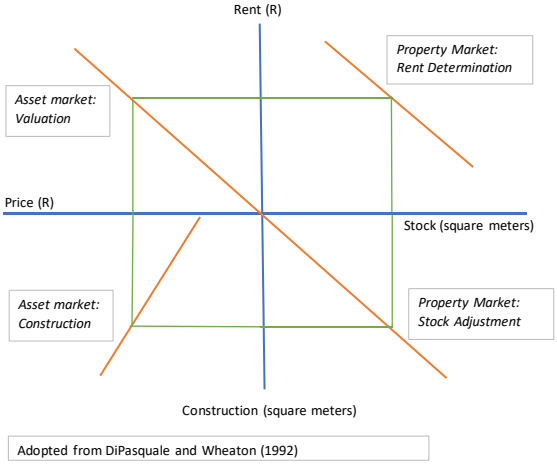


Figure 1: Real estate: Property and asset

impacts the equilibrium in the other three quadrants. See Figure 1 in this regard.

According to DiPasquale and Wheaton (1992), traditionally, "rent is determined in the property market for space, not in the asset market for ownership". The supply of space depends on the asset market while the demand for space depends on the number of households, income, production, and other exogenous economic factors. DiPasquale and Wheaton (1992) argued that this market always attempts to reach equilibrium and therefore the "… property market is to determine a rent level at which the demand for space equals the supply of space". When the number of households increases or firms expand production, the demand for space usage rises. With fixed supply, rent will rise as well (DiPasquale & Wheaton, 1992:186). Conversely, the short-term rentable market is extremely seasonal (AirDNA, 2021).

During high season, the demand for rentable space increases. With fixed supply in this market, the rent rises. With the entry of holiday homeowners into this market, where they arbitrarily supply and withdraw short-term rentable space, the market supply has become very difficult to forecast. Hence, the four-quadrant model of DiPasquale and Wheaton is not the ideal model with which to analyse the short-term market, and therefore this model might need to be adjusted in order to serve as an analytic tool in this market.

Fields (2019) explained that the automated landlord[6] has created a new financial asset that comes with new sources and scales of data, and a new approach to analytical research in the market. Fields' research focused on single-family rental (SFR)[7] which was a new financial asset class, post-2008,[8] based on bundled income flows from SFR houses (Fields, 2019). Short-term rent platforms (applications) enabled ordinary property owners "… to combine ownership of resources, extract income flows, and securely convey these flows to capital markets" (Fields, 2019). For example, AirDNA provides a large amount of historical data on short-term rental, including daily rates, occupation and annual revenue per country, region, city and/or suburb. AirDNA has created an econometric model using this data to forecast future trends in the market; however, this intelligence is available at a cost (AirDNA, 2021).

[6] "… automated landlord, whereby the management of tenants and properties is increasingly not only mediated, but governed, by smartphones, digital platforms, and apps, and the data and analytics these devices and infrastructures gather and enable" (Fields, 2019).
[7] Single-family homes in this case can be defined as either single or shared title but occupied by one household.
[8] In 2008 the US housing market tumbled because of the global financial crisis.

The AirDNA[9] report published in April 2021 listed various noteworthy facts regarding the listings, demand and short-term rental rates based on market analyses done on Airbnb and Vrbo US (Vacation Rentals by Owner) (AirDNA, 2021).

- The need for new **listings** is in high demand, specifically in popular areas. New hosts enter this marked to cater for the demand which outperforms the supply and leads to high unit prices of property. However, this will reduce the investment in short-term rentable property.
- As **demand** increases specifically in major cities, short-term rentals, as a preferred lodging choice, take more business away from hotels. Vacancy rates[10] drop because of increased national travel, and urban demand recovers rapidly.
- Limited new supply and strong demand allow **rental rates** of short-term lodging to grow gradually, increasing the revenue earned per unit.

The travel restrictions imposed by the worldwide Covid-19 pandemic are creating an aching need among tourists to travel internationally. Therefore, AirDNA has forecast a boom in international travelling from early 2022 in countries with high vaccination rates (AirDNA, 2021).

Belarmino *et al.* (2019) found reviews on Airbnb and TripAdvisor to be similar: Hotel guests focus on room and property amenities, while P2P lodging guests focus on interaction with the host, neighbourhood ambiance, and local businesses. Both types of guests commented on location relative to local attractions.

AirDNA's industry outlook (2021) forecast a thriving P2P lodging market for at least the next two years. Demand will return to cities but for smaller property, and has already increased by 16% for the year in the US. Here, a significant share of the demand was for private or one-bedroom or two-bedroom apartments.

Morad *et al*. (2021) hosted a Guesty webinar on *Millennial approach to traditional marketing* where they discussed the strong trend of marketing on social media, specifically on the

[9] AirDNA is an analytical platform using scraping data from Airbnb and Vrbo websites as well as owner data (data from property managers, individual hosts and channel managers). Its data source is currently based on over 750 000 listings worldwide (Airdna, 2021).
[10] Low vacancy rates indicate high rental sales, and vice versa, i.e. high vacancy rates indicate low rental sales.

Pinterest and Facebook platforms. Barnhart (2021) looked at the latest trends and compared the social media platforms with each other. According to this website, Facebook, which has 2.7 billion active users, has opened a platform where hosts can directly advertise their properties and get paid through the Facebook platform. During 2020, 2 billion of the more than 5 billion searches on Pinterest were travel related. The number of searches per pinner has increased with 31% year on year, and the audience has nearly doubled to 96% on a YoY basis. Social media has therefore become the new way of marketing (Morad *et al*., 2021). According to the Guesty presenters, the following should be in place to stand out in this market: flexibility in terms of the length of stay, pricing that reflects the quality of the property, and a highly desirable internal style with stunning professional photographs for marketing purposes. These photos become part of the host's edge and should be updated regularly. The photographs should showcase what can be done in the unit, for example, work from here. The photographs should also show the kitchenette and include unique views. Hosts should be active on the online platforms and create a *What's Good About Us* page with team photos, achievements, and reviews. According to the Guesty presenters, photos with people evoke more emotion than landscape shots. Photographs of happy guests enjoying their stay attract the most likes (Morad *et al.*, 2021).

According to the Guesty webinar presenters, the demand for travel is on the rise, and travellers are turning towards short-term rentals for their vacation plans. Hence, differentiating your property has become more important than ever to achieve maximum occupancy. Indeed, it is about "… building a successful marketing strategy – from booking channel optimization to 'Instagrammability' to decor – to achieve high occupancy rates, stellar reviews and return customers" (Morad *et al*., 2021).

2.3.1.1 Tourist appeal

A significant amount of literature covers how guests choose their accommodation and the factors that influence their decisions, specifically referring to Airbnb platform users. As mentioned elsewhere, reviews and listing price remain the key filters used on the online platforms. In the case of the Vienna Airbnb study (Gunter & Önder, 2017), the price as well as the size of the listing have become inelastic. However, the number and quality of photos have increased bookings significantly (Gunter & Önder, 2017). Trustworthiness created by the host personal profile page, and host's gender also have a significant effect on reservations (Wu, *et*

al., 2017). It was also mention by Xie et al, (2019)that the host who disclosed sale history tended to enjoy more purchases than those who did not disclose sales history.

Surveying Airbnb guests in Cape Town, Visser *et al*.(2017) found that potential guests focus their search on location, price and facilities. Varma et al. (2016) found that location, price, reviews and service quality were essential for successful bookings. Cheng and Jin (2019), in their study on Airbnb guests, found that tourist appeal depends on three main attributes, namely host, location and amenities:

- Host: Tourists valued communication with the host prior to their arrival and during their stay. They said the host created ambiance through helpfulness, serendipity, flexibility and making them "feel welcome".
- Location: Tourists wanted a neighbourhood with authenticity and proximity to other places of interest. Tourists travelling without their own transport also wanted transportation.
- Amenities: Tourists appreciated cleanliness, low noise levels, privacy, own space, safety, and helpful travelling extras.

According to Cheng and Jin (2019), additional appealing factors included professionalism, easy check-in and check-out procedures, and value for money, while lack of standards was not appealing.

Liang, Choi and Joppe (2018) suggested three ways in which hosts can increase accommodation appeal and therefore enhance the perceived value of the stay. First, create an authentic accommodation experience. Second, while guest price sensitivity is inversely correlated with perceived risk, it can improve the perceived value and therefore increase the intention to repurchase. Third, electronic word-of-mouth referrals play a significant role in guest attraction, which means persistent and timeous communication has a strong positive influence on perceived value and repurchase intention (Liang *et al.*, 2018).

Tussyadiah and Pesonen (2018) identified trust efficacy (or the lack thereof) and cost as barriers to P2P accommodation. Hence, accommodation will not easily be taken up if there is distrust in the host regarding privacy and safety, and if the online platform cannot correctly handle the administration of booking payments. Cost savings on accommodation will only be

considered positively when other indicators are in place (Tussyadiah & Pesonen, 2018). On the other hand, when the saving was sufficient and the accommodation was of a higher quality than the alternatives available, the perceived value and repurchase intention increased significantly. Authenticity, such as meaningful interaction, enhanced the experience and was regarded as a significant driver of P2P accommodation (Tussyadiah & Pesonen, 2018).

Guttentag (2019) mentioned that the tendency of travellers to prefer short-term rental units over hotel accommodation is because the short-term rental sector offers an alternative value proposition on cost savings, household amenities and authenticity of location. Surveying more than 800 Airbnb users in Canada and the USA, it was determined that the price, location and household amenities of the short-term rental units were the main attractions or practical benefits of this type of accommodation (Guttentag, 2015).

In their study, Sthapit and Jiménez-Barreto (2018) found that price and location were the primary filters for travellers searching for destinations. Paulauskaite et al. (2017) found that price savings were the primary motive while authenticity and interactions were also appealing to travellers searching for accommodation (2017). According to Amaro, Andreu and Huang (2018), perceived economic benefits are a driver of P2P lodging over hotel accommodation. They also indicated that the unique listings and variety of listings available on short-term rental platforms enhance perceived control, affinity, and social influence (Amaro *et al*., 2018).

Various researchers have studied guest reviews on Airbnb platforms, and found that guests put a premium on hospitality, social interaction with the host, comfort, location of the accommodation, and a welcome feeling (Cheng & Jin, 2019; Tussyadiah & Zach, 2017). In their study, Von Hoffen *ed al*. (2018) analysed Airbnb guests' social media reviews and found that the following attributes were evaluated: cleanliness, bed comfort, a kitchen that is fully equipped, spaciousness, a good view, a central and quiet location, and a non-intrusive host. Von Hoffen *et al*. (2018) subsequently developed a sentiment analysis toolkit based on their findings.

Bridges and Vásquez (2018) found that most of the reviews by travellers were overwhelmingly positive, making them question the usefulness of reviews and the trustworthiness of the travellers. In their study, Bridges and Vásquez (2018) found that only

7% were not entirely positive but still primarily positive. They concluded that most of the negative reviews were aimed at the property or the location but never at the host. Could one therefore say that reviews cannot be used as a measuring tool to determine the full experience of the guest? Hence, Bridges and Vásquez (2018) mentioned that they have read the reviews *between the lines,* referring to what has been said as well as how it has been said.

Perceived trust in the platform and the host has a positive impact on booking requests (Mittendorf & Mittendorf, 2018). Ert, Fleischer and Magen (2016) found that profile pictures can help to develop trust in the host. High-quality photographs increased booking probability. When Fagerstrøm, Pawar, Sigurdsson, Foxall and Yani-de-Soriano (2017) manipulated the expressions on hosts' profile photos, they found that neutral and positive expressions increased booking tendencies, while negative expressions discouraged bookings. Regressive facial expressions, poor profile pictures and the absence of profile pictures reduced booking tendencies despite lower prices and positive reviews (Fagerstrøm *et al*., 2017). Redi, Quercia, Graham and Gosling (2015) studied the impact of facial expressions as seen on social media, and found that people are guessing what a place's ambience, clientele and activities are like based on their observation of profile pictures and visitors' pictures (Redi *et al*., 2015). Visser *et al*. (2017) found that financial incentives were the most common reason for hosting guests in private houses.

Odubiyi, Oguntona, Oshodi, Aigbavboa and Thwala (2019) found that floor area, the number of bathrooms, the number of bedrooms, and the proximity of a police station had a significant impact on residential rental prices.

2.3.1.2 Target market

Literature on travellers' purchasing behaviour of P2P accommodation per age group could not be found. However, Amaro, Andreu and Huang (2019) examined the factors that affect the intentions of millennials to book on the Airbnb platform. They discovered the most influential factors to be "… subjective norms, desire for unique accommodation and verity, attitude and economic benefits". Millennials' behaviour fits well into the sharing economy's parameters, i.e. pursuit of authenticity, value for money, flexibility and experience over possessions. In addition, millennials are known for using the internet when planning and booking travel arrangements (Xiang *et al.,* 2015).

According to Guesty's webinar of 9 June 2021, Amiad Soto, CEO of Guesty expected direct bookings for peer-to-peer lodgings to increase, which means that third parties like Airbnb and Vrbo may be overlooked. Social media platforms like Facebook and Pinterest are becoming the *new* platforms on which to advertise and search for accommodation. The website Sproutsocial.com[11] mentioned that the number of active users of Facebook is 2.7 billion per month, with the majority of users between the age of 25 and 34 years. Facebook has developed a direct pay portal for transactions between users, making Facebook a one-stop booking site as well. Pinterest has over 400 million active users, with approximately 200 million travel-related searches and a user group mostly aged between 30 and 49 years. The tendency to use social media platforms instead of dedicated short-term rental platforms may point to the need for travellers to make direct contact with the host from the beginning and to save on booking platform fees. This tendency to skip the third party in P2P lodging bookings could change this lucrative and fast-growing market (Guesty, 2021).

Poon and Huang (2017) found that short-term rental platforms are primarily used by older and better educated travellers, who are more focused on price and security when choosing accommodation.

Exploring the generational differences among Airbnb users, Chang and Wang (2018) found that users under 30 years are more focused on cost while older users between 30 and 49 years are more focused on cleanliness. However, all generations were influenced by reviews (Chang & Wang, 2018). The significance of reviews on the Airbnb platform was discussed by several authors, all mentioning that positive reviews led to higher booking rates for all age groups (Martin-Fuentes *et al.*, 2018; Mittendorf & Mittendorf, 2018; Nguyen *et al.*, 2017).

According to Lutz and Newlands (2018), there are differences between guests who prefer to stay in an entire home and those opting for shared rooms. The shared room option will be requested mainly by single travelling males with low income and a poor concern for cleanliness. The use of an entire home or private room with amenities will generally be requested by higher income travellers, with no gender and age specifics, who normally travel with a partner and who are uncomfortable with social interaction (Lutz & Newlands, 2018).

[11] Sproutsocial.com is a website that monitors the user activity of social media platforms. https://sproutsocial.com/insights/new-social-media-demographics/

2.3.1.3 Local economy

In this section, the local economy is defined as the economy of the area under discussion. The economic health of the district, city, town, suburb and, if applicable, even the specific development, is therefore important when choosing short-term rental accommodation. The country's economic well-being is also important. Hence, this discussion will start with national indicators for the travelling sector although, in this research, the national economic indicators become an equaliser. It is therefore the economic performance of the specific area that becomes important and how this can impact the identification of the "best buy".

The World Travel & Tourism Council (WTTC) provides annual reports on the impact of the economy on the travel and tourism industry, globally as well as per country. Based on these reports, various trends could be identified from 2019 to 2020 (WTTC, 2021). The global Gross Domestic Product (GDP) contribution by travel and tourism (T&T) changed with -49.1%. In South Africa it changed with -49.8%. The total contribution of T&T to the GDP of the country's total economy was 3.7% in 2020, down from 6.9% in 2019. This is the result of international visitors' negative expenditure of -66.0% and domestic expenditure of -42.8%. In total, USD9.6 billion less was spent in the travel industry in South Africa in 2020 than in 2019 (i.e. before the pandemic). The Consumer Confidence Index (CCI) echoed this trend by indicating that from March 2020, the start of the coronavirus pandemic in South Africa, the CCI has dropped by 29 points to -33 points in July 2020. A year later, the CCI index has climbed up by 20 points and was standing at -13 points in June 2021.

It is perhaps too early to comment on the "new normal" of travelling because South Africa is still in the midst of the Covid-19 pandemic. However, there are various speculations about the future of travelling, as seen in the advertising for platforms like AirDNA, Guesty, and Booking.com. According to Rodriquez (2020), Airbnb hosts are starting to launch their own websites and booking services for direct bookings as a result of the pandemic's travel restrictions and a year of frustration with companies like Booking.com and Airbnb because of their platforms' reimbursement policies. The benefits of direct-booking web pages include more branding and marketing power for the host, and the ability to offer units at a cheaper price because no platform fees are involved, as mentioned before.

Johnson and Neuhofer (2016) found that guests are looking for the best deal on P2P lodging platforms as well as for value in the local economy and the surrounding community, cultural

learning, relaxation on the grounds, and good hosting. According to Chen *et al.* (2019), social and economic appeal are positively related to behaviour intensions. Here, economic appeal refers to the benefits that guests can obtain from the planned booking, and the monetary value that the host can gain from the booking, also referred to as the sharing economy (SE). Through SE, guests can stay in cost-effective rooms during their journeys while hosts can cover their cost of living or increase their dwelling size with the additional income gained from the sharing economy (Chen *et al*., 2019).

Based on an analysis of 100 large metropolitan areas in Canada and the US, it was noted that an increase in P2P listings in a neighbourhood was associated with an increase in house prices in that neighbourhood (Combs *et al.*, 2020). It was also found that P2P lodging generates additional revenue for the host and the local amenities, which positively impacts the neighbourhood's economic welfare. As a result, guests will most probably spend their money in the neighbourhood, which previously did not benefit from visitors (Guttentag, 2015).

