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IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

**MAKING PROPERTY INVESTMENT DECISIONS IN A MARKET ENVIRONMENT WITH POOR  
TRANSPARENCY**

By

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### ABSTRACT

Access to reliable property market information for property valuation, property development appraisal, investment analysis and property investment decision-making remains a challenge in many emerging countries. Property investors in emerging markets face a significant gap in access and availability of reliable property market information but still make optimal investment decisions. The study examines how investors make property investment decisions in emerging property markets with poor market transparency. Despite most African being characterised as emerging markets, limited research has been conducted to establish how property investment decisions are made in such markets. Therefore, this research's primary objective is to address the question, "how do investors make a property investment decision in an emerging property market like Malawi characterised by poor transparency?" An in-depth study of relevant literature and a qualitative research approach, through semi-structured interviews, was undertaken with property investors in Malawi (the unit of analysis) was followed to answer the research question.

The outcome of the semi-structured interviews was coded from which critical themes were developed. This study found that investors in Malawi use a similar decision-making structure / mechanism as those in more transparent property markets; however, the depth of information is different.

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**LIST OF ABBREVIATIONS**

<b>COVID-19</b>	Coronavirus Disease 2019
<b>CAPM</b>	Capital Asset Pricing Model
<b>EMH</b>	Efficient Market Hypothesis
<b>GRETI</b>	Global Real Estate Transparency Index
<b>JLL</b>	Jones Lang LaSalle
<b>IRR</b>	Internal Rate of Return
<b>MPT</b>	Modern portfolio Theory
<b>NPV</b>	Net Present Value
<b>REEFM</b>	Real Estate Econometric Forecast Model
<b>REITs</b>	Real Estate Investment Trusts
<b>UK</b>	United Kingdom

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## CHAPTER 1: INTRODUCTION TO RESEARCH TOPIC

### 1.1 Chapter Introduction

Access to reliable property market information for property valuation, property development appraisal, investment analysis and property investment decision-making remains a challenge in many emerging countries. Onwuanyi (2020) asserts that property market data is vital to provide economic players with tools to make sound investment decisions. Onwuanyi (2020) further underscores the importance of property data as a crucial economic variable for rational property investment decision-making. This raises a question on whether rational decisions can be made without property data. Ease of access and availability of property market data is significant for an efficient Malawi property market. In addition, the availability of reliable property market data creates a palatable environment to make accurate property valuations, portfolio performance assessments and optimal investment decisions.

Namangale and Chimalizeni (2021) noted that although the valuation profession has been operating for over six decades, access to reliable property market data remains challenging even in the most transparent markets. They further add that the limited data available is held privately by specific valuers within the property market. Kabanga and Mooya (2018) reiterate that there is limited to no reliable property market data available for calculating compensation valuations in Malawi, based on the market value basis. This suggests that it is difficult to make sensible, rational decisions. Hence, because of a lack of data, valuers, investors, and policy makers they nevertheless make rational decisions with the limited data that they have.

The government of Malawi envision a middle-income economy by the year 2063. Both public and private property investors have an important role to play in attaining the goal. A clear understanding of how markets operate and how investors make property investment decisions in an environment with limited property market information is critical to attaining this goal. Further, this research fills the gap in the literature on emerging market research and informs policymakers and investors on how to operate in these markets. This research explores how property investors

make investment decisions in emerging market environments with poor market transparency, as is the case in Malawi<sup>1</sup>.

### 1.2 Background of the study

Much economics relies on decision-makers making optimal decisions based on reliable data. Investment decisions are considered purposefully rational decisions based on the availability of relevant market information (Gitau *et al.*, 2019; Scholar, 2020). Property Investors follow a specific process or methodology to make an investment decision. Tan *et al.* (2018) assert that investors' decision process involves the analysis of the value of costs and return of an investment to arrive at a rational decision. This decision process consists of both quantitative and qualitative aspects. The quantitative elements involve the mathematical processing and analysis of financial and economic information/ data related to the investment under consideration. The qualitative side deals with the behavioural qualities of investors that come into play during the decision-making. An optimal interplay of the quantitative and qualitative elements in property investment decision-making allows an investor to arrive at a decision that will maximise return.

Neoclassical economics theory holds that economic agents always make rational choices based on reliable data when making investment decisions. This presupposes that the economic agent will have full access to property market information that will aid them in making a rational decision. For example, the capital asset pricing model advanced by Sharpe (1977) suggests that investors have access to all required information, among other things, on expected returns, variances and co-variances of all securities in a market. He adds that economic players make optimal portfolio decisions upon analysing all this information. In addition, the theory suggests that property markets operate efficiently with easy access to information.

Construction costs, property values, vacancy rates, yields, and returns reflect the market activities, and any change in the market information will adjust accordingly. Neoclassical economics theory suggests that property investors are rational players and operate in an efficient property market environment. Gallimore *et al.* (2000) reasoned that these theories frame property investors as rational agents and their decision-making process highly structured and formalised. Furthermore,

the theory assumes that quantitative evaluation approaches significantly impact property investment decision-making and behaviour.

In most developing property markets, with Malawi being an example, reliable information is limited and sometimes unavailable for investors to make rational decisions. Despite the limited availability of reliable property market information, asset managers, pension fund managers, corporates and other investors continue to make property investment decisions. In such environments with limited data, it is tough for investors to make rational decisions as proposed by Neoclassical economics. Neoclassical economics theory in reflecting how emerging property markets operate and how investors make property investment decisions.

To better understand the operations of emerging property markets and investors operating in these markets, behavioural economics potentially provides a better lens to understanding the dynamics at play . Baddeley (2018) argues that behavioural economic theory offers a better understanding tool for an investor's decision-making process in uncertain market environments than the rational choice theory under Neoclassical economics. Salzman and Zwinkels (2017) further argues that the investor decision-making process departs from the literature normative decision models, despite operating in a more efficient market owing to neoclassical model needs for a large amount of information and analysis. Kahneman (2011) contends that investors make general investment decisions in environments with limited information available, which are favourable and logical. This research argues that in environments of poor market transparency, investors make decisions based on non-quantitative data and are therefore disadvantaged in making rational investment decisions.

Little to no research has been undertaken in this field to understand how property markets in emerging property market's function and how investors operate in these markets. Literature has only focused on property markets, market information on the non-availability of market information for valuers, and the implementation of automated valuation models and compensation assessments (Kabanga and Mooya, 2018; Onwuanyi, 2020; Namangale and Chimalizeni, 2021). This study will provides insight of how these markets with limited transparency

operate and how economic players, especially in the property sector, operate in the Malawian property market.,

### 1.3 Problem Statement

Adams *et al.* (2012) noted that in much of the existing literature, property investment decisions are grounded in mainstream economics, advancing the preposition that numeric analysis of market information plays a significant role in decision-making. Mooya (2016) asserts that rational choice means that at any opportunity, an economic agent will choose an investment or property that maximises utility or return upon analysis of the property market information. Despite limited information on the Malawian property market with only one official Knight Frank property report published, property investors continue to make generalised investment decisions which are optimum within certain constraints. Currently, there is no clear comprehension of how the Malawian markets operates and how players make investment decisions.

### 1.4 Research Questions

1. How do investors make a property investment decision in an emerging property market like Malawi with poor transparency?
2. What type of information do property investors use in the decision-making process?
3. What are the sources of information that property investors use in decision-making?
4. What tools do property investors use to analyse or understand their market environment?
5. To what extent do property investors use behavioural approaches in commercial property investment decision-making?