2.3.1.4 Cost of living

For the host, the P2P lodging platforms provide an opportunity to determine their own parameters in terms of price range, minimum stay days, cancellation policies, payment conditions and deposit due dates. Benítez-Aurioles (2018) claimed that demand can be encouraged by lowering prices and having policies that make it easy to book. Gibbs, Guttentag, Gretzel, Morton and Goodwill (2018) found that hosts use instant booking and reduced prices to ensure demand. Dynamic pricing, which is the ability to adjust pricing according to the day of the week and seasonal intensity, is also permitted by the P2P lodging platforms. Gibbs *et al*. (2018), after examining 40 000 Airbnb hosts and 1 000 hotels, found that Airbnb hosts mostly use dynamic pricing based on the season while hotels use dynamic pricing directly linked to demand. Magno, Cassia and Ugolini (2018) stated that, unlike Airbnb hosts, hotels change their prices according to the day of the week. Oskam, Van der Rest and Telkamp (2018) found that hosts who adjusted prices more frequently performed better in terms vacancy rates.

Studies have shown that of all the types of listings – for example shared rooms, private rooms, entire houses, or units – the most popular is the entire unit/home or private room. More frequently, hosts buy units specifically for P2P lodging (Adamiak, 2018; Crommelin *et al*., 2018). Authors have found that most listings are within 3 km from the city centre, with the

distinct exception of Cape Town (Visser *et al.*, 2017). Adamiak (2019) has discovered that, by web-scraping 5.7 million Airbnb listings, the platform is more commonly used to rent out an entire unit. The number of Airbnb listings depends on the economic development of the area and size of tourist amenities. One-third of the listings are in city centres while one-third are at seaside locations. Professional hosting is growing rapidly in contrast to P2P hosting which is declining.

The perceived value of P2P hosting compared to hotel lodging contributed the most to the growing success of P2P lodging (Visser *et al.*, 2017). In this context, perceived value is defined differently by different researchers. For instance, Sweeney and Soutar (2001) have identified four categories of perceived value, namely quality, price, social value and emotional value. On the other hand, some researchers considered value as the "loss" perceived by consumers. Gallarza and Saura (2006) looked at perceived value as the "loss" value for the customer. The customer has taken the risk, applied an effort, and spent time and money which would all be lost when the customer is not receiving the value they had anticipated.

From the above, two thinking patterns have developed, which has referred to the "… conceptual framework by integrating social and economic appeal (gain) and perceived risk (loss) to explore the influencing factors affecting consumers' behavioural intentions in the context of short-term rentals" (Chen *et al.*, 2019).

2.3.1.5 Decision-making model

According to Oeser (2016), decision-making models build key competences – in terms of business, as well as in private lives. French (2001:1) defined decision theory as a study of the model of judgement involved in, and leading to, deliberate and (usually) rational choice, engaged when making considered choices. He also mentioned that the focus of decision theory is on mathematical models but does not entirely lie within any one discipline: "It draws upon psychology, economics, mathematics, statistics, social sciences and many other areas of study" (French, 2001).

Betz, Weber and Blais (2002) explained that people differ in their decision-making behaviours and perform differently on various decision-making tasks. Bell *et al.* (1988) summarised the

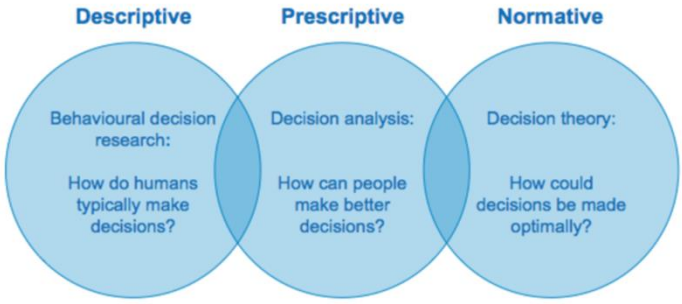


Figure 2: Three research foci of decision science (Bell et al., 1988)

interdisciplinary topic of decision-science modelling with reference to Figure 2. Oeser (2016) explained Figure 2 as follows: *Normative* models focus on 'how decisions can be made optimally' while *descriptive* models look at 'how do humans typically make decisions', with *prescriptive* models linking these two models, helping people to improve their decision-making by using decision supporting systems – for instance by developing an appropriate decision-making model (Oeser, 2016).

Applying the above concepts to the property environment, historical data and current market perception and attitudes, also called 'hard information', are obtainable and relative easy to turn into decision-making normative models even though the observed results may still differ from the outcome of the said models (French, 2001). French (2001) therefore stated that normative modelling does not exclusively drive decision making in this market, and that this emphasises the distinction between normative and descriptive modelling. In using descriptive models, one seeks to understand how others make decisions. French (2001) further argued that judgement by the decision-makers should be based on whether the process demonstrates a rational consistency and that, on average, the results are good. This can be done by way of developing a prescriptive model that will provide the decision-makers with understanding and insights into 'how can people/[they] make better decisions' (Bell *et al.,* 1988).

This study has resulted in the development of a decision-making model using normative combined with descriptive modelling, resulting in a prescriptive model. This was done by

making use of various indicators, including the above five evaluating factors for property with short-term rental potential, namely analysis of the market, tourist appeal, target market, local economy, and cost of living.

Research was also done on the traditional analytical decision-making methods as well as the contemporary market analyses used to evaluate property and the rental market sector. Fourcade and Healy (2017) mentioned that the modern form of data capturing for analytical purposes based on normative modelling is nothing new. As far back as 1903, life insurance companies adopted a numerical insurance rating system "… with values assigned to various factors affecting the insurability of patients" (Beniger, 1986). Fields (2019) explained that the build-to-rent asset class as an investment with value driven by rental income will increase in the years to come. This raises the question: How does one determine the value of property in this asset class comprising half homeowner property and half investment property? According to French (2001), in the investment market sector, there is a difference between what decision-makers say they will do and the observed outcome.

The buy-box concept – which uses a set of criteria that the property must meet to be eligible for purchasing – is leveraged by online platforms like Property24 and Private Property, and by property agencies' web pages to manipulate online searches. This can instantly provide potential investors with available properties based on a certain price range and specific features.

2.4 Findings of the literature review

The literature review investigated the behaviours of the hosts and guests involved in P2P lodging, and highlighted various indicators as well as the use of a decision-making model that can incorporate a range of variables in order to provide us with the "best buys" for P2P investment property. The findings can be summarised as follows:

The *analysis of the market* clearly indicated that P2P lodging is still growing despite the temporary recession caused by the worldwide Covid-19 pandemic. The guests who are the most active in the market are between 35 and 45 years old. This *target market* prefers private rooms and/or units instead of shared accommodation. Cleanliness and authenticity are some of the main *appeals* that the guests are looking for in accommodation. Over and above price, the *local economy* and environment are of utmost importance when travellers are searching

for accommodation. The cost of living in an area is determined by more than just the price per night, as the setting of accommodation is even more valuable in terms of the perceived value and perceived risk. Here, both the guests and the host play a major part in this sharing-economy venture.

The above literature review has played a significant role in determining the parameters that will be tested in a decision-making model. These parameters will be discussed in Chapter 4, and will be summarised in a table format, weighted and/or rated to change the qualitative data into quantitative data that can be used in a decision-making model. It is also apparent from the literature that the outcome of the model should help decision-makers to make better decisions using prescriptive modelling.

Visser *ed al,* (2017) seemed to be the only researchers that have explored short-term rentals per location in South Africa, which is specifically identified as a gap in the literature, nevertheless, their findings correspond with tourist and hosting trends found in other studies. For this reason, this research will assume that the conclusions and findings from the literature reviews undertaken in European cities also apply to South Africa. This will specifically be applied to statistical data.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction and overview

This research is based on the following research question: Is it possible to define the "best buy" for the short-term rental property sector by using certain indicators? The proposition statement is therefore that 'critical parameters determine the financial success of short-term leases'.

The objective of this study was to identify such indicators. The literature review helped to identify indicators already being used in this context. The research methodology is underpinned by a mixed-method design as both qualitative and quantitative data was collected and analysed to use as input for the decision-making model aimed at determining the "best buy" in terms of short-term rental property.

The second part of the research, which focused on determining the location of potential properties, was based on a real-world case study of three locations.

To identify the owner or host needs, it was necessary to consider the location and property attributes from the supply side as well, where different parameters are at stake. According to Wilkinson & Wilkinson (2018), most of the host parameters and needs are personal preferences based on the host's age, financial ability, and reasons for creating a home that is both a site for commercial work and domestic retreat.

Based on the identified parameters and the needs of the host in this study, and taking into account the links between the target market, location attributes and property attributes (see Figure 3), several locations could be identified that comply with most of the location attributes and property attributes as stipulated by the host (of this autoethnographic study) and guests (as determined by the literature review). It was shown that this information can be used as input to determine the location of the "best buy" property.

The research was narrowed down to specific locations in the case studies to follow. The local economy and quality of life of each ecosystem (golf estate and its nearby town) were compared using data from property websites such as Property24 and Private Property. This led to the identification of three golf estates along the Garden Route: Pezula Golf Estate near Knysna, Oubaai Golf Estate near George, and Pinnacle Point Golf Estate near Mossel Bay.

With the locations established, predictors and constants could be identified by analysing the local real-estate market, i.e. price per unit per night (*Rpun*), vacancy rate (VR), and the escalation, growth and capitalisation rates (cap Rate). The market R/m^2 for all three estates was determined by using previous sales, followed by a comparison of the economic ratios of the properties. The physical attributes of the three properties with the best economic performances were used to determine to what extent the guest needs were fulfilled as this will ultimately determine the "best buy". The comparisons and analyses were mainly done in Excel. The spreadsheets that form the basis of the purpose-build decision-making model (Appendix C) by the author, will be discussed in Chapter 4 in detail.

3.2 Research philosophy and theory development

Often, when exploring investment options in rentable property, you can provide your return-on-investment (ROI) expectations, budget and preferred location on a website and within 15 minutes you could have all the real estate information needed, including indicator calculations like cap rates and cash-on-cash returns for the identified properties as well as valuation reports (Mashvisor, 2021). If you need to invest in short-term rentable property, software companies like Mashvisor, which gets its listing information from reliable sources like Airbnb, can assist you with parameters and indicators helping you to establish the "best buy" (Mashvisor, 2021).

However, when buying residential property for own living, different parameters and indicators come into play – like emotional location choices to satisfy your family needs. These parameters and indicators could differ from the potential tenant needs (Kaplan & Nadler, 2015; Ramírez, 2017).

No literature could be found that indicates parameters for investors in a dual-use property, combining the concept of short-term rental property and own living property which was taken as the epistemological assumption for this research. This research will therefore aim to identify the indicators that will lead towards investing in the "best buy" of a dual-purpose property by using credible and meaningful data in a decision-making model (Crotty, 1998).

3.3 Mixed-method data collection

The intention was to use the factors and data that were highlighted by the literature in order to identify the indicators, and then to use that in a decision-making model to determine the best buy, for which an abductive approach would be most appropriate (Saunders *et al.*, 2019).

Brannen and Moss (2012) explained that mixed-method data collection holds the potential to help researchers "view social relations and their intricacies clearer by fusing together the quantitative and qualitative methods of research while recognising the limitations of both at the same time". Hence, this study made use of both qualitative and quantitative data.

3.3.1 Qualitative data

Through the literature review, qualitative data was collected to provide contextualisation and interpretation in order to help identify the indicators for the "best buy" in terms of short-term rental property. The following key indicators were identified based on the qualitative data extracted from the literature review: tourist appeal, target market, local economy and cost of living (MacDonald & Headlam, 2008). The research followed a pattern-matching approach, and therefore these indicators were listed and appraised with emphasis on the specific purpose of this research, namely to identify the "best buy" in peer-to-peer (P2P) lodging. Personal preferences can then be applied as a weight attached to each indicator. The personal preference weights are critically important because of the dual purpose of the potential property which consists of a section for short-term rent as well as a section for private use by the owner. The potential property therefore has to appeal to the owner as well, and for that reason a property view chart was created with personal preferences as headings. See Table 12 in this regard.

3.3.2 Quantitative data

Quantitative data for this study was obtained from three data segments: 1) relevant historical data and trends in the short-term rental property sector from literature and industry reports, 2) longitudinal time horizons from appropriate websites, and 3) location-related data and general information from local estate agents and property websites. The data was downloaded and captured in appropriate tables and graphs for use in the decision-making model.

The statistical data was analysed, and weighted personal preferences were added using a decision-making model to determine the "best buy" P2P lodging. See Figure 3 for the data

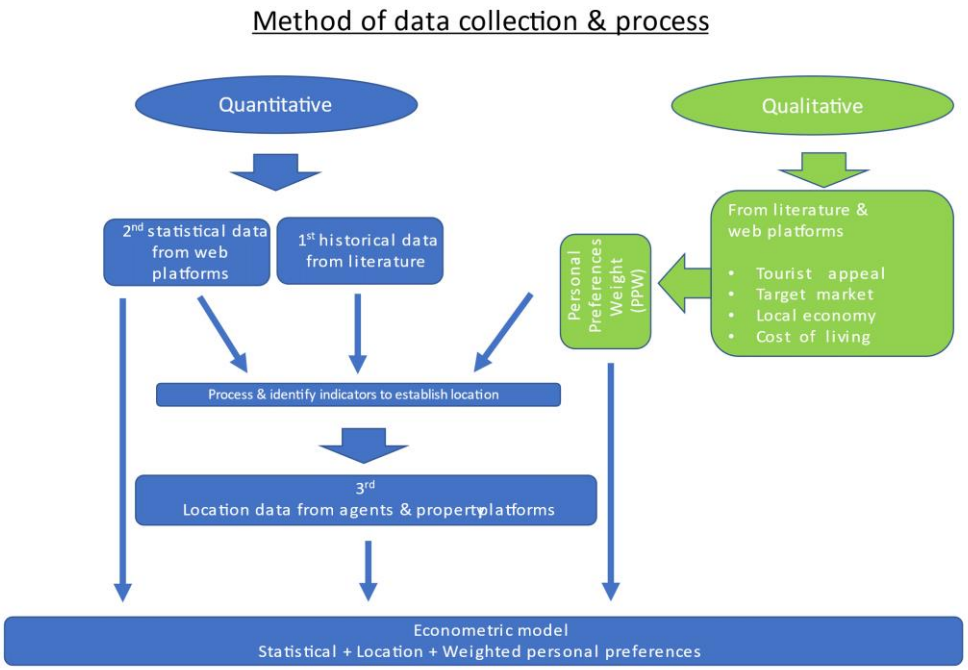


Figure 3: Method of data collection and processing

collection and analysis process using both quantitative and qualitative data.

In simplifying and the transferring of data sets to equilibrium, most of the data was transferred to the 1-5 scale, where very high numbers will score a 5, average a 3 and very low a 1. Each Table that was used for the 1-5 score system, also indicates a ledger to clarify the terms.

3.3.3 Statistical data

In general, the trends in the short-term rental property sector, vacancy rates and returns are based on descriptive statistical data where the samples are taken from specific locations and/or areas. For this study, global statistics were obtained from reports published by Tourism South Africa and Eurostat. Eurostat (2021) annually releases experimental statistical data obtained through partnerships with Airbnb, Booking.com, Expedia Group and TripAdvisor, and then publishes global activity reporting on a quarterly basis. The Guesty.com platform provides general statistics on data harvested from clients like Airbnb, Booking.com and Vrbo.com. Statistical data from South African accommodation platforms like LekkeSlaap,

SafariNow, Trivago.co.za and Rooms for Africa is extremely expensive, if available. Therefore, data in the public domain was used when needed for a specific location.

Although Rode's Report 2021:1 does not specifically report on short-term rental property, this study has used appropriate sector indicators from the report, specifically in the decision-making model. Appropriate statistics and trends on housing and renting were also extracted from Rode's Report and used in the data set for this research.

The current rental rate as an input to the models has played a significant role in the economics of the models, specifically when determining returns from the different properties. The data that was used to derive at the returns was harvested from accommodation websites showing the asking price in different areas for different types of accommodations in this market. This study has limited the type of accommodation to self-catering private rooms or very similar types of accommodation. The reason for this filter or restriction will be discussed later.

3.3.4 Qualitative data from literature

The literature review focused on four themes, namely tourist appeal, target market, local economy, and cost of living. The relevant data from the literature review was collected through a text-mining method, interpreted and integrated, as illustrated in

Appendix A. From this table, primary indicators were identified, and a personal preference weight (PPW) was applied to each indicator. This was done to identify the relevant parameters. The allocated weight changed the character of the original qualitative data into quantitative data which could be used for location ratings in the decision-making model.

In helping to change the qualitative data into quantitative data an equation was developed by the author from basic mathematics to average and weighted data from property viewings as perceived by the viewer (VP).

$$Total\ \% = \sum_{n=1}^{9}(W\ x\ S)\ /\ \sum_{n=1}^{9}(W\ x\ 5)\ x\ 100 \qquad \textit{Equation 1}$$

Where W *= heading weight and* S *= property score of each heading*

3.3.5 Locational data

As illustrated in Figure 1, process data from the first and second segments as well as personal preference weight (PPW) data were used to identify the location type. Once the location type had been identified, a decision could be made about the location(s). In this case, three specific locations were selected.

The location-specific property data was gathered from property websites such as Property24 and Private Property as well as property company websites filtered to specific locations and preferences. Based on this data, specific property attributes were gathered and fed into the decision-making model to establish the “best buy” in terms of short-term rentals.

Some

Lightstone’s data was used to determine the valuation and previous sales of specific properties. All properties identified by the decision-making model were visited through the relevant property agents from whom additional information was obtained. The population size of these properties where restricted to available property in the market price bracket, what the host/buyer was prepared to spend on this type of investment.

3.4 Modelling

According to Núñez Tabales, Caridad y Ocerin and Rey Carmona (2013), the main objective of decision-making models, or part of such models used in property economics is to estimate the market value of the property, and the bigger the sample size of previous sales the more

accurate the estimated market value would be. Exogenous variables – such as location, amenities, building exterior and interior specifications as well as weighted averages of the variables – play a major role in the accuracy of the end result (Núñez Tabales *et al*., 2013).