### 1.5 Aim of the Research

This research explores how investors make property investment decisions in emerging market environments with poor market transparency.

### 1.6 Research Proposition

The proposition to be evaluated in this research is:

Property investors in emerging countries rely more on behaviour (qualitative) decision-making approaches in making property investment decisions that is the case in markets with poor levels of market transparency.

### 1.7 Research Objectives

- a) Explore how investors make property investment decisions in the Malawi commercial property market, which has poor transparency.
- b) Determine the information that property investors use in the decision-making process.
- c) Establish the source of information that property investors use in decision-making.
- d) Explore how property investors use behavioural approaches in commercial property investment decision-making.

### 1.8 Research Methodology

The above research objective has been achieved by adopting the following research method:

- a. An in-depth literature review of scholarly material related to the research questions.
- b. The study used a semi-structured interview methodology to collect data from Malawi property investors on how they made investment decisions, what information they used and what sources of the information were.
- c. Thematic analysis and interpretation of the collected interview data.

### 1.9 Limitations

This study was subject to the following limitations:

- a. The research study was limited to the commercial property market sector.

- b. The property actors were limited to institutional property investors.
- c. The research was limited to Malawi's commercial property market.

### 1.10 Structure of Research Report

The research report is organised into five chapters. **Chapter 1** is a brief outline of the research topic followed by a concise statement of the research problem, the research questions, and the research proposition. The aim and objectives of the research are defined, and a succinct description of the research methodology is provided.

**Chapter 2** predominantly addresses the current discussion in the literature on property investment decision-making and market dynamics and transparency in real estate research.

**Chapter 3** draws together the principal issues raised in the previous chapters and proposes a qualitative research design approach to help the research questions - how do investors make property investment decisions in property markets with poor market transparency? What type of information and what sources of that information do they use?

**Chapter 4** analyses, interprets, and discusses findings from interview data.

**Chapter 5** presents the conclusion and recommendations for further research based on the analysis and discussion in chapter 4.

After Chapter 5 follows a list of references for the research report and an appendix containing the interview research instruments and research ethics approval.

## CHAPTER 2: LITERATURE REVIEW

### 2.1 Chapter Introduction

The purpose of this chapter is to critically analyse the literature related to property markets, their players and how investors make investment decisions. The chapter begins with an explanation of the theoretical frameworks that inform the understanding the property market and the behaviour of market players. It then proceeds to discuss the general theories in understanding property markets, and analyses literature on investor decision-making. The chapter then summarises themes from proposed normative decision-making models and evaluates how decisions are made in countries with established transparency and accessible data on their property market.

### 2.2 Theoretical Frameworks

Property investment decisions profoundly impact societal productivity and economic growth (Lowies *et al.*, 2016). Investment decision processes and the methods used in acquiring market-related data are characterised by market environments. Neoclassical economics frame property markets as perfect markets with sound and reliable information with actors that are rational and optimise utility. institutional economics frameworks on the other hand presuppose that property markets are not perfect in a Neoclassical sense and that they operate within an institutional environment with actors' behaviour influenced by institutional arrangements. Though these two frameworks provide great insights into property market dynamics and the behaviour of actors, they do not provide a more comprehensive view of how investors make investment decisions in uncertain market environments. The literature review will further be informed by the principles of Game Theory to better understand investors' decision-making process in the commercial property investment game and Transaction Cost Theory to describe the market conditions.

Game Theory was pioneered by John Von Neuman in 1944 and popularised by John Nash in 1949, who used Game Theory to understand economic behaviour. In their introduction of the book *Game Theory*, Maschler *et al.* (2020: xxiii) referred to Game Theory as “the methodology of using mathematical tools to model and analyse situations of interactive decision making. These are situations involving several decision makers (called players) with different goals, in which the

decision of each affects the outcome for all the decision makers". Game Theory identifies economic agents as players in this study, classified as commercial property investors, developers, estate agents, banks, government, and tenants. In the investment process, investors operate in a Game Theoretical application in developing an investment strategy within the property market, and transaction costs influence their decision-making strategy. These transaction costs are what Mooya and Cloete (2007) refer to as all the cost that arises as investors interact in the property market. According to Seabrooke and How (2004: 4), transaction economics recognises two primary axioms "...that most transactions do not occur with perfect knowledge of all factors relevant to their outcome, and the process of transacting incurs a cost to overcome information deficits".

Investors incur transactional costs in their investment activity due to the property markets' heterogeneity and information asymmetry. Furthermore, investors within the property market pursue self-serving interests and make investment decisions based on anticipation of the actions of other market players. The property investment process presents itself as a game with institutional rules and players with strategies in an imperfectly competitive environment. The Game Theoretical framework provides an appropriate theory to inform the understanding of how investors behave in the "investment game" within the property market, and Transaction Theory offers a clearer understanding of the market environments investors face. It is challenging to distinctly comprehend investors' decision-making process without analysing the context in which they make investment decisions; hence, these theories that do not rely on the assumptions of neoclassical economics are critical to understanding property markets in an emerging country context.

The literature review further explores other theoretical frameworks for understanding property market dynamics and transparency and contextualisation of the property investor and their investment decision-making process. This is necessary to infer the market environments they operate in and the models they rely on in understanding their markets and making investment decisions.

### 2.2.1 Game Theory in Property Markets

The property market comprises numerous players, including property developers, investors, estate agents, the government, banks, and consumers. The decisions that each player makes based on the available information influence the decision and behaviour of other players. This property market dynamic mimics a game where players focus on maximising their interest in the market. Liu (2018) states that in maximising their interest, players in the property market consider the considerations and choices of other decision-makers within the property market - the property investment game. In studies of understanding economic agents' optimal decision-making with the influence of property environments, the game theory plays an important role. Eng Ong and Brown (2001) advance the idea that Game Theory applies to understand the broader information issues in property markets. Therefore, the availability or lack of property market information is a critical component of the property investment game and influences player behaviour.

Other researchers have employed Game Theory to understand different property market dynamics. For instance, Liu (2018) used Game theory to try to make sense of China's high real estate prices; Helsley and Strange (2008) applied Game Theory in an analysis of skyscrapers and the operation of urban real estate markets. Yue *et al.* (2012) utilised a Game Theoretical approach in explaining why housing prices are high in Hong Kong. Pfrang and Wittig (2008) applied Game Theory in developing a model for office lease negotiations between a landlord and tenant with behavioural aspects. Li *et al.* (2022) employed Game Theory to determine the property players' primary strategies and look at how developers and buyers play the property game in China. Grenadier (2000) analysed the connection of Game Theory and real options in investment, advancing the idea that real estate developers face competition from other developers and that their behaviour and decision making is dictated by the activities of alternative developers. In addition, Thakor (1991) raised a critical point that information limitation alters a player's behaviour in the property investment game. This is also true in property markets naturally characterised by information asymmetry, and how much more impact would it have on players behaviour in property markets with poor transparency.

### 2.3 Property Market dynamics

#### 2.3.1 Neoclassical Model view of the property market

Fischer-Di Pasquale Wheaton's four-quadrant model (DiPasquale and Wheaton, 1992) is the widely used framework for understanding the structure and dynamics of the property markets and the relationship that exists between the different markets. Du Toit and Cloete (2004) argue that the model provides an important conceptual tool that encompasses a full spectrum of endogenous and exogenous economic and real estate market variables, demonstrating the potential of explaining real estate dynamics. DiPasquale and Wheaton (1992) suggest that real estate markets are divided into the real estate space market and the real estate market for assets. DiPasquale and Wheaton (1992) further explain that tenant needs and the quality of buildings in supply are proxies for rent charged in the real estate space market. In the real estate asset market, the interplay of rent and property prices results in the capitalisation rate that influences the behaviour of investors to supply new buildings in the space market. The capitalisation rate is more critical in the commercial property market for market analysis and guiding investors in decision making. This research is situated in the real estate asset market as provided through DiPasquale and Wheaton (1992) with a particular focus on investors decision making.

To better understand the connection between the real estate space market and the real estate asset market, DiPasquale and Wheaton (1992) proposed a four-quadrant model. Ball *et al.* (2012) supports the four-quadrant model that the real estate market is best understood as a composition of four interlinked markets. DiPasquale and Wheaton (1992) four-quadrant model consists of four interlinked real estate markets - user market, financial assets, development, and urban land market. The user determines rental through the interplay of supply and demand, which enters the asset market as a proxy for determining property prices and capitalisation rates. The property prices generated in the asset market influence the creation of new stock to be supplied back into the market. The property and asset markets in the land market tend to be in equilibrium when there is a balance between the starting and ending stock (DiPasquale and Wheaton, 1992).

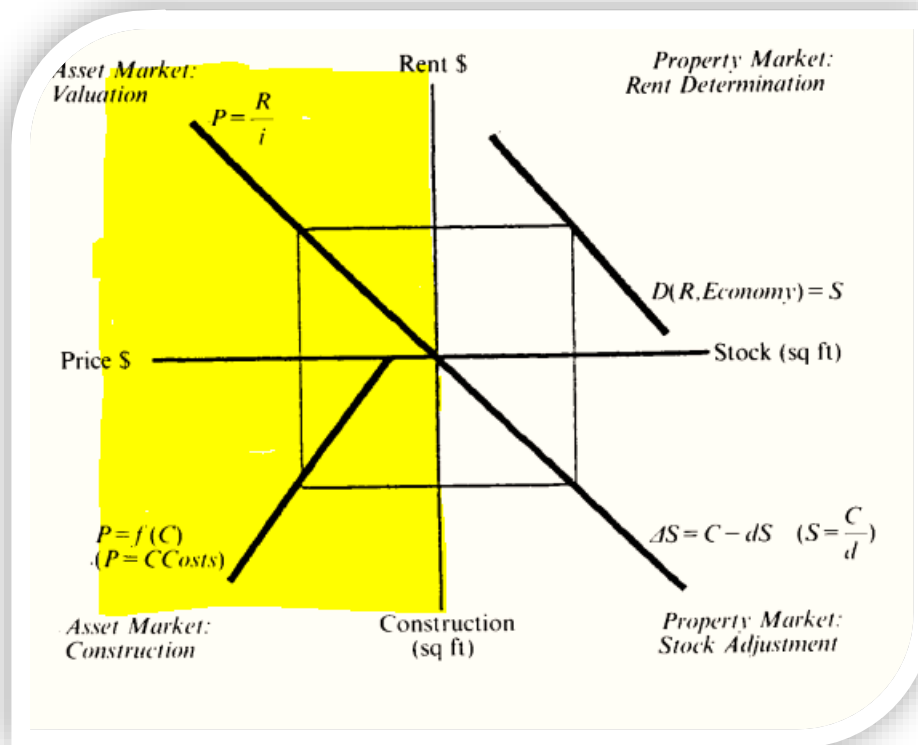


Figure 1. 4-quadrant model extract from DiPasquale and Wheaton (1992)

The shaded part of figure 1 (illustrated above) represents the real estate asset market with the valuation and construction quadrant. This is where property valuations are undertaken, and development decisions are made. The rent determination quadrant and the stock adjustment quadrant are within the space market. The letter D and S in the rent determination quadrant refer to demand for property and Supply of property respectively. In the valuation quadrant P stands for the price of property; R refer to rent the property can achieve and i stands for the yield. Further, C-cost in the Construction quadrant's stands for the cost of construction.

Curve D in the user market represents the faction of rent and the change in economy's condition that influence the interplay of demand and supply determine the rent as expressed  $D(R, Economy) = S$ . The rent determined in the Rent determination quadrant enters the Valuation quadrant to be compared against the price of properties to determine the yield. The  $P = R/i$  curve can also be rearranged to  $i = R/P$  to represent the ratio of rent and price that is a proxy in the investment decision-making process. In this quadrant, the capitalisation rate "i" is influenced by the broader

market interest rates and returns of all asset classes. In the construction quadrant, the curve  $P = f(C)$  [ or  $P = C$  Cost] represents the market's replacement cost and construction cost of real estate. The price "P" generated in the asset market influences the level of construction along with the curve  $P = f(C)$ , which translates that the replacement cost is equal to the asset price. The flow of new construction is converted into long-run real estate stock in the stock adjustment quadrant from an annual flow. Change in supply on the curve is the difference between the cost of new construction less the depreciation of the real estate. Change in "S" will equal zero when the stock depreciation equals the latest completion.

The four-quadrant model is premised on the Neoclassical economics paradigm that depicts the market as a highly competitive, efficient, developed real estate market, with investors that make rational decisions. Although the four-quadrant model is a widely used framework for the study of the property market, DiPasquale and Wheaton (1992) do not give sufficient consideration to how the model can be used to study inefficient markets, which are characterised mainly by the unavailability of reliable information and the behaviour of investors in emerging market environments. Ball *et al.* (2012) criticized the model's applicability due to the assumption of a perfect competitive real estate market. Viezer (1999) concurs with DiPasquale and Wheaton's model on the broad market structure of the space market and asset market. However, he faulted the four-quadrant model because it does not offer a sufficient tool for investors. He proposed the Real Estate Econometric Forecast Model (REEFM), which integrates the space and asset real estate markets. The REEFM uses econometric tools to integrate the real estate space and asset markets (Viezer, 1999). The model advanced by Viezer (1999) assumes that the real estate markets are efficient, the investor's decision-making is highly quantitative, and the investor acts rationally.

Traditionally real estate markets are understood through theories premised on positivism or Neoclassical economics. The theories' rely on the Efficient Market hypothesis and rational actors (Fengge and Jing, 2010). DiPasquale and Wheaton (1992) four-quadrant framework better expresses the relationship between markets, but they are weak in explaining how decisions are made at different stages of property investment. Neoclassical Theory suggests that with uncertain knowledge, investors are irrational. Investors strive to make the best possible decisions with uncertain knowledge, which becomes even more ambiguous the longer the project takes.

### 2.3.2 Efficient Market hypothesis

The concept of Efficient Market analysis is based on financial markets characterised by the ability to adjust as new information enters the market, as proposed by Fama (1970). Herath and Maier (2015) affirm that market prices result from rational expectations of present and forecasted market information. The framework of the Efficient Market Hypothesis (EMH) is at the core of financial market models, and has remained insightful despite the paradigm shift towards behavioural finance by some researchers (Degutis and Novickytė, 2014; Jiřan, 2015). The concept of the Efficient Market Hypothesis and its assumptions of rational market participants and information efficiency is underlined in the Neoclassical economics school of thought. This school of thinking assumes that property investors are aware of their payoffs in the investment game, which is not always the case in property markets.