Some of the data inputs for the model came from advertising websites which could not always be verified. This may influence the results. For instance, to derive the rand-per-square-meter price (R/m^2) of property, the advertised asking price was divided by the advertised square meters of the house. Some agents include pergolas and stoeps into these house square meter calculations while others exclude this, leading to different R/m^2 ratings. Ambiguous data in this sense was rectified as far as possible

3.4.1 Real market value modelling

Visser *et al*. (2017), Nilsson (2019) and McGreal *et al*. (1998) agreed that the comparative market analysis (CMA) model can provide a value very similar to the real market value (RMV), specifically if a reputable agent that specialises in the area is involved. Lightstone, CMAinfo and Proprty24 also use an automated CMA method to arrive at a specific property's market value. For this research Lightstone's market value was used for the identified properties with adjustments by local property agents. More than 30 properties were viewed by the author, but only 20 fit the host/buyer and target market needs which become the sample size.

3.4.2 Decision-making modelling

In seeking for models that can meaningfully combine statistical data, economic theory, WPP and real-world data, Wooldridge (2018) proposed a decision-making model approach that combines these types of data. Because of the similarities between the data used in this research and the Wooldridge data, a purpose-build decision-making model was developed to determine the better buy or essentially the "best buy" through eliminating the parameters. Xie *et al,.* (2018) has used three sets of econometric models to estimate the effect of listing signals on customer purchases. These three models where combined into one, effectively changing into a decision make model.

Economic reasoning plays a significant role in choosing the parameters set out above, which are underpinned by the appropriate theories. Wooldridge (2018) mentioned that although the above approach takes away "some of the richness of economic analysis, it is commonly and effectively applied by careful researchers". These phenomena will be discussed in depth

later in the text. It also needs to be mentioned that some of the variables that feed into the parameters where kept constant to apply the notion of *ceteris paribus*[12] in order to find the causal effect between other variables, i.e. the growth rate was kept the same for all the properties that were compared. Section 4 describes the way in which the data was used and applied in the decision-making model in order to reach certain conclusions.

3.5 Conclusion

Most of the literature on the topic under discussion used data pertaining to US cities, obtained from Airbnb or similar platforms. Chen, Cheah and Shen (2019) compared trends and tourist perceptions between China and US destinations in order to identify different behaviour tendencies. They found that most of the tourist behaviours, and patterns of vacancy rates and returns were similar.

The models in this research used asking price instead of selling price. Selling prices are easily available but the physical properties of sold houses are not as readily available as those that are still on the market. Comparisons between asking and selling prices were also investigated where available, as will be discussed later.

3.6 Ethical considerations

Most of the data was collected from non-paywalled websites and therefore generally available and in the public domain. Therefore, data has been collected from websites such as Lightstone, Property24, AirDNA and Lekkeslaap in order to determine general trends in the short-term rental property market sector in South Africa. Appropriate studies on such trends were also used and referenced accordingly. In general, the data used was of such a nature that it would not disclose any "operational secrets" – i.e. no confidential or proprietary data was used. Obtaining quality data without paying exorbitant amounts of money was the main obstacle to overcome in this context.

[12] *Ceteris paribus* for this research means "other relevant factors being equal".

CHAPTER 4: RESEARCH ANALYSIS AND INTERPRETATION

4.1 Introduction

In this chapter, the data is analysed and interpreted in order to identify the indicators that might have a significant impact on the decision-making process required to identify the best buy in terms of short-term rental property. This analysis was based on a real-life case study. The findings were incorporated into a decision-making model, as discussed in this chapter.

In the peer-to-peer (P2P) lodging ecosystem, essentially two parties are involved: the host and the guest. The involvement of all other parties is in relation to those two market players. The host's main intention is to provide a facility and create an environment that will satisfy as many of the needs that the targeted guests have indicated for their ideal "stay away from home". Therefore, the indicators are grouped into guest needs and host needs.

The first section of the analysis pertains to the identification of guests needs, including their needs and requirements per age group. Hence, the different requirements per age group define the different target markets in this study. These differences will be used as indicators to establish the target market/age group for this study. Once the target market has been established, the type of location can be established. Research has shown that different target markets have different location and lodging preferences. These indicators can serve as guidelines to help determine the type of location and lodging for each target market segment. Based on the lodging analysis, the property indicators required to satisfy the guests' needs were established.

4.2 Identifying the guest needs

Guttentag (2019) reviewed all literature published since the inception of Airbnb up to 2018, as mentioned in Chapter 3. Text mining was performed on all the literature as listed in Appendix A, searching for positive key words or phrases linked to properties and their attributes for the purpose of P2P lodging. This information was captured in a table (see

Appendix A), and is summarised in Figure 4. To convert text or qualitative data into numbers or quantitative data, the comparative scaling technique was used. Positive text and very positive text received a score of 3 and 5 respectively. Only one “key word or phrase” per paper was allowed. Hence, if the word “location” appeared once or more in a very positive sentence in an article, a score of 5 was allocated to the article. Likewise, a score of -5 was allocated to a very negative reference to, say, location in the literature. The summary in Figure 4 indicates the top 12 “key words or phrases” that were used for this text-mining exercise. The points allocated are therefore not a ratio but a scale of relative importance, and must be compared with each other. The full list of findings with references is available in

Appendix A. This technique of text mining and scaling was adopted from Wilkinson and Wilkinson (2018), and Roelofsen (2018).

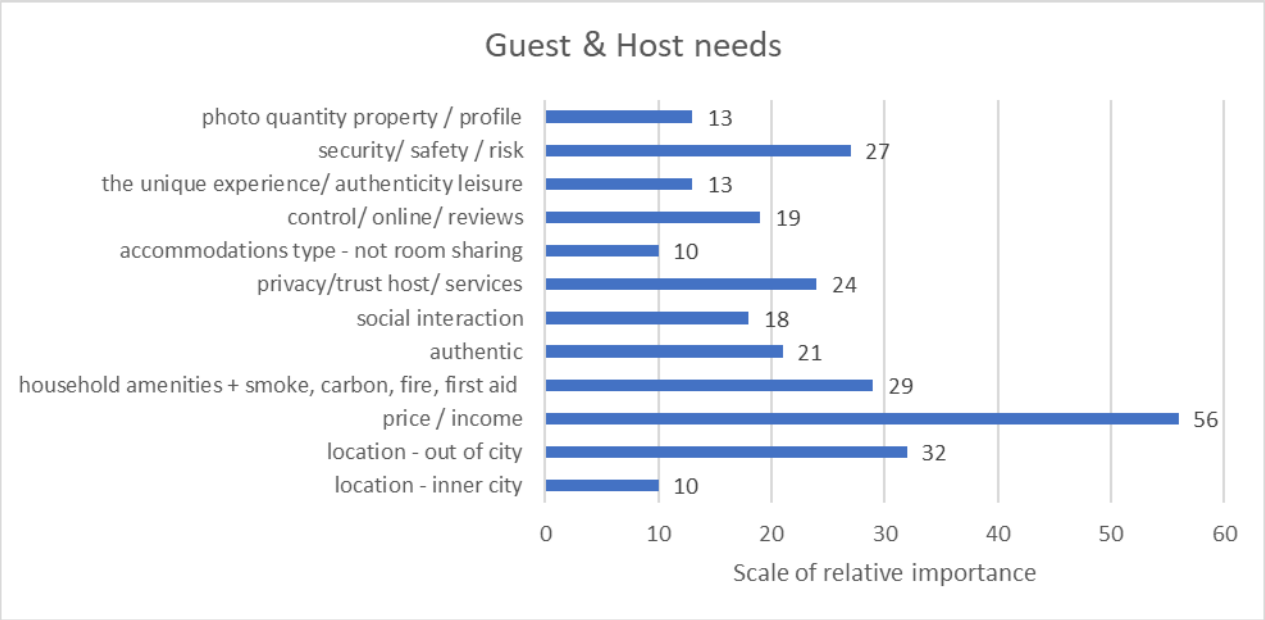


Figure 4: Summary of Appendix A: Guest and host needs

Various conclusions can be drawn from Figure 4. For example, a location outside the city (32 points) is more in demand than one inside the city (10 points). The key needs for guests as per Figure 4 can now be ranked as 1) price/income, 2) location outside the city, 3) household amenities, 4) security and safety, and 5) privacy / trust in the host / services. These key needs were tested and compared with Table 1 and Table 2.

Connectivity score[a] of each theme. Theme			
Location	Amenities	Host	Recomennd
100%	79%	70%	21%
[a] The connectivity scores indicate the relative importance of the themes (the most important is the top Theme at 100%).			

Table 1: Connectivity score[a] of each theme

Source: Cheng & Jin (2019), Table I, p. 5

According to Cheng and Jin (2019), four major themes emerged from their text-mining exercise. Table 1 provides a summary of the text mining of guest reviews on the Airbnb platform, categorised into four main themes. Words that pertain to the location of the property were found in all the reviews, which translates into 100% connectivity, while 79% of

all reviews contained words associated with amenities. Table 2 lists the words associated with the top 10 concepts, as well as each concept's score for the themes *location* and *amenities*. One could reason that these words serve as a description of the *location* and *amenities* which are of importance to the guests.

Location											
Concepts	Total	Walk	Restaurants	Easy	Station	Shops	City	Beach	Bus	Quiet	Walking
Hits	409 396	55 659	35 337	34 646	22 835	19 761	23 596	23 096	16 033	17 061	13 975
% of total	100%	14%	9%	8%	6%	5%	6%	6%	4%	4%	3%
Amenities											
Concepts	total	comfortable	clean	everything	house	nice	room	bed	view	bathroom	kitchen
Hits	398 804	50 290	50 786	48 759	34 564	32 798	31 735	19 797	21 859	16 177	10 747
% of total	100%	13%	13%	12%	9%	8%	8%	5%	5%	4%	3%

Table 2: Words and hit rates associated with top 10 concepts found in reviews

Source: Cheng & Jin (2019), Appendix B, p. 62

According to Cheng and Jin (2019), these words had a positive and sentimental association for those searching for P2P lodging. These words described the positive aspects that were present when the guests made use of the accommodation – to such an extent that they were prepared to mention this in their reviews. As a result, these words can serve as indicators of the potential desirability of accommodation in this context. For instance, *comfortable* and *clean* were the two top hits under *Amenities*. Therefore, accommodation that is clean and comfortable is a high priority. In this study, however, only *comfort* will be used an indicator because *cleanliness* can only be created once the "best buy" is operational.

The relevance of these findings for South Africa and/or the Western Cape could be debatable. According to Guttentag (2019), most of the research was conducted by researchers in Europe (42.4%) and the USA and Canada (33.3%). Cheng and Jin (2019) conducted their research only in Sydney. Brochado, Troilo and Shah (2017) compared reviews across different cultures, concluding that "enjoyable Airbnb experiences were similar across different countries". From this it is fair to accept that most of the research referred to by Guttentag (2019) could be applied to the South African context, specifically to identify host and guest indicators for use in this research.

Based on the above, the indicators below were identified as the most desired conditions of P2P lodging from the perspective of guests. Therefore, for optimal outcomes – i.e. lowest

vacancy rate and highest possible income – hosts should ensure adherence to these conditions:

- **Price** of the **accommodation for the guest**, which translates into **income** for the host
- **Location outside the inner city** but still within **walking distance** from **restaurants, shops, transport** and **beaches**
- **Clean, convertible private accommodation, with a view and bathroom** as the most important features.

These identified indicators are captured see Figure 6: *Links between target market, location attributes and property attributes.*

4.2.1 Target market

To cater for all market segments all the time is nearly impossible. Therefore, this study was aimed at specific target markets and age groups. Different age groups have different requirements, as explained by Wallrabenstein (2018). Table 3 provides a summary of multi-generational travel trends and habits according to Wallrabenstein (2018). One of the main realisations is that people in the younger age bands value experiences more than things.

Figure 5 indicates the number of travellers per age group in South Africa, which is based on a combination of foreign and domestic travellers in 2019 (Stats SA, 2020). The 2020 data indicates that domestic travel was 70% lower than in 2019 while overseas travel has come to a standstill for several months because of the Covid-19 pandemic, travel restrictions and lockdowns in 2020. It was therefore meaningful to use only 2019 statistics for this research.

As can be seen from Figure 5, people in the age group 26 to 54 years are the most prominent travellers in South Africa and should evidently be the target market for this research. This

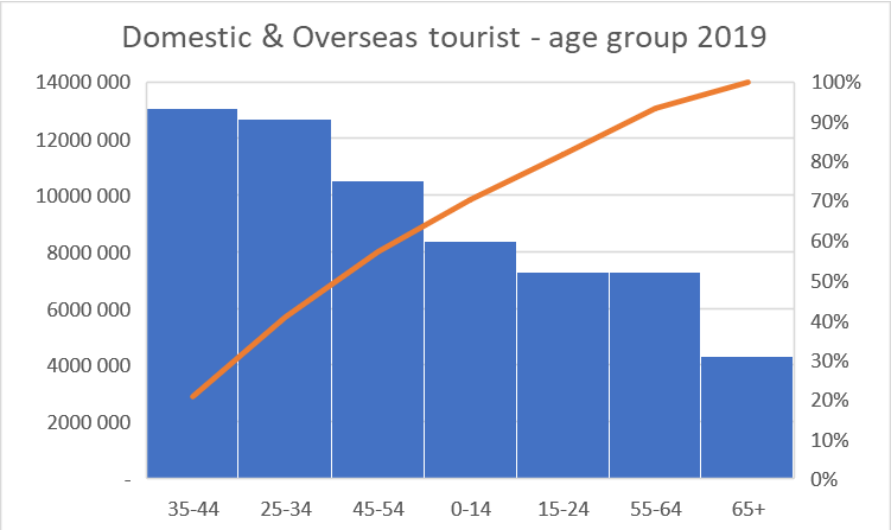


Figure 5: Total number of tourists by age group. *Source: StatsSA, Tourism 2019, 23 April 2020; StatsSA, Domestic Tourism 2019, 29 October 2020.*

excludes Generation Z and people aged 25 years and younger, which is the biggest and most vibrant age groups travelling in Europe and the USA according to Airbnb (2018). Generation Z travellers visiting South Africa comprised of only 8.8% of the overseas tourist market, while Generation Z travellers from South Africa make up only 11,3% of domestic tourists, typically travelling with their parents (Stats SA, 2020). For this reason, this research will concentrate on the age group 26 to 54 years, which includes millennials and Generation X.

Table 3: Summary of multi-generational travel trends and habits

	Born before	Age group	Travel motto	Money spent on travels	Travel priorities	What to look out for when booking	Trip duration	Online booking	Who is paying?	Revisiting social media influence
Genera-tion Z	1996	0-25	71% part-time job, save money for travel	65%	Adventure, experiences	Wi-Fi, reviews	Long weekend	50%	Parents	36% chose location – social media
Millen-nials	1977	26-44	49% sell something to travel	57%	Relaxation, beach, spa	Wi-Fi, reviews	Long weekend	48%	24% parents	27% canvas opinions
Genera-tion X	1965	45-56	Save for travelling and enjoy all	45%	Relaxation and sight-seeing	Reviews	Week plus	20%	Self	Very small media, make up own mind
Baby Boomers	1946	57-75	Less is more	30%	Sight-seeing and touring	Reviews	Week plus	5%	Self	Make up their own mind
Source: Wallrabenstein (2018), Expedia, and the Centre for Generational Kinetics										

From Table 3 the following conclusions can be made for the age group 26 to 56:

- They prefer destinations where they can relax, with a beach and spa nearby, and with sightseeing potential.
- They will stay for three to five days, normally over a weekend from Friday to Monday night, and they prefer to book online.
- They will study reviews and use social media to help them decide on a location.

These trends and habits are important and therefore incorporated in Figure 6 below.

4.2.2 Applying the identified indicators

Figure 4 indicates that location, price, privacy, trust and services are particularly important for guests. Appealing amenities and/or attributes that were very highly rated as per Table 2 were comfort, cleanliness, views, private bathrooms and the availability of a well-equipped kitchen. Table 3 provides a summary of the travel trends and habits of the various age groups. The indicators identified above are in line with the sentiment analysis toolkit of Von Hoffen *et al*. (2018) according to which guests "particularly value cleanliness, bed comfort, fully-equipped

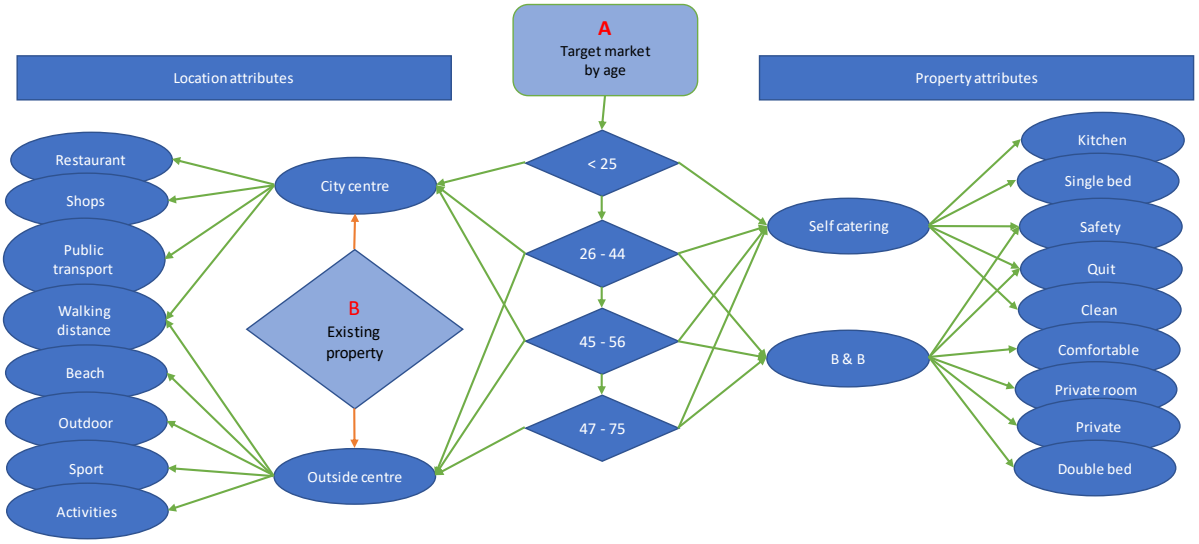


Figure 6: Links between target market, location attributes and property attributes.

kitchens, spaciousness, a good view, a central and quiet location and a non-intrusive host". Figure 6 provides a summary of the identified indicators from Table 1, Table 2 and**Error! Reference source not found.**, and

shows the relationships between the *target market,* the *location attributes* and the *property attributes*. These links and the flow between the sections will be used as input for the decision-making model discussed below.