Property markets operate differently from financial markets which the EMH is premised on. Property markets are characterised by being illiquid and players with poor response to any new information. However, researchers have argued that the property market is efficient, premised on Neoclassical economics and that the players are rational (Salzman and Zwinkels, 2017). Keogh and D'Arcy (1999) claimed that allocative efficiency of the market and information efficiency are the main approaches that literature categorised in understanding property market efficiency, which is the problem with real estate and what this study will be focused on. The two broad categories presuppose that the property market and market participants operate in the market with access to all information by considering the players as rational. This assumption is problematic because property transactions and information access are costly and not readily available in some market environments where property prices do not truly reflect market information. Keogh and D'Arcy (1999) basis for shifting from the two main approaches toward institutional analysis of property market efficiency failed to consider real estate as a legal and physical asset, has been unable to acknowledge property market processes, and has neglected market allocative and operation efficiency. Institutions economics' idea is to promote market efficiency and reduce transaction costs. Further, it implies that a change in the institutional framework provides signals to the market and the decisions that are made.

To better understand property market efficiency Ball *et al.* (2012) argues that owing to the unique nature of the assets traded in the property market, conventional EMH provide a guide to the right questions in assessing property market efficiency. Ball *et al.* (2012) supposes that the EMH framework should be employed as a guiding model in establishing property market efficiency. Mooya (2016) agrees that when principles of perfect competition are considered in terms of the property market's characteristics, the property market could be considered imperfect. Lack of information, heterogeneity, the possibility of few players and fixation on location makes the property market and the players behave uniquely. In addition, property market dynamics are affected by externalities that can limit the market's ability to adjust to any new information.

### 2.3.3 Institutional Economics Model View of The Property Market

Apart from the great insights that the Neoclassical economics model offer, institution models present a different lens for understanding real estate market dynamics. Institutional models advance that the agents involved in the real estate market's actions are influenced by how other organisations operate within their respective real estate markets (Ball *et al.*, 2012). This interaction of real estate investors, the real estate market and other organisation position property investment decision-making within the parameters of a game-like scenario. D'arcy and Keogh (2002) argue that mainstream economics framing of property markets and investors' behaviour has oversight on the impacts that property market institutions and organisations have on the dynamics of the property market. Institution models tend to provide better insights into the arrangements of the property markets and the factors that influence the behaviour of the investors within the property market context (D'arcy and Keogh, 2002; Adams *et al.*, 2012). D'arcy and Keogh (2002: 22) referred to institutions as "...the rules, norms, and regulations by which society functions. Market activity sits within an economic, social, political, and legal institutional context, specific to time and place." The institution view starts to alter the assumptions that Neoclassical models are based on by framing the property market as an adaptable institution. Keogh and D'Arcy (1999) proclaim that some players could experience property market efficient but this is not so to the majority of the players. The institutional model analysis of the property

market supposes that context is everything, and this model can be employed to understand market conditions that are considered inefficient and opaque.

D'arcy and Keogh (2002: 23) conceived the development market activities in a diagrammatical illustration of the institutional hierarchy of the property development market. The institution framework presents the property market on three levels - the institutional environment, the property market as an institution and the property market as an organisation. The framework first advances that the property market exists within political, legal rules, and social and economic environments based on the context under analysis. The second level presents the property market as an institution influenced by market and non-market factors influencing the structure and actors' behaviour. The third level aggregates all the players in the property market as organisations, and the operation of the market can be understood based on their structure and how they change over time.

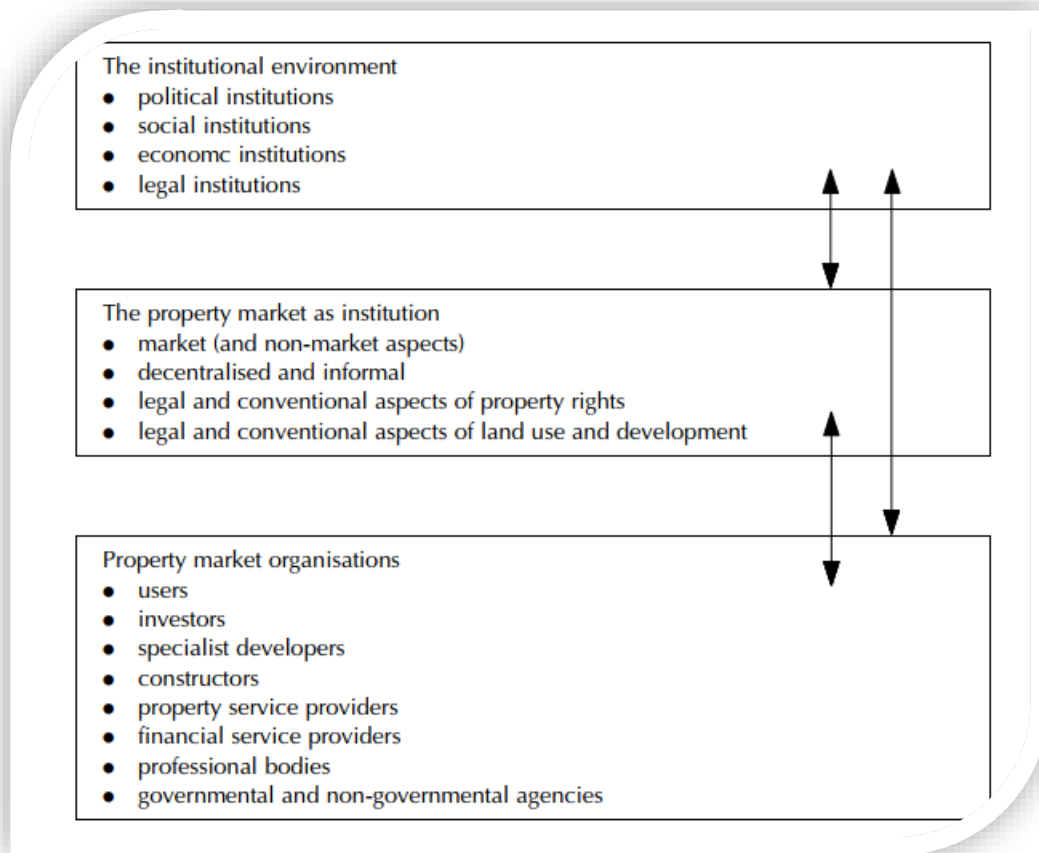


Figure 2. Market Institutional hierarchy extract from Keogh and D'Arcy (1999)

There is an interactive relationship between the levels, institutions, and organisations. The institution environment will influence the operations and activities of the property market organisations, and their reaction would feed back into the system, impacting a change in the institutional environment. Agboola (2015) submitted that institution economics grounded in human behaviour provide a better analytical tool for studying real estate market dynamics. The legal and administrative institution frameworks in every country shape the structure of property market dynamics, which might have a subsequent influence on the market outcomes and behaviour (Agboola, 2015). Eichholtz *et al.* (2011) underscored the effects of institutions. They argued that international investors incur high information costs compared to local investors already within the country's real estate market institutions.