The flow chart in Figure 6 starts at Point A, which requires making a choice between age groups in order to determine the target market, and then flows to the specific location attributes and property attributes to satisfy the preferences of the identified *age groups*. This flow chart can also start at Point B, where a specific property can be located either inside or outside the city centre. The chart indicates the location attributes typically associated with city-centre lodgings as well as semi-urban lodgings in the P2P market.

For example, let us use the flow diagram in Figure 6 starting at Point A for the age group between 47 and 75. When we move to the right side of the diagram, their property attribute needs will most likely be a B&B with a double bed, high privacy and comfort, and their location attribute needs will be a place outside the city centre close to quiet beaches, easy hiking routes and/or outdoor activities. With an existing property, the diagram can start at Point B. For example, if the property is situated in a city centre the location attributes should be close to restaurants, shops and public transport. The age group that will most probably stay in this property will be between 25 and 44, and they will most probably need a self-catering unit with clean, single beds.

This study shows in Figure 5 that the target market/age group in the P2P sector in South Africa is between 26 and 56, which gives the property provider two location options, namely either in the city centre or outside the city centre, and two property type options, namely either a B&B or self-catering unit.

4.3 The identification of owner or host needs

When searching for property for work-from-home use or for participation in the sharing economy (i.e., P2P lodging), the emphasis is on *home* change. In the case of working from home, *home* becomes “a practice”, while in the case of the sharing economy, *home* becomes “a performer” (Roelofsen, 2018).

This section is aimed at identifying the indicators that the property owner should consider when investing in the sharing economy. Roelofsen (2018) implied that the best buy should not only satisfy the guests’ desires but must also satisfy the owner’s desires in terms of *home* as well as long-term investment “performer”. The location of the property and the type of property should therefore have these attributes.

As mentioned before, this study mostly offers an autoethnographic account of the real-world case study of my wife and I seeking for stay-in property to buy and use for P2P lodging. This exercise could also be seen as consulting to a client who wants to buy property for short-term renting, i.e. as providing advice on how to identify a “best buy” when considering property for short-term rental.

4.3.1 The South African housing market

This section provides background information on investor confidence, specifically in South Africa at a stage where the country suffers from wide-spread corruption and state capturing (Friedman, 2020).

The Heritage Foundation (2021) defines economic freedom as a "fundamental right of every human to control his or her own labour and property". The foundation publishes an annual

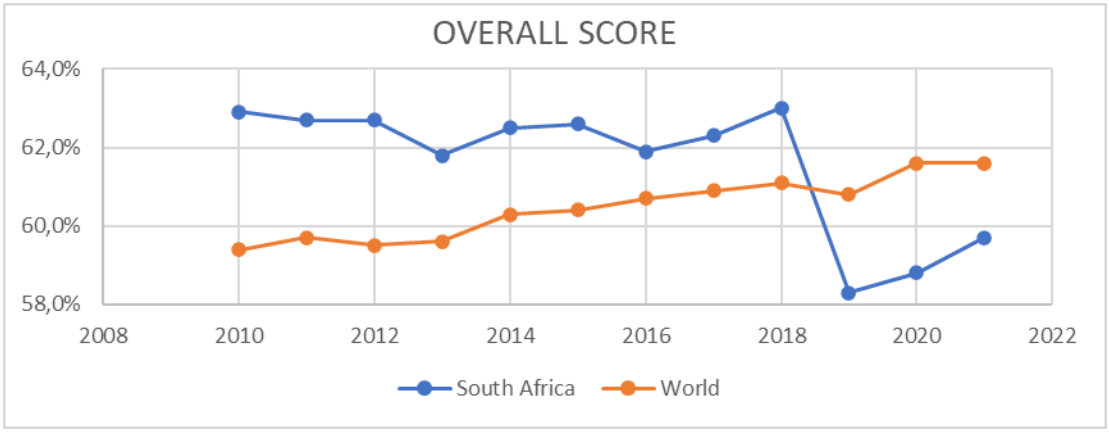


Figure 7: Average freedom score of South Africa and the world over past 11 years. Source: The Heritage Foundation: 2021 Index of Economic Freedom.

index, covering 12 fundamentals for economic growth and prosperity in 184 countries, including South Africa. Figure 7 indicates the *freedom score*, comparing the averages of South Africa and the world. The graph shows a 3% drop in 2019 with a slow recovery thereafter towards the world's average.

According to the Heritage Foundation, South Africa is still in the *unfree* zone with a 2021 score of 59.6% but is slowly moving back to *moderately free*. A score above 60% is *moderately free* according to the Heritage Foundation.

An analysis of the data shows that two indexes were the main culprits of the drop in the freedom score in 2019, namely *Fiscal Health* and *Property Rights*. In 2019, the *Investment Freedom* score and *Property Rights* score also dropped by 5% but stabilised in 2020 and 2021 while the editor of the latest Rode's Report (2021) commented that despite the current resilience of the residential market in South Africa, its sustainability is questionable in a junk-rated economy. Therefore, the future remains uncertain.

This raises the question: Is it healthy to invest in the South African real-estate market with a freedom score struggling to even reach moderately free in a junk-rated economy?

Looking more closely at the local real-estate market in South Africa, the latest edition of Rode's Report (2021) mentioned that house prices have outperformed inflation in the first quarter of 2021. The report confirmed that this could be a result of the record low interest rate, implemented from the end of 2019, encouraging tenants to switch from renting to owning. The *work-from-home* trend, partly forced by the pandemic, also could have stimulated the housing market's performance, leading us to conclude that the market is slowly turning. It is for that reason that we are still prepared to invest in the South African real-estate market.

4.3.2 Identifying a location

Lutz and Newlands (2018) compared the descriptions of Airbnb listings by host of entire condos or studio apartments and shared-space rentals, and found that older guests, couples, business travellers and high-income professionals prefer entire-space units or private units. These findings are in line with the needs of the target market identified in section 2.2.1 above. In addition, the location of the properties and the property attributes preferred by this target market can be gleaned from Table 4. Seeing that security and safety play a significant role in South Africa and that sea view was one of the key requirements, golf estates with a sea view were highlighted.

A search was done for seaside golf estates between Cape Town and Plettenberg Bay, and the following eight were identified: Atlantic Beach at Melkbos, Clovelly Country Club at Kalk Bay, Pezula Golf Estate near Knysna, Fernkloof Golf Estate in Hermanus, Oubaai Golf Estate near George, Goose Valley Golf Estate near Plettenberg Bay, Mossel Bay Golf Estate near Mossel Bay, and Pinnacle Point Golf Estate near Mossel Bay.

Table 4: Initial golf estate elimination process

Score legend explanation		
f high is better		If low is better
Very High	5	Very low
High	4	Low
Moderate	3	moderated
Low	2	High
very Low	1	Very High

	Average R/m2	Weighted R/m2 (10 best - 3 worst)	Most of the estate - Sea View	Easy access to Beach (walking distance)	Close (10Km) to main centre	Total
Pinnacle Point Golf estate near Mossel Bay	16 000,00	8	5	5	5	23
Pezula at Knysna	15 000,00	9	4	4	5	22
Oubaai Golf estate near George	13 000,00	10	3	3	4	20
Goose Valley near Plettenberg Bay	17 000,00	7	3	4	5	19
Mossel bay Golf	18 000,00	6	5	3	5	19
Atlantic Beach at Melkbos	23 000,00	4	3	4	5	16
Clovelly Country Club at Kalk bay	19 000,00	5	2	4	4	15
Hermanus Golf estate	24 000,00	3	1	3	5	12

(Source: lightstoneproperty.co.za & property24.com)

These eight estates were compared using the location attributes set out in Table 4, i.e. sea view, access to beach, and proximity (10 km) to main town. These attributes were weighted out of 5 and the average R/m^2 weight out of 10 (see calculation of average R/m^2 in section 4.5.1 on 4.5.1 Market values) selected. The viewer/potential owner mostly influence these rankings. The three top-rated estates – namely Pezula Golf Estate near Knysna, Oubaai Golf Estate near George, and Pinnacle Point Golf Estate near Mossel Bay – were chosen for further investigation. A comparative study was undertaken of the parameters (e.g. local economy and cost of living) pertaining to the three estates in order to make a decision regarding the "best buy".

4.3.3 Local economy

Guesty (2019) suggested that an investigation of the local economy should take objective metrics into account while the potential owner should also "see for [him]self if the intended real estate market has walkability and charm".

To determine the "walkability and charm" of the estates, we have visited the selected three estates and also lodged there for several nights on different occasions to view potential properties as arranged.

4.3.4 Comparing the different areas and estates

All three the estates are approximately 10 km outside the nearest town. Therefore, the towns have a direct influence on the estates and property prices in the estates. The economic impact of the towns and estates were rated separately, as seen in Table 5. Literature and statistics regarding these estates as well as information gathered during our visits were used.

Table 5: Local economy according to Numbeo (2012), GGA (2019, SAPS (2019)

Score ledger explanation			Local Management and Municipality	Safety	Crime	Characteristics - Hotel, Spa, Restaurants	Golf course	Outdoor activities	Traveling transport	Holiday destination	Total
If high is better		If low is better									
Very High	5	Very low									
High	4	Low									
Moderate	3	moderated									
Low	2	High									
very Low	1	Very High									
Pezula Golf Estate			4	4	5	5	4	3	3	4	**4,0**
Knysna			3	3	3	5	4	5	3	5	**4,4**
Oubaai Golf Estate			3	4	5	5	3	3	5	3	**3,9**
George			3	4	4	4	5	3	5	3	**4,4**
Pinnacle Point Golf Estate			5	4	5	4	4	5	4	5	**4,5**
Mossel Bay			5	3	4	4	3	5	4	5	**4,7**

The comparative scaling method was used to score each category out of 5.

Referring to **local management**, Pezula Golf Estate and Pinnacle Point Golf Estate are owned by the property owners of Oubaai Golf Estate, i.e. an international consortium. Given that the Pinnacle Point Homeowners' Association (HOA) has enough cash on hand to react financially on emergency expenditure and/or opportunities without going back to the owners therefore a healthy cash flow exist. The estate is thriving, a score of 5 was allocated to the estate. Pezula's financials are good but Oubaai HOA is struggling, and therefore scores of 4 and 3 were respectively allocated (personal conclusion made from financial statements of said estates). According to Good Governance Africa (GGA, 2019), Mossel Bay **municipality** has performed the best in the country. Knysna is ranked 26th and George 31st out of the 213 municipalities monitored by GGA.

All three estates have patrolled guard systems and very strict entrance controls, therefore **crime** inside these estates is almost non-existent or *very low*. Hence, the **safety** scores for all three estates are *very high*.

National crime statistics are available annually from the South African Police Service (SAPS, 2019). However, the GGA report only mentions the top 30 police stations per crime category. George, for instance, is rated 14th for burglary in the non-residential category. Knysna is rated 15th for arson, while Mossel Bay does not appear in any category under the top 30 crimes. Numbeo (2021), a crowd-sourced global database of consumer prices, perceived crime rates, quality of health care and other statistics, gave George a safety score of 47.04, followed by Knysna and Mossel Bay with scores of 44.47 and 38.48 respectively. As it is difficult to rate and compare the local economies of various areas, it can help to look at the crime and safety scores of these areas, according to Numbeo, the GGA and SAPS.

All three estates have all the characteristics of high-end estates and all three host hotels, spas, gyms and country clubs with restaurants. The nearby towns' attributes are of equal standards, which will be discussed in section 4.3.1 on the quality of life.

Outdoor activities are a high priority for all three estates, which means they cater for residents and guests accordingly. Pinnacle Point has two private beaches with a renowned hiking trail crossing the estate, while Oubaai and Pezula's private beaches are very small and not swimmable. Pinnacle Point therefore gets a *very high* score while the other two get a *high* score.

George and Oubaai are situated within 10 km from George Airport while Pinnacle Point and Pezula are within an hour's drive from the airport. For travellers without cars, transport is available from the estates to the airport and town. Car rental is also available at the airport and in all three towns. In addition, public transport is also available between the estates and the towns. Here, George and Oubaai received a high score while Pezula and Pinnacle Point received a moderated score.

The estates will be appealing to holiday travellers searching for quiet and relaxing outdoor living. According to Wallrabenstein (2018), this will rule out Generation Z. In this study, Generation Z did not form part of the age group targeted. Mossel Bay and Knysna are renowned as holiday destinations, and therefore the very high score was allocated for these two towns and estates.

The right-hand column in Table 5 provides the aggregate scores out of 5 for the three selected golf estates. Pinnacle Point and Mossel Bay have the highest scores. These scores will be used in the decision-making model, which will be discussed later.

4.3.5 Quality of life

In the Numbeo (2021) comparison *cost of living* is one of the indicators under **Quality of life**, as seen in Table 7. The *cost-of-living* indicator was calculated separately, as seen in Table 6**Error! Reference source not found.**.

Table 6: Cost of living indicator

Score legend explanation		
If high is better		If low is better
Very High	5	Very low
High	4	Low
Moderate	3	moderated
Low	2	High
very Low	1	Very High

	Rent Price	Restaurant Orice	Groceries Price	Consumer Prices	Total
Knysna	2	4	4	3	**3,3**
George	4	3	3	3	**3,3**
Mossel Bay	3	2	2	3	**2,5**

Table 7: Quality of life

	Knysna	3,9	Mossel Ba	3,8	George	3,9
Purchasing Power Index		3		3		3
Safety Index	Moderate	3	Low	2	Moderate	3
Health Care Index	Very High	4	Very High	5	High	4
Climate Index	Very High	5	Very High	5	Ver High	5
Cost of Living Index	Moderate	3,3	Low	2,5	Moderate	3,3
Property Price to Income Ratio	Moderate	3	Low	4	Moderate	3
Traffic Commute Time Index	Very Low	5	Low	4	very Low	5
Pollution Index	Very Low	5	Very Low	5	Very Low	5

Score legend explanation		
If high is better		If low is better
Very High	5	Very low
High	4	Low
Moderate	3	moderated
Low	2	High
very Low	1	Very High

Based on data from the Numbeo platform, the *cost of living* scores for the towns under discussion are as follows: Rent prices in Knysna are 1.92% higher than in Mossel Bay and 22.67% higher than in George. Restaurant prices in Knysna are 36.84% lower than in Mossel Bay and 29.45% lower than in George. Grocery prices in Knysna are 5.74% lower than in Mossel Bay and 1.63% lower than in George. Unfortunately, the *consumer price index* was not available and therefore a score of *moderate* was used in the table for all the towns.

4.3.6 Summary

As can be seen from Table 7, the *quality of life* indicators for the three towns are almost the same. Therefore, this indicator will not influence the outcome in this case study. The three

golf estates also achieved the highest scores in the elimination process of the eight golf estates as indicated in Table 4, with Pinnacle Point scoring 23, Pezula 22 and Oubaai 20. As the difference between the aggregate scores was very low, none of these three estates could be ruled out for the rest of the research. Therefore, potential properties for analysis were identified in all three estates in order to determine the "best buy".

4.4 Analysis of property location ratios

The target market and the location attributes of the "best buy" properties have been identified. Next, the aim was to identify the ideal property inside the identified locations in order to cater for the selected target market.

Before different properties could be compared, a number of variables were explored: price-per-unit-night, vacancy rate, escalation rate, and growth rate. These values served as input for the decision-making model.

4.4.1 Price per unit per night (Rpun)

The price of a unit per night, according to Guttentag (2019), is one of the most important indicators with which to attract guests. Wallrabenstein (2018) believed it is the only real indicator to initiate the return-on-investment ratio.

This study looked at each individual property selected, and determined the potential income by establishing the price-per-unit-night which would serve as input for the envisaged decision-making model. According to Visser *et al*. (2017), the *Rpun* is highly dependent on the following factors: location, type of accommodation, demand and amenities. Data was collected from the web-based lodging platforms Airbnb and Booking.com, and split into the different estates for a two-night stay for two persons per room, as indicated in Error!

Table 8: Average Rpun for a two-night stay for two

2 night stay for 2 per room WiFi- - TV - Parking - Kitchen - Sea			High season		Mid season		Low season	
			Week end	Week	Week end	Week	Week end	Week
Pinacle	1 Room	B&B	9 038,20	9 038,20	6 263,00	6 108,00	4 345,00	4 345,00
		Self cater	4 983,67	4 601,84	3 044,67	3 007,37	2 162,47	2 162,47
	2 Room flatlet	B&B	8 463,00	8 463,00	5 642,00	5 642,00	3 385,20	3 385,00
		Self cater	7 606,60	7 606,60	4 375,87	4 375,87	1 914,67	1 850,67
Pezula	1 Room	B&B	8 606,00	8 606,33	5 233,50	5 233,50	5 233,50	5 233,50
		Self cater	3 716,67	3 716,67	2 666,67	2 566,67	1 966,00	1 966,00
	2 Room flatlet	B&B	6 356,33	6 356,33	5 119,33	4 909,67	3 947,00	3 780,33
		Self cater	4 786,11	4 786,00	4 278,67	4 202,00	4 068,33	4 068,33
Oubaai	1 Room	B&B	5 600,00	5 600,00	4 085,00	4 085,00	3 850,00	3 850,00
		Self cater	3 044,33	2 904,33	2 094,67	2 094,67	2 094,67	2 094,67
	2 Room flatlet	B&B	6 175,00	6 175,00	4 850,00	4 850,00	3 990,00	3 990,00
		Self cater	6 093,33	5 883,33	4 893,00	4 793,00	3 059,60	3 351,00

Reference source not found.Table 8.

It was hard to find two-room flatlets for B&B in Oubaai and Pezula. However, self-catering two-room flatlets were widely available in these two golf estates, and therefore competition was stiff. This means the oversupply could result in lower-than-expected average prices per room in these two estates. The B&B lodging option is not regularly advertised on Airbnb but could be found on Booking.com. Booking.com also provides the hotel prices for the two estates, making comparisons with home-owned lodging possible. Oubaai and Pezula both have hotels on the estates, which might increase the vacancy rate, resulting in an increased availability of rooms and therefore a higher vacancy rate per unit. These *Rpun* values were used to determine the potential income for each property, as seen in Table 10 below.

4.4.2 Vacancy rate

The vacancy rate (VR) has a negative percentage influence on potential income. To determine this, historical data was collected from the Airbnb and Bookings.com platforms during the course of the year by regularly visiting these platforms, searching for available lodging. As expected, the VR of mid-season and low-season bookings decreased closer to the booking date and therefore the VR was determined and captured approximately a month before the lodging date. Table 9 indicates the collective VR per estate average per season and per lodging type.

To determine the average VR per type of lodging, the individual percentages were weighted by seasonal duration. The overall average VR of 61.01% is above the prediction of Morad *et al.*'s 60% VR for 2022, which might be the result of less domestic travel and specifically very low international visitor numbers because of the lockdown restrictions of 2021 (Morad *et al.*, 2021).

Table 9: Vacancy rate averages

Total Season Days			14	33	26	63	64	165	365
Seasonal average VR			High season		Mid season		Low season		Avr VR
			Week end	Week	Week end	Week	Week end	Week	61,01%
Pinnacle	1 Room	B&B	10%	10%	30%	40%	65%	90%	62,41%
		Self cater	5%	5%	30%	45%	50%	75%	53,22%
	2 Room flatlet	B&B	5%	5%	35%	35%	70%	70%	53,10%
		Self cater	0%	0%	50%	50%	60%	80%	58,88%
Pezula	1 Room	B&B	5%	5%	40%	55%	85%	90%	68,58%
		Self cater	0%	0%	45%	50%	70%	75%	58,01%
	2 Room flatlet	B&B	10%	10%	45%	45%	80%	80%	62,45%
		Self cater	0%	0%	55%	45%	70%	85%	62,38%
Oubaai	1 Room	B&B	10%	10%	45%	50%	80%	80%	63,32%
		Self cater	7%	7%	45%	55%	70%	75%	59,78%
	2 Room flatlet	B&B	15%	15%	55%	45%	90%	80%	65,56%
		Self cater	10%	10%	60%	50%	80%	80%	64,38%
Average per season			6%	6%	45%	47%	73%	80%	

Based on the results of Table 8 (Rpun) and Table 9 (VR), an effective day rate could be calculated, as indicated in Table 10. This day rate was used in the decision-making model. The vacancy rates for Pezula and Oubaai were higher than that for Pinnacle Point, probably as a result of the hotels on these two estates as the average Rpun was used in the decision-making model to determine the total income for each individual property.

Table 10: Effective Rpun

Total Season Days			14	33	26	63	64	165	365	
Seasonal totals			High season		Mid season		Low season			
			Week end	Week	Week end	Week	Week end	Week	R/y	R/d
Pinnacle	1 Room	B&B	56 940,66	134 217,27	56 993,30	115 441,20	48 664,00	35 846,25	448 102,68	1 227,68
		Self cater	33 141,38	72 133,89	27 706,47	52 102,63	34 599,47	44 600,88	264 284,71	724,07
	2 Room flatlet	B&B	56 278,95	132 657,53	47 674,90	115 519,95	32 497,92	83 778,75	468 408,00	1 283,31
		Self cater	53 246,20	125 508,90	28 443,13	68 919,90	24 507,73	30 536,00	331 161,87	907,29
Pezula	1 Room	B&B	57 229,90	134 904,28	40 821,30	74 184,86	25 120,80	43 176,38	375 437,51	1 028,60
		Self cater	26 016,67	61 325,00	19 066,67	40 425,00	18 873,60	40 548,75	206 255,68	565,08
	2 Room flatlet	B&B	40 044,90	94 391,55	36 603,23	85 059,98	25 260,80	62 375,50	343 735,96	941,74
		Self cater	33 502,78	78 969,00	25 030,20	72 799,65	39 056,00	50 345,63	299 703,25	821,10
Oubaai	1 Room	B&B	35 280,00	83 160,00	29 207,75	64 338,75	24 640,00	63 525,00	300 151,50	822,33
		Self cater	19 818,61	44 567,00	14 976,87	29 691,90	20 108,80	43 202,50	172 365,67	472,23
	2 Room flatlet	B&B	36 741,25	86 604,38	28 372,50	84 026,25	12 768,00	65 835,00	314 347,38	861,23
		Self cater	38 388,00	87 367,50	25 443,60	75 489,75	19 581,44	55 291,50	301 561,79	826,20

Escalation, growth and capitalisation rates

To determine the "best buy" in terms of short-term rental property, one needs to take into account the property value and property attributes *as well as* the potential future performance of the property. In this context, the potential future performance of the property depends on the escalation, growth and capitalisation rates, which therefore need to be established for the specific locations. It was found that the economic forecasting differs slightly for each of the three estates except the *escalation rate on operating cost* for which 7.0%[13] was used, obtained from the latest available Rode's Report (RR) (2021:1) and used as an equaliser in the model for all three estates. The growth rate was derived from previous sales of the same property in comparison to the "estimating valuation" for the property, which will be discussed later in this chapter. The capitalisation rate (cap rate, i.e. the non-listed property sector's equivalent of the forward earnings yield of shares) is normally not applied to the residential market sector as an economic indicator. However, because the

[13] *Rode's Report* (2021:1), Table 5.7 for George decentralised.

properties under evaluation are hybrids – i.e. part rentable space and part residential space – this ratio was also used as an indicator.

The calculations and analyses of these indicators will be discussed in the section below.

4.5 Property comparison

4.5.1 Market value

Lightstone's property valuation website provides registered users with a list of "comparative sales" from which the users can choose the appropriate properties that will be used in the calculation to determine the "estimated value" (see Appendix B and

Appendix A for an example). For the purpose of this research, the market value was established by using Lightstone's "estimated value" adjusted with residential agent advice, were applicable, and captured in the model as such.

The same method was used to establish an average R/m^2 for all the golf estates mentioned in in order to select the three used in this case study.

4.5.2 Property identification

The values used in this real-life case study were captured over a period of less than three months, covering all three estates simultaneously. This cross-section observation analysis used a population of at least five properties per estate, which were visited between April and June 2021. Data for the specific properties was collected from agents and relevant websites at the time of viewing of the properties, and captured on an Excel spreadsheet, as indicated in Table 11.

The following criteria/filters were used for the property searches on the different property website platforms:

- Locations — Security estates (Pezula, Oubaai, Pinnacle Point)
- Property type — House
- Price range — R4 million to R7 million (set by available funds)
- Bedrooms — 4 plus
- Bathrooms — 3 plus
- Garages — 2 plus

As mentioned before, a "suitable property" should be one that can be divided in two sections (i.e. a section for own use and a section for private short-term rental use), or at least have the potential to be changed into two sections. This can only be determined once the property has

Listing price	4 950 000,00		Total purchase cost of	Property
Estimated Value	4 702 500,00	5,0%	Holding cost	-
Description	Freestanding		Sale cost	4 702 500,00

Table 11: Property data capture sheet

Erf Size	849	Coverage	Renovations	700 000,00
Floor Size	360	42,40%	Other cost	-
Rooms with En-suite	4	4	Total purchase cost	5 774 205,65
Rooms without	0	0	No = 0 Yes = 1	0
Other bathrooms		0	Deposit	-
External Rooms	0		Mortgage amount	-
External bathrooms		0	Mortgage rate	7%
Living	2		Period years	20
Kitchen	1		Approx. Bond reg cost Incl	-
Home theatre	0		Monthly cost (incl vat)	R0,00
Garages + Parking	2	0	Mortgage cost per year	-
Pool	1		Total cash invest Y1	5 774 205,65

been viewed. The list of properties consists only of properties that are suitable for this case study.

The second portion of the data input sheet contains data that was collected at the time of viewing the specific properties. This is summarised in Table 12. Some of the headings of Table 12 correspond with the property attributes identified in Figure 4 (i.e. sea view, access to beach) and personal preferences. These characteristics were weighted out of 10, indicating the significance of these headings/property attributes for the purpose of the property and/or client's preference. Property attributes were scored on a five-point scale, with 5 indicating perfect sea view and 1 indicating no view. The attributes score was multiplied with the weight and expressed as a percentage in the total column.

$$Total\ \% = \sum_{n=1}^{9}(W\ x\ S)\ /\ \sum_{n=1}^{9}(W\ x\ 5)\ x\ 100 \qquad \textit{Equation 2}$$

Where W = *heading weight and* S = *property score of each heading*

Table 12: Data from property viewing (Viewers preference VP)

	Pinnacle =1	Pezula = 2	Ease of separation 1 - 5	Age/ quality of building 1 - 5	Sea view 1 - 5	Access to beach 1 - 5	Workshop space 1 - 5	Garden quality 1 - 5	Nice to live in (feeling)	Owner privacy	Guest privacy	Total weight of compliance score
	Location	Adress										
			8	8	6	4	4	3	10	8	8	295
2	Pinnacle	81 Fynbos Village	3	3	5	3	1	3	3	3	4	64%
3,00	Oubaai	11 Ocean Vista S	5	2	1	2	2	2	4	4	4	64%
1,00	Pezula	Scanteling	5	3	1	1	2	3	4	4	4	66%
2,00	Pinnacle	207 Pinnacle drive	2	3	3	3	1	3	4	2	2	53%
2,00	Pinnacle	50 Birdie Drive	3	1	4	3	4	1	2	4	4	58%
2,00	Pinnacle	51 Bogey Street	2	4	4	4	3	4	5	4	4	77%
2,00	Pinnacle	123 Eastwood drive	4	4	4	4	5	5	5	5	5	91%
2,00	Pinnacle	90 Divot Drive	4	4	3	4	1	1	3	4	4	67%
1,00	Pezula	382 Fairlead	4	2	1	2	3	3	4	3	4	61%
3,00	Oubaai	6 Ocean side	3	3	1	2	3	3	3	3	3	55%
3,00	Oubaai	1238 Ocean Vista	4	2	2	3	3	2	3	3	2	54%
1,00	Pezula	5 Genoa	5	2	3	3	3	3	4	4	4	72%
1,00	Pezula	12 Square Rigger	3	5	4	4	4	5	5	5	5	90%
1,00	Pezula	5 Windstar	2	2	1	3	1	3	2	2	2	39%
1,00	Pezula	Norma 1	2	2	2	3	3	2	1	1	1	34%
1,00	Pezula	6 Dunnage Drive,	3	2	1	2	2	3	3	3	3	51%
1,00	Pezula	31 Commodore	2	2	3	1	2	2	2	2	1	38%
1,00	Pezula	3 Windstar ????	2	1	3	4	2	3	3	3	3	52%
1,00	Pinnacle	121 Divot	3	3	5	4	2	3	3	3	3	64%
3,00	Pinnacle	187 Eastwood drive (c	5	5	5	4	5	4	5	5	5	98%

(Source: Listed properties sources from agencies in the ere and propert24.com. Ranking done by researcher and therefore his preferences)

These scores were transferred to the summary sheet to be viewed with all other indicators, ranked from best to worst.

The estimated cost to revamp the specific property into two sections, i.e. one for private use and one for short-term renting use, was estimated at the time of visiting the property or calculated separately afterwards. The same applied to the general revamps to suit the client's liking or to equalise the facilities to other properties, i.e. the cost of adding a swimming pool.

The total revamp costs were transferred to the calculation sheet of each property and added to cost of buying the property.

4.6 Decision-making model

The decision-making model used the previously identified indicators to determine the "best buy" in a sequence as set out in the flow diagram shown in Figure 8. The flow diagram indicates the inputs and how these were converted into the outputs required for decision making by the user and/or inputs for the subsequent step.

The first section pertains to the identification of the locations based on the selected target market's desired needs when renting short-stay accommodation. The identified location attributes and property attributes were used as filters in the property searches, which allowed for comparisons using the decision-making model.

The input sheets provide space for a sample size of 20 properties to be compared. Those inputs autofill the subsequent sheets to ultimately calculate the *Total Purchase Cost of Property* (TPCP), which includes the transfer cost as well as the cost of renovations, if applicable. See Table 13 in this regard.

Table 13: Property data capture sheet for 81 Fynbos Village, Pinnacle Point

Listing price	4 200 000,00		Total purchase cost of	Property
Estimated Value	2 000 000,00	6%	Holding cost	-
Description	Freestanding		Sale cost	2 000 000,00
Stories 1, 2, 3, 4,	1,8		Approx. Transfer (Incl. Vat)	87 823,90
Erf Size	510	Coverage	Renovations	4 500 000,00
Floor Size	450	49,02%	Other cost	-
Rooms with En-suite	2		Total purchase cost	6 587 823,90
Rooms without	2	1	No = 0 Yes = 1	1
Other bathrooms		0	Deposit	2 000 000,00
External Rooms	0		Mortgage amount	4 587 823,90
External bathrooms		0	Mortgage rate	7%
Living	2		Period years	20
Kitchen	1		Approx. Bond reg cost Incl	357 920,27
Home theatre	1		Monthly cost (incl vat)	R35 569,35
Garages + Parking	1	0	Mortgage cost per year	426 832,20
Pool	0		Total cash invest Y1	2 872 576,37

(Soure: Portion of model created by researcher)

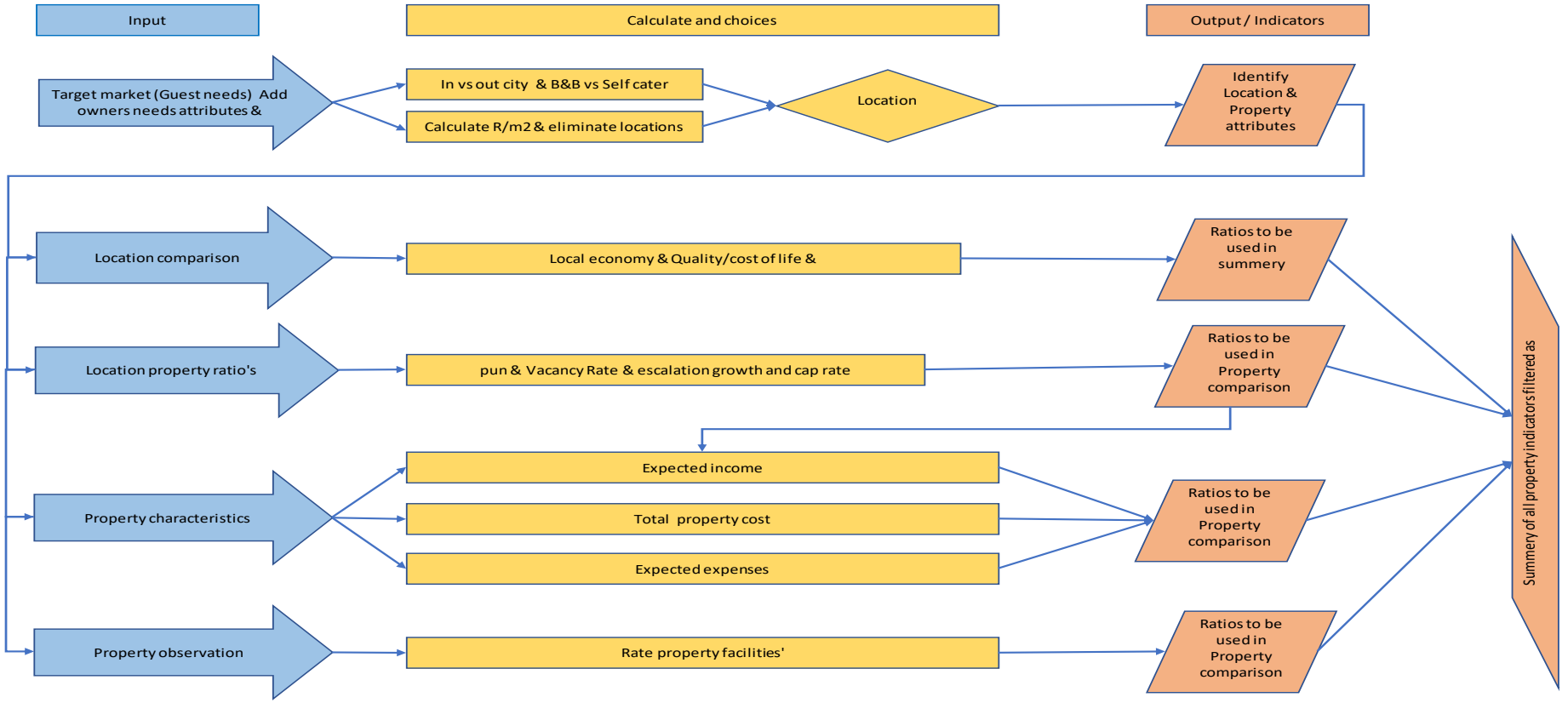


Figure 8: Decision-making model flow diagram

If a mortgage bond was required, the bond cost as well as a year's mortgage cost were added to derive at a *Total Cash Invest* (TCI) for the first year. This then becomes the basis for the calculation of the cash chase return and return on investment.

Different properties will have different revenue profiles and overhead costs, and therefore the model made provision for calculating the expected Monthly Income (MI) and expected Monthly Expenses (ME) in order to arrive at the net operating income (NOI) for each property and scenario. Table 14 indicates the input cells of the MI and ME capture sheets. The vacancy rate averages from Table 9 were used and the rentable space was set as default on 60 m^2 per unit but can be overruled if necessary. One of the changeable scenarios is the increase and decrease of rentable space by adding and decreasing rooms for rent. This has a direct effect on the cash-on-cash return (CCRd) and the return on investment (ROI) ratios. The more rooms available for rent the better the ratio will become. The number of rooms available for

Table 14: Calculating the expected monthly income and expenses

Expected Monthly Income (MI) from rent			
	Rentable M2	140	21%
	Vacancy	53%	5%
RENT	S T Day Rate	Short term	Traditional
Unit 1	724,07	22 084,14	-
Unit 2	724,07	22 084,14	
Unit 3		-	
Unit 4		-	
Unit 5		-	
Unit 6		-	
Unit 7		-	
Unit 8		-	
Unit 9			
	Month	20 661,92	-
	Year	247 943,00	-
	Total Income (OI)	247 943,00	

Expected Monthly Expenses (ME)	Total	Rent potion
Management fees	-	
Maintenance	500	500
Elec	1 500,00	311,42
Water	400,00	83,04
Gas	200,00	41,52
Rates & Taxes City & Others	5 103,00	1 059,45
Total Overhead per Month	7 703,00	1 995,43
Total Overhead per year	92 436,00	23 945,19

short-term renting can therefore serve as an indicator.