The institution economics framework axiom that the property market operates in an informal and formal market environment makes it ideal for studying emerging land markets (Akinbogun *et al.*, 2020). Similarly, Keogh and D'Arcy (2000) recognized that Graaskamp included the institutional aspects in his study of the operation of the property markets, arguing that the property market is not immune to external influence. Property markets operate differently depending on the context, among other factors influencing their structure and processes. Viruly and Karam (2022) assert that property markets vary across countries and recognise that most African property markets operate within opaque formal and informal market institution arrangements. Researchers in the sub-Saharan African property markets have employed the institution models to understand the dynamics and forecast future actions within the African property markets (Mooya and Cloete, 2007; Viruly, 2009; Agboola *et al.*, 2017; Nurick *et al.*, 2017; Mowoe, 2019).

The four-quadrant model premised on Neoclassical economics axioms of perfect competition, rational economic agents, and the interplay of supply and demand that results in equilibrium property rents and prices has provided some insights into the dynamics of property markets over time. Luithlen (1993) noted that property investment and development decisions have been based on Neoclassical economics analysis of the interplay between demand and supply. Although Neoclassical economics axioms of perfect competition, full availability of reliable information, and the dynamics of supply and demand, the property market is imperfect, and so are most of the emerging property markets. Agboola (2015) asserts that the property market is influenced by, among other things, institutional restrictions, information paucity and a mismatch between supply and demand. Thus, institutional models provide a better insight than Neoclassical economics models to better understand the property market dynamics in emerging markets. Although institutional models are superior to Neoclassical economics models in understanding emerging markets, it does not provide a richer view of investors' behaviour.

### 2.3.4 Real Estate Market Transparency

Property market transparency is critical to investors' rational decision-making and property efficiency in Neoclassical economics. Global real estate Transparency index report (GRETl) 2020, produced by Jones Lang LaSalle, has ranked most developed markets as transparent, with

developing and emerging markets ranked low transparency and opaque, respectively. GRETI transparency score assesses markets in terms of performance measurement, market fundamentals, governance of listed vehicles, regulatory and legal, transaction process and sustainability (LaSalle, 2020). Anim-Odame (2022) argued that in African property markets, there is poor access to reliable property market information with undeveloped market performance assessments. The GRETI ranked South Africa and Malaysia as transparent markets in Africa, with other African markets ranked as low transparency and opaque.

Emerging markets, particularly African ones, will fail to gain higher rankings in the transparency index if market information availability remains challenging. GRETI currently covers 163 city markets based on a quantitative analysis of 210 variables grouped into six leading indicators. These indicators are performance measurement, market fundamentals, governance of listed vehicles, regulatory and legal, transaction process and sustainability. The GRETI put more weight on neoclassical market information obtained through a global business network of JLL and LaSalle Investment Management in the 163 city markets (LaSalle, 2020). While GRETI provides market information to real estate players, the scope is limited to traditional markets operating with formal and informal market systems in most of sub-Saharan Africa. This implies that evolving institutions will struggle to reduce transaction costs in formal market arrangements.

Seabrooke and How (2004) suggest that the market aim to minimise transaction costs that are deemed inefficient according to the rule regimes. They, however, pointed out that institutions are not mutually consistent, and not all players aim to promote perfect competition. Despite this, North (1990) noted that institutions tend to eliminate inefficiency by evolving towards more efficient institutions to reduce transaction costs. It is evident through the assertions of Anim-Odame (2022) and Viruly and Karam (2022) that emerging markets' dynamics and structure guarantee that they will rank as having low transparency or opaque. LaSalle (2020) has alluded to the improvement that property markets have experienced owing to technological advancement, but progress in emerging markets towards transparency has been elusive.

### 2.3.5 Emerging Real Estate Markets

GRETI report 2020 emphasises that most emerging property markets have poor corporate governance and regulatory enforcement and score poorly on the transparency index. Further, inadequate regulations and geopolitical and economic difficulties are some of the identities of most Middle East, Latin American and African markets. Minetti and Peng (2013) argue that the domestic market opaqueness is a deterrence to foreign and domestic funders to promote market investment owing to high transaction costs and uncertainty in decision-making. Despite most emerging markets being ranked as low transparency and opaque recently, they have received significant foreign real estate investments (Gholipour, 2013). GRETI 2020 suggest that most African property markets performed poorly on fundamentals owing to poor access to reliable market information and challenges in performance assessments. Investors in these markets are uncertain about the project viability and forecasting of cash flows in the long run.

Viruly and Karam (2022) state that the African property market though they have varying maturity levels, operates in a dual market structure of formal and informal. Due to this duality of the African market, access to reliable property market information remains challenging and tends to promote poor transparency. Mooya and Cloete (2007); Mooya (2009) argued that in African property markets, there is a lack of reliable information and that market agents experience high transaction costs. Similarly, Anim-Odame (2022) agrees that in emerging markets, especially African property markets, information relating to property compared to other asset classes is limited and, to some extent, unavailable. Kabanga and Mooya (2017) further add that players seek information from their fellow professional peers and other second-hand means in these African markets. This supports the view that the emerging market environment, specifically the African market, is far away from the Neoclassical economics perceived market. Further, the market actors face challenging environments to make rational investment decisions with limited and sometimes no market information. Anim-Odame (2022: 6) says, "In Africa, real estate's market fundamentals such as access to credible data and the assessment of market performance remain patchy...".

### 2.4 Real Estate Investment Decision Making

Broadly, property investment decision-making has been conceived within the paradigms of Neoclassical economics, which presupposes that the investor is a rational being and that the decisions are quantitatively made. Ackert and Deaves (2009) argued that traditional finance models are premised on Neoclassical economics and that market agents make independent decisions. Similarly, as Salzman and Zwinkels (2017) put it, investors operate in a competitive market and make rational decisions upon a complete analysis of market information. Baddeley (2018) asserts that Neoclassical economics presupposes that investment decisions are highly mathematical and frames investors as mathematical machines. Owing to this, Baddeley (2018) argues that the reason why Neoclassical economics is infamous for framing investors' behavioural rationality capacity as having absolute numerical analysis abilities and playing an investment game with free transaction cost.

The assumptions of a perfect market, rational actors and availability of reliable information present application challenges in property investment decisions. Roberts and Henneberry (2007) argued that the assertion that investment decisions are rational and methodical is flawed because investors operate in imperfect markets with limited access to reliable information. They further argued that behavioural and social aspects are critical in investment decision-making. To this, French (1996) established three decision-making models that investors use and these are: normative models which do suggest how we should decide, the there is descriptive models that aim to describe how we do decide; and prescriptive models which use normative models to guide the decision maker within constrained environments. This research positioned to review the literature and field data to suggest a normative decision process for investment decision making in emerging markets.

Despite Roberts and Henneberry (2007) assertion that investment decision-making is not structured, Parker (2010) argues that they are some stages in property investment decision-making. These stages are the defining or strategic stage, which is the opportunity screening; the measuring or analysis stage; the evaluating or assessing and deciding stage; and implementing and auditing stage. Parker (2011) grouped the stages into three main phases, starting with the

preparing phase, that includes the envisioning and planning stage; then the transacting phase, which comprises of dealing and executing stage; and lastly, the observing phase, that encompasses the watching and optimising stage. The descriptive decision model can be summarised into four stages and 20 steps on how investors ought to make property investment decisions as per Parker’s (2014) table below.

Stage	Step	Step	Step	Step	Step
Envisioning Planning	Vision	Style	Goals	Strategic plan	Objectives
	Property portfolio strategy	Strategic asset allocation	Tactical asset allocation	Stock selection	Asset identification
Dealing	Preliminary negotiation	Preliminary analysis	Structuring	Advanced financial analysis	Portfolio impact assessment
Executing	Governance decision	Transaction closure/ documentation	Due diligence/ independent appraisal	Settlement	Post audit

Figure 3. Four stages and 20 steps decision-making model extract from Parker (2014)

According to Parker (2014), the envisioning stage comprises a defining or strategic phase where investors enunciate the goals of the investment and how they plan to achieve them. During the planning stage, the investor analyses potential properties for investment. This stage can also be referred to as the opportunity screening, measurement, or analysis stage. As for the Dealing stage, the investor acquires the potential property under screening. It may also be described as an evaluating, assessing, and deciding stage. Lastly, the executing stage is where investors engage in due diligence, document the transaction, secure approvals, and settle the transaction. This stage also is referred to as implementing and auditing stage. Farragher (2008) analysis of the decision-making process discovered that investors preferred three descriptive decision-making stages as pertinent, and these are: searching for an investment opportunity, forecasting expected returns, and evaluating predicted returns. In addition, Farragher (2008) noted that investors prefer numerical approaches of IRR, cash-on-cash rate of return and payback as evaluation measures for decision-making.

## Making Property Investment Decision in A Market Environment with Poor Transparency

(Roberts and Henneberry, 2007) Conducted a study on property investment decision-making in more industrialised countries of the UK, Germany, and France, and concluded the following decision-making process.

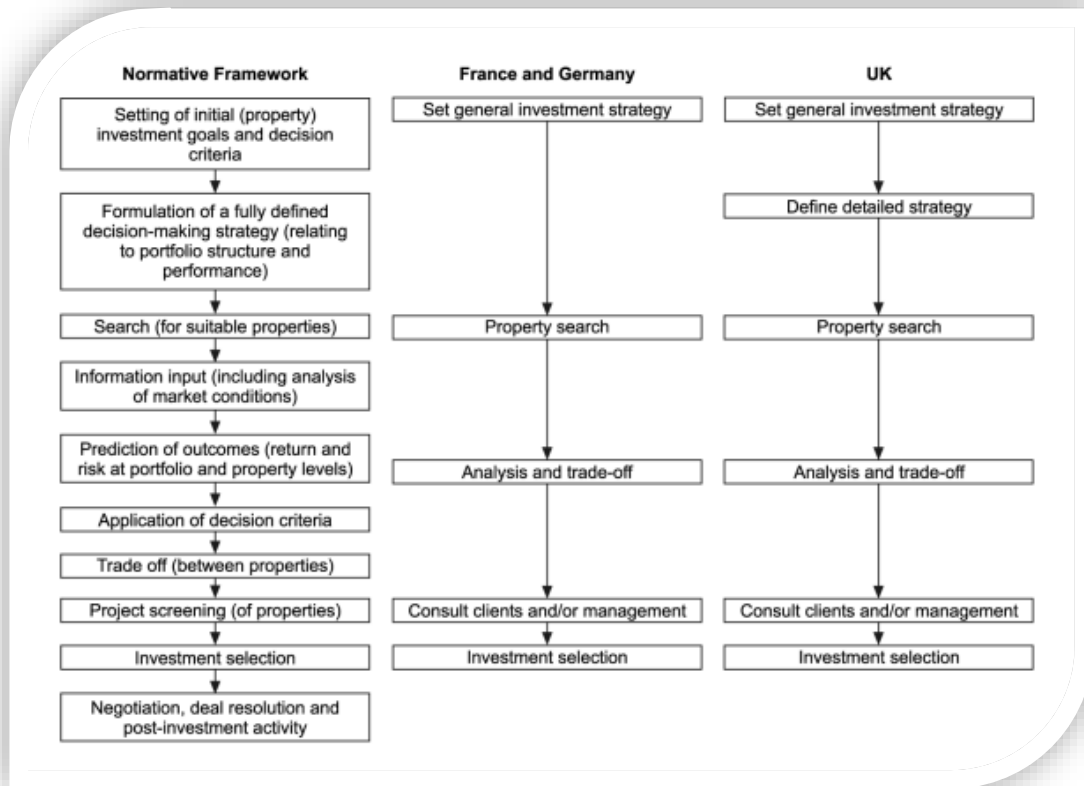
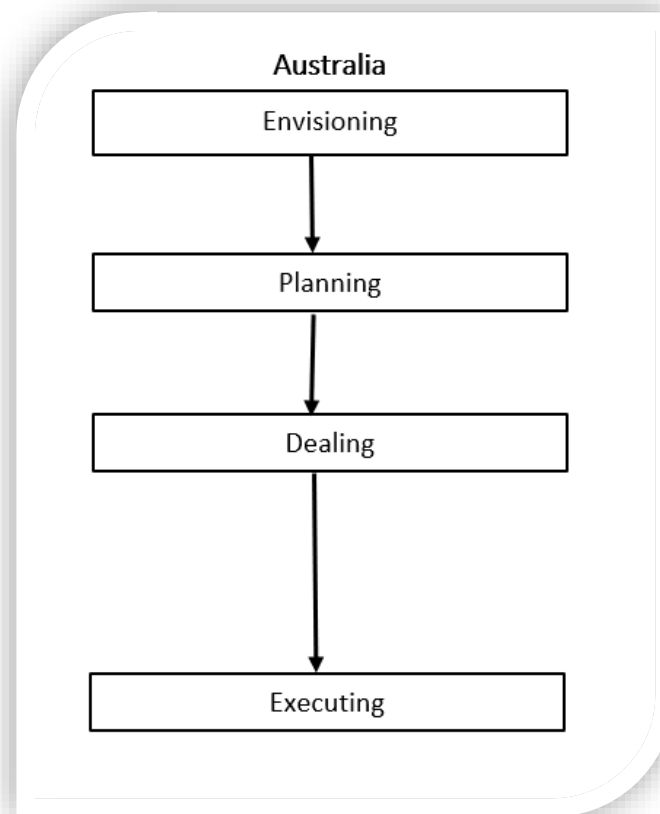


Figure 4. Normative decision model vs France, German, and UK decision process adopted from Roberts and Henneberry (2007)

While Parker (2014) observed the following decision-making process in Australia, which is a deviation from the normative decision-making model proposed in the literature, as presented in figure 4 above.



*Figure 5. Australian property investment decision-making model adopted from Parker (2014)*

The prescriptive model in investment decision-making proposed by Parker (2014) does not clearly explain how investors are expected to make investment decisions in market environments with limited or no reliable information. Normative models try to explain how markets should work and the stages investors should follow but fail to explain how investors make decisions within the property market. Nsibandé and Boshoff (2017) argued that normative decision-making models are premised on the Neoclassical economics view of rational players and utility maximisers. Further, adding that investors' rational decision is aided by quantitative models, as evidenced using MPT and CAPM models. Imperfect information, use of heuristics and cognitive shortcuts affect the environment and experience of the property investment decision-making process (Roberts and Henneberry, 2007). Roberts and Henneberry (2007) argument presuppose that market players make an investment decision in an uncertain environment which causes a departure from the normative decision-making models. The normative models often fail to explain how things work

but instead try to explain how markets should work. On the other hand, behavioural approaches provide a deeper insight into how imperfect markets work and how investors make investment decisions in uncertain market environments.