4.6.1 (CoC-R) and ROI ratios

The model used the first-year results to calculate the annual (CoC-R) and ROI ratios for the property as a whole and rentable space separately. On the summary page of the model these ratios can be compared. Table 15 indicates the ratios for 81 Fynbos Village, Pinnacle Point, used in this example.

Table 15: CCR and ROI ratios

	Year NOI	131 524,96	205 247,60
	Overheads Cost	116 418,04	42 695,40
	Money invested	5 782 789	1 200 579
	Over 1 Year COC -R	2,27%	17,10%
	Over 1 year ROI	4,29%	26,82%

The rentable portion of the property, expressed as a percentage, was used to apportion the overhead cost and money invested in the property, and therefore the rentable portion of the property's ratios are higher (see Table 15).

As the literature differs on the calculation of the ratios, this model used the following formula for the calculation of the (CoC-R) and ROI:

Cash-on-cash return (CoC-R) = net operating income (NOId) / total cash invested (TCI)
NOId = annual NOI before tax minus annual mortgage
TCI = original cash plus annual mortgage

Return on investment (ROI) = total return (NOI plus growth) / total money invested

The cash-on-cash return (CoC-R) simply measures the return on the actual cash invested during the first year without appreciation or depreciation where the RIO incorporates the total return. These ratios should only be used for comparison if financing is similar across all properties (i.e. cash sale vs cash sale, or when sale depends on a partial mortgage, the amount must be the same for comparable properties). A good (CoC-R) ratio would be one that is higher than the return on a bank fixed deposit for the same time period.

The ratios calculated for the rentable portion indicate the performance of the area against the portion of money invested, which is very difficult to determine fairly. See further debate in the conclusion.

If the property is one that the owner needs to live in, the primary indicator would be the viewers' preference (VP) while the secondary indicator would be the yearly operating income expressed as a percentage of the estimated value of the property's income value (IV). In the case of the CoC-R the total invested amount is used. The IV ratio is therefore similar to the COC-R but easy to calculate. The operating income divided by the overhead (OI/OH) provides an indication of how many times the income exceeds the expenses. This ratio expresses the

economics of the first year but nothing beyond that. Looking at the significance of the RIO ratio, it is clear that there is very little difference between the said properties, which may be because of the similarities of the three locations which equalised the growth that was applied to a certain extend. If the growth rate differed more between the areas, an ROI ratio may be more meaningful. However, for this case study, it is not an indicator of significance.

4.6.2 Summary and conclusion

Table 16 summarises all the individual ratios of each property in a table which provides an overview of the performance of all the properties under investigation at once. By using Excel's filter function the table can be reorganised from best to worse performing property per indicator. The yellow highlighted cells in Table 16 indicates the best performer or highest value in each column and blue indicates close second best or highest performer.

The summary sheet as shown in Table 16 is filtered with the VP column ranked from best to worse. Property #20 is the pest performer in the VP filter but also performed the best in sixth of the seven financial ratios. In the OI/OH ratio was a close high performer but although the IV is closely related to the OI/OH ratio property #20 has perform poorly and only obtained a 5th position. On the contrary, property #15 performed the best in the IV ratio but extremely low in the VP ratio column which could indicates that the viewers preference stands loose from any financial indicators and brings in elements of the buyer's behaviour, 'what he or she prefers' in a property if finance is not at stake. This derives to that the IV and VP ratios summarise the financial and buyers' behaviour characteristics of a property and can therefore act as indicators that can help making decisions on the "best buy" from available property. From this stem the acronym of this decision-making model i.e., IVVP model.

Table 16: Summary sheet of the IVVP model

ID	Adress	Est Value	M2	R/M2	Beds	% of prop rentable	Rent Ratios - 1 year				Overall Ratio - 5 Years			Total Cost	Viewers' preference (VP)	Income value (IV)
							NOI (y)	CoC-R	ROI	OI/OH	5Y CoC-R	5Y ROI	OI/m			
20	189 Eastwood drive	6 951 990,00	480	14 931,25	5	25,00%	602 400,00	8,30%	12,38%	7,00	54,40%	84,02%	58 560,00	7 255 139,00	98%	8,67%
7	123 Eastwod drive	6 644 500,00	380	17 125,00	4	23,68%	441 400,00	6,15%	8,17%	6,15	40,38%	58,88%	43 920,00	7 178 169,65	91%	6,64%
13	12 Square Rigger	6 402 000,00	356	16 117,98	4	25,28%	347 784,00	5,10%	7,12%	4,07	33,84%	52,34%	38 430,00	6 823 610,65	90%	5,43%
6	51 Bogey Street	5 044 000,00	400	13 000,00	4	22,50%	320 652,00	5,41%	7,43%	5,30	35,65%	54,15%	32 940,00	5 926 430,65	77%	6,36%
12	5 Genoa	4 365 000,00	300	13 950,00	4	40,00%	342 288,00	6,22%	8,24%	4,53	41,18%	59,68%	36 600,00	5 499 780,65	72%	7,84%
8	90 Divot Drive	4 995 500,00	300	16 651,67	3	30,00%	450 217,00	7,38%	9,40%	6,86	48,38%	66,88%	43 920,00	6 099 435,65	67%	9,01%
1	81 Fynbos Village	4 074 000,00	289	14 230,00	4	31,14%	181 749,60	4,11%	6,13%	2,22	28,42%	46,92%	27 523,20	4 419 272,35	64%	4,46%
19	121 Divot	6 790 000,00	600	11 416,67	6	20,00%	555 216,00	6,37%	8,39%	7,24	41,71%	60,21%	53 680,00	8 717 330,38	64%	8,18%
2	11 Ocean Vista	4 850 000,00	475	10 210,53	4	25,26%	369 897,94	7,06%	9,08%	3,94	46,95%	65,44%	41 321,84	5 237 930,65	64%	7,63%
9	382 Fairlead	6 693 000,00	463	13 710,58	4	21,60%	557 484,00	7,96%	9,98%	6,50	52,24%	70,74%	54 900,00	7 001 124,65	61%	8,33%
5	50 Birdie Drive	5 141 000,00	320	15 734,38	4	28,13%	240 600,00	4,05%	6,07%	3,71	26,98%	45,47%	27 450,00	5 943 280,65	58%	4,68%
10	6 Ocean side	5 820 000,00	553	10 307,41	5	16,27%	301 440,00	4,51%	6,53%	4,21	29,92%	48,42%	32 940,00	6 681 430,65	55%	5,18%
11	1238 Ocean Vista	4 850 000,00	475	10 000,00	4	25,26%	432 204,00	7,29%	9,31%	5,56	47,99%	66,49%	43 920,00	5 926 930,65	54%	8,91%
4	207 Pinnacle drive	6 208 000,00	350	17 005,71	5	17,14%	134 040,00	1,98%	4,00%	2,57	13,50%	32,00%	18 300,00	6 761 150,65	53%	2,16%
18	3 Windstar ????	4 122 500,00	300	13 458,33	4	30,00%	260 340,00	5,17%	7,19%	2,93	34,87%	53,37%	32 940,00	5 036 055,65	52%	6,32%
16	6 Dunnage Drive,	5 141 000,00	428	11 764,02	5	28,04%	453 960,00	7,73%	9,75%	4,88	51,03%	69,53%	47 580,00	5 873 430,65	51%	8,83%
14	5 WIndstar	5 795 750,00	347	16 358,07	4	25,94%	331 692,00	5,14%	7,16%	6,22	33,74%	52,24%	32 940,00	6 455 068,15	39%	5,72%
17	31 Commodore	4 510 500,00	339	13 030,97	4	26,55%	295 236,00	5,72%	7,74%	3,95	38,05%	56,55%	32 940,00	5 157 855,65	38%	6,55%
15	Norma 1	3 879 999,03	323	11 764,70	5	37,15%	349 884,00	6,90%	8,92%	4,92	45,54%	64,03%	36 600,00	5 071 887,95	34%	9,02%
3	Scanteling	4 801 500,00	360	13 062,50	4	33,33%	330 936,00	5,73%	7,75%	4,06	38,06%	56,56%	36 600,00	5 774 205,65	33%	6,89%

4.7 Discussion of the IVVP model

The appropriate quantitative and qualitative data that were collected was analysed in different Excel sheets, build-up to an interconnected excel workbook, that assist the decision-maker to select the "best buy". All these sheets where purposefully created to analyse quantitative data. The appropriate qualitative data was transformed into quantitative data by way of weighted averages as explained below.

4.7.1 Input sheet

The heart of the model is the *input sheets* created for each property under investigation and provide space for twenty properties that can be analysed simultaneously. The main input cells require the specific property's physical data obtained from web pages like PrivateProperty.co.za and/or Property24.com and relevant property agents.

Section 1, calculate the approximate transfer cost as well as mortgage cost, if applicable, to arrive at *Total purchase cost* and *Total cash invest*, in year 1 (Table 17). The transfer and mortgage cost gets calculated on the same sheet, based on SARS requirements. These requirements must be updated for each financial year and was obtained from; https://www.sars.gov.za/tax-rates/transfer-duty.

Table 17: Input sheet Section 1

Section 1	Listing price	4 200 000,00		Total purchase cost of	Property
	Estimated Value	4 112 470,00	2,1%	Holding cost	-
	Description	Freestanding		Sale cost	4 112 470,00
	Stories 1, 2, 3, 4,	2		Approx. Transfer (Incl. Vat)	306 802,35
	Erf Size	510	Coverage	Renovations	
	Floor Size	289	28,33%	Other cost	-
	Rooms with En-suite	2		Total purchase cost	4 419 272,35
	Rooms without	2	1	No = 0 Yes = 1	0
	Other bathrooms		0	Deposit	-
	External Rooms	0		Mortgage amount	-
	External bathrooms		0	Mortgage rate	7%
	Living	2		Period years	20
	Kitchen	1		Approx. Bond reg cost Incl	-
	Home theatre	1		Monthly cost (incl vat)	R0,00
	Garages + Parking	1	0	Mortgage cost per year	-
	Pool	0		Total cash invest Y1	4 419 272,35

Section 2 (Table 18) calculates the total potential income based on available units to rent, the income per unit per night (Rpun), derive from Rpun and vacancy rate sheets for each specific property. The vacancy rate and Rpun will be discussed below.

Table 18: Input sheet Section 2

Expected Monthly Income (MI) from rent			
$60m^2$/room =Rent M^2		90	31%
	Vacancy rate	60%	5%
RENT	S T Day Rate	Short term	Traditional
Unit 1	752	22 936,00	-
Unit 2	752	22 936,00	
Unit 3	752	22 936,00	
Unit 4		-	
Unit 5		-	
Unit 6		-	
Unit 7		-	
Unit 8		-	
Unit 9			
	Month	27 523,20	-
	Year	330 278,40	-
	Total Income (OI)	330 278,40	

Section 3 (Table 19) calculates the expected monthly and yearly expenses split into the rentable and own occupied portions of the premises. Section 3 also do ratios calculation like NOI, ROI and CCR for this specific property, using data calculated in Section 1 & 2 as well as "ghost calculation" done in other parts of the spreadsheet for the five-year CoC-R and ROI for the property as a whole.

Table 19: Input sheet Section 3 - Expenses & Ratios

Expected Monthly Expenses (ME)	Total	Rent potion
Management fees	-	
Maintenance	500	500
Elec	2 698,00	1 598,00
Water	866,00	566,00
Gas	373,20	173,20
Rates & Taxes City & Others	5 103,00	1 589,17
Total Overhead per Month	12 377,40	4 426,37
Total Overhead per year	148 528,80	53 116,43

Ratio		Total	Rentable portion
Year NOI		181 749,60	277 161,97
Annual mortgage (d)		-	-
Money invested		4 419 272	1 376 244
Annual CCR		4,11%	20,14%
Over 1 year ROI		6,13%	26,62%
Average escalation 5 years	Income	6%	
	Overhead	4%	
5 Year	CoC-R	28,42%	
5 Year	ROI	46,92%	

4.7.1 Vacancy rate

The vacancy rate (VR) was derived from data obtained through several location specific, short-term renting agents and Airdna's web site. Pre Covid data from 2019 was used, to derive to *Estate average VR's*. The data received was split into room type and catering type, per season. This was average out by applying seasonal weights expressed as a day percentage of the year. See

4.7.2 Rand per unit night (Rpun)

The Rpun was derived from data obtained from website like Bookings.com Airbnb, Safarinow.co.za and Afrihoust.co.za. Current data was used and obtained for each individual estate arrive at an average daily rate, split into room type and catering type, per season. This was averaged out by applying seasonal weights expressed as a day percentage of the year (see Table 20).

Table 20: Rpun per estate and room type

Total Season Days			14	33	26	63	64	165	365	
Seasonal totals			High season		Mid season		Low season			
			Week end	Week	Week end	Week	Week end	Week	R/y	R/d
Pinnacle	1 Room	B&B	56 940,66	134 217,27	56 993,30	115 441,20	48 664,00	35 846,25	448 102,68	1 227,68
		Self cater	33 141,38	72 133,89	27 706,47	52 102,63	34 599,47	44 600,88	264 284,71	724,07
	2 Room flatlet	B&B	56 278,95	132 657,53	47 674,90	115 519,95	32 497,92	83 778,75	468 408,00	1 283,31
		Self cater	53 246,20	125 508,90	28 443,13	68 919,90	24 507,73	30 536,00	331 161,87	907,29
Pezula	1 Room	B&B	57 229,90	134 904,28	40 821,30	74 184,86	25 120,80	43 176,38	375 437,51	1 028,60
		Self cater	26 016,67	61 325,00	19 066,67	40 425,00	18 873,60	40 548,75	206 255,68	565,08
	2 Room flatlet	B&B	40 044,90	94 391,55	36 603,23	85 059,98	25 260,80	62 375,50	343 735,96	941,74
		Self cater	33 502,78	78 969,00	25 030,20	72 799,65	39 056,00	50 345,63	299 703,25	821,10
Oubaai	1 Room	B&B	35 280,00	83 160,00	29 207,75	64 338,75	24 640,00	63 525,00	300 151,50	822,33
		Self cater	19 818,61	44 567,00	14 976,87	29 691,90	20 108,80	43 202,50	172 365,67	472,23
	2 Room flatlet	B&B	36 741,25	86 604,38	28 372,50	84 026,25	12 768,00	65 835,00	314 347,38	861,23
		Self cater	38 388,00	87 367,50	25 443,60	75 489,75	19 581,44	55 291,50	301 561,79	826,20

4.7.3 Summary sheet

The summary sheet collates all the data from each individual property display indicators in a table format of each property making it easy to compare. This sheet can also be *filtered* which enable the user to rank a specific column from best to worst or vice versa. The IVVP model produce a huge number of ratios as seen in Table 16, from which the investor can decide what ratios play an important role for him or her. Indicators in the model can be eliminated to show only those of interest to the current investor. For example, the IVVP model can be eliminated as seen in Table 21, Table 22 and Table 23 to filtered the NOI, IV and VP ratio's to indicate the five best performed properties in each category. The best performed property per category was highlighted in yellow as explained before.

General comments

When simplifying the model to indicate the top performed properties in the personalised ratio's it becomes easier to draw a conclusion. For example, in the above three tables, *189 Eastwood drive* appears as the best performing property in the NOI and VP table, but last in the IV tables and is the only property that appears in all three tables, Number *6 Dunnage drive* appears in the NOI and IV tables in the fourth position and is the only property that appears twice in the three tables, thereof all the other properties only appear once in the three tables.

From above argument, one could conclude that *189 Eastwood drive* is the best property for the selected indicators.

Table 21: Priority NOI 1st year (Top 5 properties)

	Adress	Est Value	M2	R/M2	Beds	Rent Ratios - 1 year NOI (y)	Viewers' preference (VP)	Income value (IV)
20	189 Eastwood drive	6 951 990,00	480	14 931,25	5	602 400,00	98%	8,67%
9	382 Fairlead	6 693 000,00	463	13 710,58	4	557 484,00	61%	8,33%
19	121 Divot	6 790 000,00	600	11 416,67	6	555 216,00	64%	8,18%
16	6 Dunnage Drive,	5 141 000,00	428	11 764,02	5	453 960,00	51%	8,83%
8	90 Divot Drive	4 995 500,00	300	16 651,67	3	450 217,00	67%	9,01%

Table 22: Priority IV (Top 5 properties)

	Adress	Est Value	M2	R/M2	Beds	Rent Ratios - 1 year NOI (y)	Viewers' preference (VP)	Income value (IV)
15	Norma 1	3 879 999,03	323	11 764,70	5	349 884,00	34%	9,02%
8	90 Divot Drive	4 995 500,00	300	16 651,67	3	450 217,00	67%	9,01%
11	1238 Ocean Vista	4 850 000,00	475	10 000,00	4	432 204,00	54%	8,91%
16	6 Dunnage Drive,	5 141 000,00	428	11 764,02	5	453 960,00	51%	8,83%
20	189 Eastwood drive	6 951 990,00	480	14 931,25	5	602 400,00	98%	8,67%

Table 23: Priority VP (Top 5 properties)

	Adress	Est Value	M2	R/M2	Beds	Rent Ratios - 1 year NOI (y)	Viewers' preference (VP)	Income value (IV)
20	189 Eastwood drive	6 951 990,00	480	14 931,25	5	602 400,00	98%	8,67%
7	123 Eastwod drive	6 644 500,00	380	17 125,00	4	441 400,00	91%	6,64%
13	12 Square Rigger	6 402 000,00	356	16 117,98	4	347 784,00	90%	5,43%
6	51 Bogey Street	5 044 000,00	400	13 000,00	4	320 652,00	77%	6,36%
12	5 Genoa	4 365 000,00	300	13 950,00	4	342 288,00	72%	7,84%

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The research identified various indicators that influence the decision-making process to determine the "best buy" in the short-term rent property market, based on a literature review of peer-to-peer lodging and data obtained from relevant source. The literature highlighted two main factors, i.e. location and cost of the rentable space, which were used in decision-making model to determine the "best buy" for a specific investor.