### 2.4.1 Heuristics and Biases in The Investment Decision Process

Property investors operate in market environments with limited access to reliable information and try to make rational decisions based on this limited information phenomenon. Much of the literature on decision-making has focused on how heuristics and biases flawed mainstream economics investment decision-making processes. Heuristics are decision-making shortcuts or rules of thumb (Baddeley, 2018). Investor's decision-making is based on knowledge; this raises a few questions: how the knowledge is created and the strength of knowledge in decision-making; whether the information collected has a bias and whether it is an accurate reflection of reality. These questions influenced the modern investment decision theory by Tversky and Kahneman (1974), which proposed three main heuristics as an outcome of their 1970s studies: availability heuristic, representative heuristics and anchoring and adjustment heuristics. Availability heuristics asserts that individuals analyse a task based on their familiarity with the task or environment. Representative heuristics advances the idea that individuals generally interpret a small sample as a representative of the whole population. Anchoring and adjustment heuristics states that humans start from one point in the decision matrix and adjust upwards or down to arrive at a final decision. Despite heuristics helping make investment decisions in environments of uncertainty, they could create some biases, which may lead to making a loss (Kahneman, 2011).

The works of Tversky and Kahneman (1974) on heuristics have been applied to the property valuation process, investment decision-making process and other fields outside property investment. Mooya (2016) works on valuation theory and reviews anchoring and heuristic approaches in arriving at the market value. Mooya (2016) attributed these behavioural issues to thin property markets where access to reliable information is limited and in markets unfamiliar to valuers. Parker (2014; 2019) noted five heuristics and biases pertinent to REIT decision-making. These heuristics and biases are representatives, availability heuristics, anchoring and adjustment bias, and framing and confirmation bias. Lowies *et al.* (2016) noted that anchoring and adjustment

influence the investment decision-making process by South African investors owing to their inability to adjust to new information entering the market. This implies that behavioural economics recognises the cognitive shortcomings of the investors while Neoclassical fails to consider the investor's cognitive limitations.

Neoclassical economics characterise the investment decision-making process as a rational method, methodical which is based on complete information to arrive at an optimal decision. Owing to information deficiencies and cognitive constraints, investors turn to behaviour techniques to make optimal investment decisions (Gallimore and Gray, 2002). Moreover, Salzman and Zwinkels (2017) note that an increasing amount of literature demonstrates that investors deviate from the normative process owing to their requirements for considerable information and analysis. The ability to combine behavioural tools and quantitative analytics in behavioural economics addresses the shortcomings of Neoclassical economics of rational decision processes (Ball *et al.*, 2012). For example, behavioural economics considers the investor's cognitive constraints, institutional influence, information asymmetry and market failures which are the characteristics of property markets where players make investment decisions.

### 2.5 Summary and Emerging Issues

The literature review was aimed at reviewing the models used by players in understanding the property markets, framing the market environment in emerging markets and decision models available to property investors. The review of the relevant property market and decision-making literature has revealed that property market analysis and investment decision-making have been understood with a heavy bias toward the positivist or Neoclassical economics paradigm (DiPasquale and Wheaton, 1992; Du Toit and Cloete, 2004; Ball *et al.*, 2012). While Mooya (2016) and D'arcy and Keogh (2002) cautioned that when property markets are analysed in Neoclassical terms of perfect information, perfect competition, and perfect players, the property market could be considered imperfect. The literature shows a paradigm shift towards institutional economics, including behavioural approaches analysis of the property market. This was observed in the works of Keogh and D'Arcy (1999), D'arcy and Keogh (2002), Roberts and Henneberry (2007), Mooya (2016), (Mooya and Cloete, 2007), Mooya (2016) and Akinbogun *et al.* (2020). The institutional

economics model acknowledges that investors make decisions in markets with formal and informal institutional arrangements that alter how they play the investment game and decision-making models employed in the decision-making process (Akinbogun *et al.*, 2020).

The literature review has further highlighted that property markets in emerging markets experience challenges in providing reliable information and poor transparency. This is influenced by the formal and informal institutions that characterise these markets (Akinbogun *et al.*, 2020; Viruly and Karam, 2022). Thus, property investors are faced with formal and informal institution market frameworks with numerical decision-making models to analyse markets and make optimal decisions. This study will build on Tversky and Kahneman (1974) and Parker (2014); (2019) proposition that investors put more weight on behavioural decision-making models to make optimal decisions in these markets with poor transparency. The review has further noted that little research has been undertaken concerning how investors make property investment decisions in market environments with poor transparency. Through a behavioural economics lens, there is a need to have a richer understanding of the investor's property decision-making process in an emerging market environment. In addition, this is also required to understand the market dynamics in many emerging countries.

The next chapter of this research will discuss the research methodology to collect field data, the research strategy to be adopted, tools and techniques to capture the data, analysis of the data and management of the researcher's role.

## CHAPTER 3: RESEARCH METHODOLOGY

### 3.1 Introduction

This study explores how property investors make property investment decisions in a market environment with poor market transparency. The proposition is that property investors in emerging markets put more weight on behaviour decision-making approaches in making property investment decisions in environments of insufficient transparency. The study aims to understand how property investors analyse emerging property markets and how investors make property investment decisions in these markets with poor transparency. The main research question for this study was: Owing to the limited availability of reliable market information in emerging markets, how do property investors make a property investment decision?

These are the research questions within this property investment decision-making study:

- a) How do investors make a property investment decision in an emerging property market like Malawi with poor transparency?
- b) What type of information do property investors use in the decision-making process?
- c) What are the sources of information that property investors use in decision-making?
- d) What tools do property investors use to analyse or understand their market environment?
- e) To what extent do property investors use behavioural approaches in commercial property investment decision-making?

This chapter starts with an outline of the research philosophical worldview underpinning this study. After that, a discussion on the research approach and strategy, the research design employed, and how data will be collected. Further, elucidation of the sampling strategy used and ethical considerations. Later, an explanation of the study's limitations and how data was analysed. The chapter finishes with chapter summary of the methodology employed to achieve the study aims.

### 3.2 Philosophical World View

Understanding the concept of research and philosophical worldview provides a more explicit choice of methodology to answer the research question(s). Saunders *et al.* (2019) defined research as people's systematic activities to increase their knowledge of a phenomenon. Further, research has three characteristics: data are collected systematically, data are interpreted systematically, and there is a clear purpose to finding things out. The systematic procedure and detailed meaning drive research to take a specific path in answering the research question. Creswell and Creswell (2017) agreed when they referred to research approaches as plans and procedures that start with a broad assumption of a specific method of collecting, analysing and interpreting research data. Informing the choice of the research methods or approach is the philosophical worldview the researcher brings to the research (Creswell and Poth, 2016; Creswell and Creswell, 2017; Saunders *et al.*, 2019).

Researchers view the world differently, and these essential assumptions of viewing the world bring it into their study to assist them in understanding a phenomenon. Epistemology and ontology are the main research philosophies guiding research(ers). Saunders *et al.* (2019) defined epistemology as acceptable knowledge in a particular field. While Creswell and Poth (2016: 61) referred to epistemology as "what counts as knowledge and how knowledge claims are justified." Similarly, Creswell and Creswell (2017: 68) defined epistemology as "how we know and what we know". Epistemology is split into positivism, a philosophical stance that deals with observable social realities and are more akin to research output by physical and natural scientists (Saunders *et al.*, 2019). Realism is another position more focused on scientific research and interpretivism epistemology. Saunders *et al.* (2019) assert that it advances the thinking that there is a distinction between people and social actors.