5.2 Research questions, proposition, and objectives

The research was based on two questions: Is it possible to determine indicators in the short-term rental property market that firstly can identify the most profitable short-term rental property by predicting the vocational rent, property growth and travellers' behaviour for a specific location, and will the indicators be of such a nature that they can be used in a model to establish the "best buy" for potential investors?

As hypothesised, the indicators identified in this study on short-term rental follow the same trend as for traditional long-term rental where location and price have been the main indicators. However, because of the difference in client behaviour indicators like target market, type of location, cost of living, and host/owner preferences played a significant role in establishing the "best buy" for specific investors.

The research followed the objectives by starting with establishing the target market most likely to be travellers in South Africa and identifying the needs of this target market. Next, indicators were identified to establish links between location and property attributes for guests based on historical data and economic forecasting. These locations were narrowed down by using economical comparisons of, among others, property asking and selling prices, and cost per square meter to establish the most efficient location(s). Three specific locations were identified to suit the target market as well as the host needs, i.e. three golf estates along the Garden Route, namely Pezula Golf Estate near Knysna, Oubaai Golf Estate near George, and Pinnacle Point Golf Estate near Mossel Bay.

The cost of living, using local rental platforms to determine average rent, property taxes and fees, and utility costs, were established in order to calculate net revenue. From there, the indicators were established from market-driven data, e.g. vacancy rates (VR), and average

daily rate (ADR)/cost per unit night (Rpun). The vacancy rate took into account seasonal market forecasts to establish the real price per unit per night (Rpun).

The quality-of-life scores of the selected properties were determined by investigating the public transport, safety and security, restaurants, shops and entertainment in the different locations, and by identifying where the highest volume of tourists may or may not be found throughout the year. Based on the quality-of-life scores, very few differences were noted between the three said locations. For this reason, properties were identified in all three estates by using the identified indicators for the search criteria. The site visit ratings with all the identified indicators were combined into Excel spreadsheets in order to compare potential properties. This was fed into decision-making model that have the ability to, through elimination, derive at the "best buy" for a specific target market and owner/investor in the short-term rental market.

5.3 Findings

It is apparent from the literature and the research that the indicators assisted in determining a specific type of location taking into account the target market's needs and the cost of the average property price expressed in rand per square meter (R/m^2). Using these indicators, three golf estates were identified as fitting locations to fulfil the two criteria of target market needs and best R/m^2.

Once the three golf estates had been identified – i.e. Pinnacle Point, Oubaai and Pezula – an in-depth comparison could be undertaken of the local economy, quality of life and cost of living. These results were rated and set out in Table 6 and Table 7. It was found that there was very little difference between the quality-of-life scores of the three estates but that Mossel Bay's cost of living was much higher than that of George and Knysna.

The potential revenue from peer-to-peer lodging was established by determining the average cost per unit per night combined with the vacancy rate, as set out in Table 10, which indicated the effective cost per unit per night (Rpun). Based on analysis of one-bedroom those located at *Rpun,* Oubaai and Pezula were found to be cheaper than those located at Pinnacle Point. Therefore, a three-bedroom unit in Pinnacle Point has the potential to generate an income of almost R200 000.00 per year more than a similar unit in Oubaai or Pezula. On the other hand,

as seen in Table 4, the average property price in Pinnacle Point was found to be higher than in the other two estates.

Because of the complexity of the comparison, an Excel-based decision-making model was created, listing all the viewed properties with the relevant indicators as headings, which provides a ranking per indicator. It was found that the indicators that have the most influence on the decision of the "better buy" were the viewers' rating and the investment value, as highlighted in Table 16.

Using this table, the properties with the highest viewers' ratings in comparison with high income value were highlighted and narrowed down to three properties (income value is the yearly net operating income divided by the estimated value, expressed as a percentage). Based on this, the property with the best annual net operating income (NOI) was identified as the "best buy" under the set circumstances. In this real-world case study, *123 Eastwood at Pinnacle Point* was identified as the "best buy" during this stage of the investigation.

The main indicators used to establish the "best buy" were therefore the estimated value, annual net operating income and the viewers' rating. Therefore, all indicators were required to establish these three indicators.

Based on the above findings, it is possible to apply the identified indicators and to determine the "best buy" in terms of dual-purpose property which consists of a section for short-term rent as well as a section for private use by the owner.

5.4 Limitations of the study

Data on peer-to-peer lodging is more readily available for bigger metros like Durban and Cape Town. This means it will be much easier to source data on, for example, vacancy rates and cost per unit per night. Because of the bigger volume of data, the accuracy would also be higher for the bigger centres.

The research was further limited to seaside golf estates for three reasons. Seaside property with sea view was one of the high scorings attributes resulting out of text mining exercise, as indicated in Appendix A for "guest needs". From Table 12 (Viewer preference) has also indicate a high preference on sea view. The limitation to Golf estates was done for the

increase of the “Target Market“, specifically during off season in South Afrika ((Visser, Erasmus & Miller, 2017)

Indicators used by the hotel industry – like Revenue Per Available Room (RevPAR) calculated by dividing the total revenue earned by the number of available listings for short-term use – could not be determined because of the lack of data and the absence of industry indicators. In addition, the rate of saturation for new, short-term rental property could also not be established.

Because of my limited knowledge of macro building in Excel, the decision-making model had to be manually built for each case study, turning it into a long and tedious process to establish the “best buy”.

5.5 Recommendations and further research

This research was based on limited data because of limited funds and a limited window period in which to undertake the research. If a data set could be used from a source like Lightstone or AirDNA without the very high costs associated with using such a database, it would be possible to build decision-making model with more functionalities. This model has the potential to be turned into cell phone application for use by potential property investors as well as the general public.

BIBLIOGRAPHY

Adamiak, C. 2018. Mapping Airbnb supply in European cities. *Annals of Tourism Research*. 71(December 2017):67–71. DOI: 10.1016/j.annals.2018.02.008.

Adamiak, C. 2019. Current state and development of Airbnb accommodation offer in 167 countries. *Current Issues in Tourism*. 0(0):1–19. DOI: 10.1080/13683500.2019.1696758.

Airbnb. 2018. Airbnb in South Africa: The Positive Impact of Healthy Tourism. 146. Available: file:///C:/Users/cassilda/Desktop/Airbnb-in-South-Africa-Positive-Impact-of-Healthy-Tourism.pdf.

Airdna. 2021. *AirDNA Data: How it work*. Available: https://www.airdna.co/airdna-data-how-it-works.

AirDNA. 2021. *U . S . Short-term Rentals Thrived Throughout the COVID-19 Can Short-term Rentals Continue to Thrive as Americans Head Back to Work ? Projecting Vacation Rentals ' Trajectory :* Available: https://airdna-website-reports.s3.amazonaws.com/industry-reports/AirDNA-Outlook-Report.pdf?hsCtaTracking=da4363e8-c4d0-4a83-9b49-28de2249cf40%7Ccfbe4aa2-6cd5-4950-acb9-58dcf76c5e3a.

Amaro, S., Andreu, L. & Huang, S. 2019. Millenials' intentions to book on Airbnb. *Current Issues in Tourism*. 22(18):2284–2298. DOI: 10.1080/13683500.2018.1448368.

Barnhart, B. 2021. *Social media demographics to inform your brand's strategy in 2021*. Available: https://sproutsocial.com/insights/new-social-media-demographics/.

Belarmino, A., Whalen, E., Koh, Y. & Bowen, J.T. 2019. Comparing guests' key attributes of peer-to-peer accommodations and hotels: mixed-methods approach. *Current Issues in Tourism*. 22(1):1–7. DOI: 10.1080/13683500.2017.1293623.

Beniger, J. 1986. *THE CONTROL REVOLUTION: TECHNOLOGICAL AND ECONOMIC ORIGINS OF THE INFORMATION SOCIETY*. Cambridge: Harvard University Press. Available: https://quod.lib.umich.edu/cgi/t/text/text-idx?c=acls;idno=heb01127.

Benítez-Aurioles, B. 2018. Why are flexible booking policies priced negatively? *Tourism Management*. 67:312–325. DOI: 10.1016/j.tourman.2018.02.008.

Betz, N.E., Weber, E.U. & Blais, A.-R. 2002. Weber_et_al-2002-Journal_of_Behavioral_Decision_Making. *Journal of Behavioral Decision Making*. 290(August):263–290.

Brannen, J. & Moss, G. 2012. Critical Issues in Designing Mixed Methods Policy Research. *American Behavioral Scientist*. 56(6):789–801. DOI: 10.1177/0002764211433796.

Bridges, J. & Vásquez, C. 2018. If nearly all Airbnb reviews are positive, does that make them meaningless? *Current Issues in Tourism*. 21(18):2065–2083. DOI: 10.1080/13683500.2016.1267113.

Brochado, A., Troilo, M. & Shah, A. 2017. Airbnb customer experience: Evidence of convergence across three countries. *Annals of Tourism Research*. 63:210–212. DOI: 10.1016/j.annals.2017.01.001.

Chang, W. & Wang, J. 2018. Electronic Commerce Research and Applications Mine is yours ? Using sentiment analysis to explore the degree of risk in the sharing economy. *Electronic Commerce Research and Applications*. 28:141–158. DOI: 10.1016/j.elerap.2018.01.014.

Chen, X., Cheah, S. & Shen, A. 2019. Empirical Study on Behavioral Intentions of Short-Term Rental Tenants—The Moderating Role of Past Experience. *Sustainability*. 11(12):3404. DOI: 10.3390/su11123404.

Cheng, M. & Jin, X. 2019. What do Airbnb users care about? An analysis of online review comments. *International Journal of Hospitality Management*. 76(May 2018):58–70. DOI: 10.1016/j.ijhm.2018.04.004.

Combs, J., Kerrigan, D. & Wachsmuth, D. 2020. Short-term rentals in Canada: Uneven growth, uneven impacts. *Canadian Journal of Urban Research*. 29(1):119–134.

Crommelin, L., Troy, L., Martin, C. & Pettit, C. 2018. Is Airbnb a Sharing Economy Superstar? Evidence from Five Global Cities. *Urban Policy and Research*. 36(4):429–444. DOI: 10.1080/08111146.2018.1460722.

DiPasquale, D. & Wheaton, W.C. 1992. The Markets for Real Estate Assets and Space: A Conceptual Framework. *Real Estate Economics*. 20(2):181–198. DOI: 10.1111/1540-6229.00579.

Eurostat. 2021. *Short-stay accommodation offered via online collaborative economy platforms*. Available: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Short-stay_accommodation_offered_via_online_collaborative_economy_platforms#More_than_one_in_three_guest_nights_was_spent_in_the_peak_months_July_and_August.

Fagerstrøm, A., Pawar, S., Sigurdsson, V., Foxall, G.R. & Yani-de-Soriano, M. 2017. *Accepted Manuscript*. DOI: 10.1016/j.chb.2017.02.029.

Feng, T. 2010. Property-Level Performance Attribution: Demonstrating a Practical Tool for Real Estate Investment Management Diagnostics. University of Southern California Submitted. DOI: 10.1017/CBO9781107415324.004.

Fields, D. 2019. Automated landlord: Digital technologies and post-crisis financial accumulation. *Environment and Planning A*. A(0):1–22. DOI: 10.1177/0308518X19846514.

Fourcade, M. & Healy, K. 2017. Seeing like a market. *Socio-Economic Review*. 15(1):9–29. DOI: 10.1093/ser/mww033.

French, N. 2001. Decision theory and real estate investment: An analysis of the decision-making processes of real estate investment fund managers. *Managerial and Decision Economics*. 22(7):399–410. DOI: 10.1002/mde.1029.

Friedman, S. 2020. *How corruption in South Africa is deeply rooted in the country's past and why that matters*. Available: https://theconversation.com/how-corruption-in-south-africa-is-deeply-rooted-in-the-countrys-past-and-why-that-matters-144973.

Gallarza, M.G. & Saura, I.G. 2006. Value dimensions, perceived value, satisfaction and loyalty: An investigation of university students' travel behaviour. *Tourism Management*. 27(3):437–452. DOI: 10.1016/j.tourman.2004.12.002.

GGA. 2019. *GOOD GOVERNANCE AFRICA*. Available: https://cisp.cachefly.net/assets/articles/attachments/78248_gga_gpi_2019_final_25_april_2019.pdf.

Gibbs, C., Guttentag, D., Gretzel, U., Morton, J. & Goodwill, A. 2018. Pricing in the sharing economy: a hedonic pricing model applied to Airbnb listings. *Journal of Travel and Tourism*

Marketing. 35(1):46–56. DOI: 10.1080/10548408.2017.1308292.

Guesty. 2019. *5 Ways to Evaluate Your Market for Short-Term Rental Potential*. DOI: https://www.guesty.com/guestyversity/evaluate-your-market-for-short-term-rental-potential/.

Guesty. 2021. *The State of Confidence in the Short-Term Rental Ecosystem Table of Contents*. Available: https://lp.guesty.com/hubfs/Guestys_Short-Term-Rental_Industry_Report_March-2021.pdf?utm_campaign=Organizational Efficiency Guide&utm_medium=email&_hsmi=112894163&_hsenc=p2ANqtz-_hq3MwomUVe09iPFno82FaG7Nw7Bjn4azJB9UqeXMwwD7KBKpGKgKuOdGe7PpWBtGoVboHPHLuzMz.

Gunter, U. & Önder, I. 2017. Determinants of Airbnb demand in Vienna and their implications for the traditional accommodation industry. *Tourism Economics*. 24(3):270–293. DOI: 10.1177/1354816617731196.

Guttentag, D. 2015. Airbnb: disruptive innovation and the rise of an informal tourism accommodation sector. *Current Issues in Tourism*. 18(12):1192–1217. DOI: 10.1080/13683500.2013.827159.

Guttentag, D. 2019. Progress on Airbnb: a literature review. *Journal of Hospitality and Tourism Technology*. 10(3):233–263. DOI: 10.1108/JHTT-08-2018-0075.

von Hoffen, M., Hagge, M., Betzing, J.H. & Chasin, F. 2018. Leveraging social media to gain insights into service delivery: a study on Airbnb. *Information Systems and e-Business Management*. 16(2):247–269. DOI: 10.1007/s10257-017-0358-7.

Johnson, A.-G. & Neuhofer, B. 2016. Airbnb – an exploration of value co-creation experiences in Jamaica. *International Journal of Contemporary Hospitality Management*.

Kaplan, R.A. & Nadler, M.L. 2015. Airbnb: A case study in occupancy regulation and taxation. *The University of Chicago Law Review Dialogue*. 82:103–115. Available: http://heinonline.org/hol-cgi-bin/get_pdf.cgi?handle=hein.journals/uchidial82&section=8.

Liang, L.J., Choi, H.C. & Joppe, M. 2018. Understanding repurchase intention of Airbnb consumers: perceived authenticity, electronic word-of-mouth, and price sensitivity. *Journal of*

Travel and Tourism Marketing. 35(1):73–89. DOI: 10.1080/10548408.2016.1224750.

Lutz, C. & Newlands, G. 2018. Consumer segmentation within the sharing economy: The case of Airbnb. *Journal of Business Research*. 88(December 2017):187–196. DOI: 10.1016/j.jbusres.2018.03.019.

Macdonald, S. & Headlam, N. 2008. *Research methods handbook : introductory guide to research methods for social research*.

Magno, F., Cassia, F. & Ugolini, M.M. 2018. Accommodation prices on Airbnb: effects of host experience and market demand. *TQM Journal*. 30(5):608–620. DOI: 10.1108/TQM-12-2017-0164.

Malherbe, P. 2019. Airbnb dra R9,7 mjd. tot SA ekonomie by. *Netwerk24*. 29 July: 29 Julie 15:14. Available: https://www.netwerk24.com/Sake/Ekonomie/airbnb-dra-r97-mjd-tot-sa-ekonomie-by-20190729.

Mashvisor. 2021. *Real Estate Analytics for Your Investment Decisions*. Available: https://www.mashvisor.com/product.

Mcgreal, S., Adair, A., Mcburney, D., Patterson, D., Mcgreal, S., Adair, A., Mcburney, D. & Patterson, D. 1998. Neural networks: the prediction of residential values"; Journal of Property Valuation and Investment. *Journal of Property Valuation and Investment*. 16 Iss 1 p.

Mittendorf, C. & Mittendorf, C. 2018. Collaborative consumption : the role of familiarity and trust among Millennials. DOI: 10.1108/JCM-12-2016-2040.

Morad, D., Smith, D., Hanak, P. & Rosenblum, T. 2021. How to stand out in an oversaurated space: Guesty Webinar. In *Millennial approach to tradistional marketing*. 9 June. Available: https://www.guesty.com/blog/be-our-guesty-how-to-stand-out-in-an-oversaturated-space/.

Nguyen, L.S., Correa, S.R., Mast, M.S. & Gatica-perez, D. 2017. Check Out This Place : Inferring Ambiance from Airbnb Photos. 11(4). DOI: 10.1109/TMM.2017.2769444.

Nilsson, P. 2019. Prediction of residential real estate selling prices using neural networks. Available: http://www.nada.kth.se/~ann/exjobb/pontus_nilsson.pdf.

Numbeo. 2021. *NUMBEO*. Available: https://www.numbeo.com/property-investment/in/Mossel-Bay-South-Africa.

Odubiyi, T.B., Oguntona, O.A., Oshodi, O.S., Aigbavboa, C.O. & Thwala, W.D. 2019. Impact of Security on Rental Price of Residential Properties: Evidence from South Africa. *IOP Conference Series: Materials Science and Engineering*. 640(1). DOI: 10.1088/1757-899X/640/1/012001.

Oeser, N. 2016. Measuring Decision-Analytical Competence - A Psychometric Online Performance Test. (June):254. Available: http://files/3203/Oeser - Measuring Decision-Analytical Competence - A Psych.pdf%0Ahttp://files/8389/Oeser - Measuring Decision-Analytical Competence - A Psych.pdf%0Ahttp://files/10666/Oeser - Measuring Decision-Analytical Competence - A Psych.pdf.

Oskam, J., van der Rest, J.P. & Telkamp, B. 2018. What's mine is yours—but at what price? Dynamic pricing behavior as an indicator of Airbnb host professionalization. *Journal of Revenue and Pricing Management*. 17(5):311–328. DOI: 10.1057/s41272-018-00157-3.

Paulauskaite, D., Powell, R., Coca-Stefaniak, J.A. & Morrison, A.M. 2017. Living like a local: Authentic tourism experiences and the sharing economy. *International Journal of Tourism Research*. 19(6):619–628. DOI: 10.1002/jtr.2134.

Redi, M., Quercia, D., Graham, L.T. & Gosling, S.D. 2015. Like partying? Your face says it all. Predicting the ambiance of places with profile pictures. *Proceedings of the 9th International Conference on Web and Social Media, ICWSM 2015*. 347–356.

Rode, E.G. & Lamprecht, K. 2021. *Rode's report 2021:1*.

Rodriquez, S. 2020. *Airbnb hosts are building their own direct booking websites in revolt*. Available: https://www.cnbc.com/2020/05/06/airbnb-hosts-are-building-their-own-direct-booking-websites-in-revolt.html.

Roelofsen, M. 2018. Performing "home" in the sharing economies of tourism: The airbnb experience in Sofia, Bulgaria. *Fennia*. 196(1):24–42. DOI: 10.11143/fennia.66259.

SAPS. 2019. *CRIME SITUATION IN REPUBLIC OF SOUTH AFRICA TWELVE (12) MONTHS (APRIL TO MARCH 2018_19)*. Available: https://www.saps.gov.za/services/april_to_march2018_19_presentation.pdf.

Saunders, M., Thornhill, A. & Lewis, P. 2019. Understanding research philosophy and approaches to theory development Learning. In *Research Methods for Business Students*.

Stats SA. 2020. *Tourism 2019*. Available: http://www.statssa.gov.za/publications/Report-03-51-02/Report-03-51-022019.pdf.

Sthapit, E. & Jiménez-Barreto, J. 2018. Sharing in the host–guest relationship: perspectives on the Airbnb hospitality experience. *Anatolia*. 29(2):282–284. DOI: 10.1080/13032917.2018.1448876.

Sweeney, J.C. & Soutar, G.N. 2001. Consumer perceived value: The development of a multiple item scale. *Journal of Retailing*. 77(2):203–220. DOI: 10.1016/S0022-4359(01)00041-0.

Tabales, N., Julia, M., Ocerin, C., María, J., Carmona, R. & Francisco, J. 2013. Artificial neural networks for predicting real estate prices.

The Heritage Foundation. 2021. *Economic freedom*. Available: https://www.heritage.org/index/visualize?cnts=southafrica&type=3.

Tussyadiah, I.P. & Pesonen, J. 2018. Drivers and barriers of peer-to-peer accommodation stay–an exploratory study with American and Finnish travellers. *Current Issues in Tourism*. 21(6):703–720. DOI: 10.1080/13683500.2016.1141180.

Tussyadiah, I.P. & Zach, F. 2017. Identifying salient attributes of peer-to-peer accommodation experience. *Journal of Travel and Tourism Marketing*. 34(5):636–652. DOI: 10.1080/10548408.2016.1209153.

Varma, A., Jukic, N., Pestek, A., Shultz, C.J. & Nestorov, S. 2016. Airbnb : Exciting innovation or passing fad ? *Tourism Management Perspectives*. 20:228–237. DOI: 10.1016/j.tmp.2016.09.002.

Visser, G., Erasmus, I. & Miller, M. 2017. Airbnb: The emergence of a new accommodation type in Cape Town, South Africa. *Tourism Review International*. 21(2):151–168. DOI: 10.3727/154427217X14912408849458.

Wallrabenstein, D. 2018. *1. Generations on the Move*. DOI: 10.14361/9783839439869-003.

Wilkinson, S. & Wilkinson, C. 2018. 'Working from home': academics and Airbnb, an autoethnographic account. *North West Geography*. 8(1):1–8.

Wooldridge, J.M. 2018. *Econometrics Introductory: a modern approach*.

WTTC. 2021. *World travel & Tourism Council. South Africa 2021 Annual Research: Key Highlights*. Available: https://wttc.org/Research/Economic-Impact.

Wu, J., Ma, P. & Xie, K. 2017. "In sharing economy we trust: the effects of host attributes on short-term rental purchases", International Journal of Contemporary Hospitality Management. *International Journal of Contemporary Hospitality Management*. 34(1):1–5. Available: https://doi.org/10.1108/IJCHM-08-2016-0480.

Xiang, Z., Magnini, V.P. & Fesenmaier, D.R. 2015. Information technology and consumer behavior in travel and tourism: Insights from travel planning using the internet. *Journal of Retailing and Consumer Services*. 22:244–249. DOI: 10.1016/j.jretconser.2014.08.005.

Xie, K., Mao, Z. (Eddie) & Wu, J. 2019. Learning from peers: The effect of sales history disclosure on peer-to-peer short-term rental purchases. *International Journal of Hospitality Management*. 76(April):173–183. DOI: 10.1016/j.ijhm.2018.05.007.

APPENDIX A: GUTTENTAG (2019), TEXT-MINING RESULTS

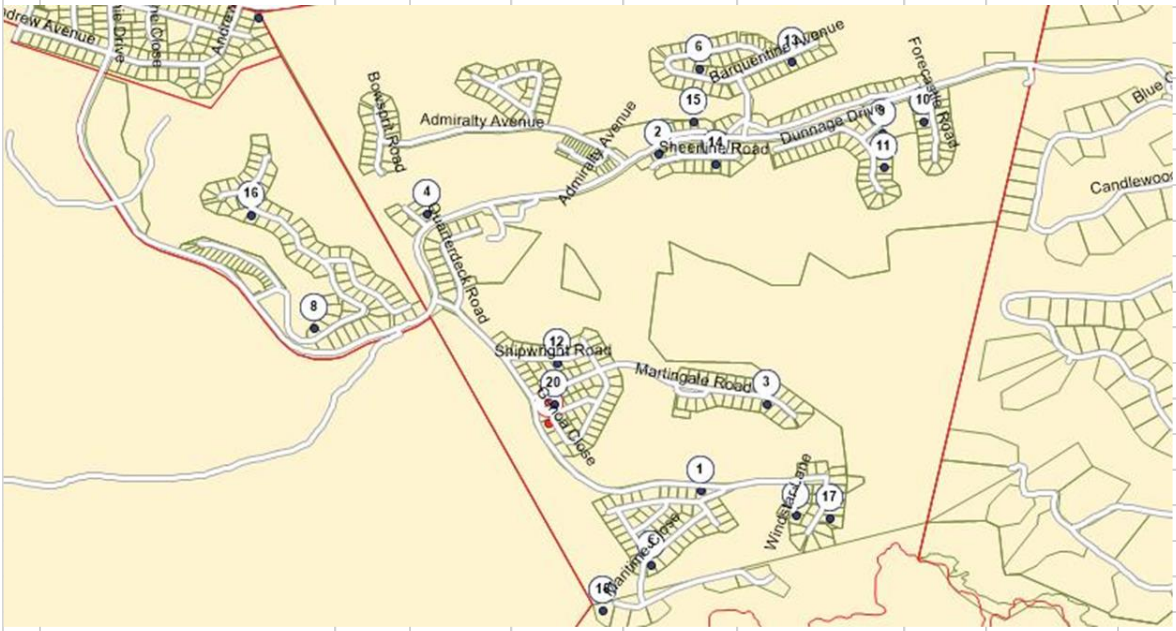
Summary from text-mining on referenced literature discussed in Guttentag (2019) paper

	location - in vs out of city centre		price / income	household amenities + smoke, carbon, fire, first aid	authentic	social interaction	novelty	privacy/trust host/ services	accommodations type - not room sharing	local culture	control/ online/ reviews	the unique experience / authenticity leisure	traveling plus 1	pleasure vs attractions	older - educated	security/ safety / risk	photo quantity property / profile	reviews
Total count	**8**	**14**	**20**	**19**	**6**	**5**	**3**	**19**	**8**	**3**	**8**	**9**	**3**	**2**	**3**	**8**	**6**	**3**
Literature based on Airbnb guests views	3	10	13	12	4	3	2	14	4	3	7	5	2	2	2	4	4	1
Why choose Airbnb and not a hotel?																		
Guttentag's (2015)			5	5	5													
Sthapit and Jiménez-Barreto (2018a) interviewed	5		5															
Guttentag et al. (2018)	5		5	5	3	3	3											
Paulauskaite et al. (2017)			5		3			3	3	3								
Amaro et al. (2018)			5								5	5						
So et al.'s (2018)						5					5							
Yang et al. (2018)								5										
Volgger et al. (2018) compared		5											5	5				
Poon and Huang (2017)			5												5	5		
How guests choose accommodation - listing attributes	0	8	6	9	0	0	0	11	2	1	4	3	0	0	0	2	3	0
Gunter and Önder (2018)			5					5									5	
Visser et al. (2017)		5	5	5														
Varma et al. (2016)		5	5	5							5							
Abrate and Viglia (2017)								5			3						3	
Liang et al. (2017)								5										
Liang et al. (2017) examined								5			5							
Zhang et al. (2018)			5	5														
Chang and Wang (2018)			5	5							5							
Ert et al. (2016)			5					5									5	
Airbnb guest experience - actual staying - positive comments on reviews																		
Cheng and Jin (2019)		5		5				5										
Tussyadiah and Zach (2017)		5		5				5	5									
von Hoffen et al. (2018)		5		5				5										
Camilleri and Neuhofer (2017)		5		5				5	5									
Belarmino et al. (2017)		5						5		5		5				5		
Sthapit and Jiménez-Barreto (2018)		-5		-5				-5				-5						
Birinci et al. (2018)												5				5		
Literature based on Airbnb Host views	5	4	7	7	2	2	1	5	4	0	1	4	1	0	1	4	2	2
Hosts' motivations																		
Karlsson and Dolnicar (2016)			5	5		5										5		
Visser ed al. (2017)			5			5										5		
Hosts' experiences, strategies and conduct - autoethnographic																		
Malazizi et al. (2018)								-5			5					5		
Roelofsen (2018)				-5	5			-5										
Wilkinson & Wilkinson (2018)					5			5										
Gunter (2018)																		5
Karlsson et al. (2017)								5									5	
Airbnb accommodation pricing.																		
Gibbs et al. (2018), Aznar et al. (2018), Chen and Xie (2017), Kaker et al. (2018)	-5		5	5			5	5					5		5	5	5	5
Airbnb supply and its impacts on destinations - location																		
Abdar and Yen (2017), Crommelin et al. (2018), Adamiak (2018), Kennedy et al. (2018)	5	-3	5	5					5			5						

Table I. A summery of text and/or word mining to identify occurrence in the literature with respect to the sharing economy of peer-to-peer lodging.
Note: The value do relate to importance where 5 is very important and 3 is of a lesser importance. The -5 and -3 is identify as specifically not important and lesser.

APPENDIX B: LIST OF COMPARISON SALES FOR 5 GENOA CLOSE, PEZULA

#	Suburb	Erf	Portion	Sales Date	Transfer Date	Sales Price	Size (m2)	Distance	
1	PEZULA GOLF ESTATE	12453	0	20210311	20210510	8 900 000,00	965.0	454	☑
2	PEZULA GOLF ESTATE	12015	0	20210323		6 300 000,00	1058.0	900	☐
3	PEZULA GOLF ESTATE	12230	0	20200828	20210120	5 000 000,00	1141.0	578	☐
4	PEZULA GOLF ESTATE	11033	0	20201221	20210219	4 300 000,00	1109.0	736	☑
5	PEZULA GOLF ESTATE	12433	0	20200920	20201201	6 600 000,00	1186.0	526	☑
6	PEZULA GOLF ESTATE	11138	0	20210218		3 600 000,00	1185.0	1191	☐
7	PEZULA GOLF ESTATE	12497	0	20190717	20200127	3 500 000,00	1195.0	714	☐
8	FERNWOOD	15361	0	20210125	20210305	1 150 000,00	1125.0	683	☑
9	PEZULA GOLF ESTATE	11231	0	20210326		3 900 000,00	948.0	1272	☐
10	PEZULA GOLF ESTATE	11240	0	20210409		3 700 000,00	1016.0	1373	☐
11	PEZULA GOLF ESTATE	11226	0	20200831	20201120	5 300 000,00	922.0	1198	☐
12	PEZULA GOLF ESTATE	12261	0	20200222	20200804	2 980 000,00	761.0	190	☑
13	PEZULA GOLF ESTATE	11119	0	20201116	20210305	4 370 000,00	1000.0	1309	☑
14	PEZULA GOLF ESTATE	12028	0	20200115	20200624	4 800 000,00	969.0	931	☐
15	PEZULA GOLF ESTATE	12321	0	20200618	20200908	7 000 000,00	1925.0	1028	☑
16	FERNWOOD	15377	0	20210125	20210305	1 150 000,00	1147.0	1022	☑
17	PEZULA GOLF ESTATE	12483	0	20201130	20210210	14 600 000,00	1899.0	800	☑
18	PEZULA GOLF ESTATE	12410	0	20210118	20210315	7 400 000,00	3259.0	610	☑
19	REXFORD	6204	0	20200804	20201014	3 990 000,00	1139.0	1493	☑
20	PEZULA GOLF ESTATE	12303	0	20181001	20181204	3 700 000,00	660.0	62	☐



APPENDIX C: DASHBOARD OF THE PURPOSE-BUILD DECISION-MAKING MODEL

		Already viewed			Best/Most											
		Not viewed			Worst /Less											
													Rent Ratio - 1 year			
	Agg	Location	Status	Adress	Asking Price (AR)	% of AR	M2	R/M2	Beds	BathR	5YG (avg)	NOI	ROI	Total Cost	R Availible	
1	Tiaan Schu	Pinnacle Point	Sold	81 Fynbos Village	4 200 000,00	3 990 000,00	289	13 806,23	4	1	5,36%	131 524,96	26,82%	5 782 789,00	10 960,41	
2	Neil Tucke	Oubaai S		11 Ocean Vista S	5 000 000,00	4 750 000,00	475	10 000,00	4	4	4,54%	333 600,00	7,74%	5 826 930,65	27 800,00	
3	Alex	Pezula		scanteling	4 950 000,00	4 702 500,00	360	13 062,50	0	4	4,54%	330 936,00	26,79%	5 774 205,65	27 578,00	
4	tiaan Schu	Pinnacle	Sold	207 Pinnacle drive	6 400 000,00	5 952 000,00	350	17 005,71	5	5	4,20%	353 640,00	23,40%	6 761 150,65	29 470,00	
5	Eben Mey	Pinnacle		50 Birdie Drive	5 300 000,00	5 035 000,00	320	15 734,38	4	5	4,37%	240 600,00	6,07%	5 943 280,65	20 050,00	
6	Tiaan Schu	Pinnacle	Sold	51 Bogey Street	5 200 000,00	5 200 000,00	400	13 000,00	4	4	4,22%	320 652,00	7,43%	5 926 430,65	26 721,00	
7	Anita	Pinnacle Point		123 Eastwod drive	6 850 000,00	6 507 500,00	380	17 125,00	4	6	4,08%	441 400,00	8,17%	7 178 169,65	36 783,33	
8	Eben Mey	Pinnacle point		90 Divot Drive	5 150 000,00	4 995 500,00	300	16 651,67	3	2	4,52%	274 537,00	6,52%	6 099 435,65	22 878,08	
9	Alex	Pezula		382 Fairlead	6 900 000,00	6 348 000,00	463	13 710,58	4	4	4,08%	337 884,00	6,84%	7 001 124,65	28 157,00	
10	Willie Jout	Oubaai	Sold	6 Ocean side	6 000 000,00	5 700 000,00	553	10 307,41	5	6	4,34%	169 680,00	4,56%	6 681 430,65	14 140,00	
11	Niel Tucke	Oubaai		1238 Ocean Vista	5 000 000,00	4 750 000,00	475	10 000,00	4	4	4,62%	432 204,00	9,31%	5 926 930,65	36 017,00	
12	Alex	Pezula		5 Genoa	4 500 000,00	4 185 000,00	300	13 950,00	4	4	4,86%	342 288,00	8,24%	5 499 780,65	28 524,00	
13	Ling	Pezula		12 Square Rigger	6 600 000,00	5 738 000,00	356	16 117,98	4	4	4,40%	347 784,00	7,12%	6 823 610,65	28 982,00	
14	Norma 2	Pezula		5 WIndstar	5 975 000,00	5 676 250,00	347	16 358,07	4	4	4,21%	331 692,00	7,16%	6 455 068,15	27 641,00	
15	Norma	Pezula	Sold	Norma 1	3 999 999,00	3 799 999,05	323	11 764,70	5	4	4,94%	276 684,00	7,47%	5 071 887,95	23 057,00	
16	Alex	Pezula		6 Dunnage Drive,	5 300 000,00	5 035 000,00	428	11 764,02	5	4	4,32%	453 960,00	9,75%	5 873 430,65	37 830,00	
17	Norma	Pezula		31 Commodore	4 650 000,00	4 417 500,00	339	13 030,97	4	4	4,32%	295 236,00	7,74%	5 157 855,65	24 603,00	
18	Norma	Pezula		3 Windstar ????	4 250 000,00	4 037 500,00	300	13 458,33	4	3	4,61%	260 340,00	7,19%	5 036 055,65	21 695,00	
19	Tiaan	Pinacle		121 Divot	7 000 000,00	2 400 000,00	600	4 000,00	6	4	0,04	613 776,00	23,6%	2 846 245,09	51 148,00	
20																
data'!A1																
r!A1				Min	Norma 1	121 Divot	81 Fynbos	121 Divot			382 Fairl	81 Fynbos Villa	6 Ocean sid	121 Divot	81 Fynbos Vill	
					15	19	1	19			9	1	10	19	1	
				Max	121 Divot	23 Eastwod driv	121 Divot	23 Eastwod drive			81 Fynbos Vil	121 Divot	Fynbos Villa	23 Eastwod driv	121 Divot	
					19	7	19	7			1	19	1	7	19	
				Adress	Asking Price (AR)	% of AR	M2	R/M2	Beds	BathR	5YG (avg)	NOI	ROI	Total Cost	R Availible	
		Best/lagest			15	19	19	19				19	10	7	19	
		Worst/smallest			19	7	1	7				1	1	19	1	