Ontology is a philosophical stance concerned with the nature of reality (Creswell and Creswell, 2017). Ontology has three main aspects, according to Saunders *et al.* (2019) - Objectivism, which states that social entities are separate from the reality of social actors, Subjectivism, which refers to the assumptions that actions and world views of social actors create a social phenomenon and Pragmatism, which advances the idea that the choice of research philosophy is influenced by the

nature of the research question. Epistemology and ontology are the major philosophical views that guide researchers and influence their method choices. Positivism, realism epistemology and objectivism ontology tend to render themselves to more quantitative research designs. While interpretivism epistemology and subjectivism ontology tend to influence more qualitative research designs.

The research philosophy guiding this inquiry is a subjective ontology that suggests that reality is created from people's actions and perceptions (Saunders *et al.*, 2019). The nature of the research question that aims to understand the investor's reality of the investment decision-making process in emerging property markets gives subjectivism a more suited philosophy for understanding the phenomenon. The research question drives itself into interpretivism epistemology. According to Saunders *et al.* (2019), investors play a role in the investment game in which they interpret their reality in a particular way that influences their behaviour. In understanding the property investment decision-making process, the investors in emerging property market environments will be the unit of analysis.

### 3.3 Previous Research Methods Used

The methodology employed by additional research in a different context on property investment decision-making was reviewed to find the most preferred method. In understanding the role of investor sentiment in property investment decisions, Gallimore and Gray (2002) surveyed individuals actively involved in decision-making in the UK. Further, Gallimore *et al.* (2000) employed qualitative research by conducting semi-structured interviews with property investment directors of smaller property companies to understand the decision-making structure within smaller companies. In addition, Parker (2014), in investigating the property investment decision-making by Australian REITs, employed a qualitative research method and collected data through semi-structured interviews with senior Australian REIT decision-makers. Similarly, Roberts and Henneberry (2007) employed a mix of research methods with a heavy component of qualitative methods in exploring the decision-making process of investors in the UK, France and German property markets. Previous research demonstrates that a qualitative approach is widely used to better understand how investors make property investment decisions. This study will,

therefore, follow fellow researchers in employing a qualitative research approach with semi-structured interviews to collect data.

### 3.4 Research Approach and Strategy

An inductive approach was used where data was collected from investors to explore how they make property investment decisions in a market environment with challenges to the availability of reliable information that builds on the existing behavioural economics decision theory. Through this research approach, the proposition of the study *“Property investors in emerging countries rely more on behaviour (qualitative) decision-making approaches in making property investment decisions that is the case in markets with high levels of market transparency”* was evaluated to generate the approaches and processes investors use in decision-making within emerging market environments.

The review of property investment decision-making literature (Roberts and Henneberry, 2007; Parker, 2014) suggests a qualitative research method to better understand the decision process in their institutional environment. Creswell (2013, p. 44), quoted in (Creswell and Poth, 2016), defined qualitative research as follows:

*“Qualitative research begins with assumptions and the use of interpretive/ theoretical framework that inform the study of research problems addressing the meaning individuals or groups ascribe to a social or human problem. To study this problem, qualitative researchers use an emerging qualitative approach to enquiry, the collection of data analysis that is both inductive and deductive and establishes patterns or themes.”*

While the quantitative research approach could have also been applicable, such approaches are inclined to have the limitations of inflexibility on the control of the profile of respondents and no capacity for follow-up questions and clarifications (Parker, 2014; Saunders *et al.*, 2019). Accordingly, Creswell and Creswell (2017) provide the natural setting characteristic of qualitative, which suits the question of this inquiry as the researcher collects data in the field where the respondents experience the problem under study. Hence, an exploratory qualitative research approach was chosen, as provided by Naoum (2019), which is a more flexible method to

understand the limited knowledge of property investors' decision-making in emerging markets with poor market transparency.

In addition, the qualitative exploratory research study proves to be a better approach to gaining more insights into how property investment decisions are made in emerging property markets with poor market transparency. Saunders *et al.* (2019) assert that exploratory research is more helpful in finding out how things happen and assessing phenomena through a new lens. Further, they are three critical principles when conducting qualitative experimental research: a search of the literature, interviewing experts in the field of study and conducting focus group interviews. This study has employed two principles of investigating the literature and interviewing experts in property investment decision-making.

### 3.5 Sampling Strategy

The research used a non-probability sampling technique in determining the sample of the participants to be interviewed for the study. Firstly, the study selected participants using a purposeful sampling of engaging individuals in decision-making positions and operating in the Malawi market within the commercial property sector. Purposeful sampling provides an advantage of selecting well-informed research participants for making investment decisions in emerging markets with poor market transparency (Creswell and Poth, 2016). Further, a snowballing technique was employed owing to the challenges of determining the adequate sampling population within the research area. Roberts and Henneberry (2007) also employed the snowballing technique in their study "*Exploring office investment decision-making in the different European context*".

Through the researcher's lived experience in Malawi, the entry point to start snowballing was among these companies; NICO Asset managers, ERIS properties Malawi, MPICO and later, they referred the researcher to other asset managers, pension fund managers and property managers. Further, the different research participants that the researcher referred to did not respond to the interview invitation, while one expressed an apology. In totality, the semi-structured interviews were conducted with eight out of eleven respondents from institutional investors in decision-making positions. Below is a table summary of the profile of the research respondents.

Table 1. Profile of the research respondents

Respondents	Position	Company's Focus	Primary Products or Services Include	Company Size Indication
<b>Respondent 1</b>	Investment Analyst	<ul style="list-style-type: none"> <li>Asset Management</li> </ul>	<ul style="list-style-type: none"> <li>Portfolio and Investment Manager</li> <li>Investment Advisor</li> <li>Transfer Secretary</li> </ul>	<ul style="list-style-type: none"> <li>MK 750 billion Assets under management.</li> <li>Part of Major international and local financial holding</li> </ul>
<b>Respondent 2</b>	Investment Analyst	<ul style="list-style-type: none"> <li>Investment banking</li> <li>Corporate financial advisory services</li> </ul>	<ul style="list-style-type: none"> <li>Company valuations</li> <li>Project financing, including real estate development.</li> <li>Capital restructuring services.</li> </ul>	<ul style="list-style-type: none"> <li>Part of a major financial services group.</li> </ul>
<b>Respondent 3</b>	Investment Analyst	<ul style="list-style-type: none"> <li>Investments and fund management</li> </ul>	<ul style="list-style-type: none"> <li>Pension fund management</li> </ul>	<ul style="list-style-type: none"> <li>K165 billion total funds under management.</li> </ul>

		<ul style="list-style-type: none"> <li>Financial advisory services</li> </ul>	<ul style="list-style-type: none"> <li>Corporate finance services</li> <li>Treasury management</li> <li>Share brokerage.</li> <li>Pension funds trustees' training</li> </ul>	
Respondent 4	Chief Executive Officer	<ul style="list-style-type: none"> <li>Investment management</li> <li>Financial advisory services</li> </ul>	<ul style="list-style-type: none"> <li>Pension fund management</li> <li>Client-tailored investment management for individuals, corporate entities, public sector, non-governmental sector</li> </ul>	<ul style="list-style-type: none"> <li>The company serves individual and institutional/organisational clients.</li> </ul>

			<ul style="list-style-type: none"> <li>• Project finance advisory</li> <li>• Valuations</li> <li>• Equity capital markets</li> <li>• Feasibility studies</li> </ul>	
<b>Respondent 5</b>	Investment Manager	Asset management and investment company	<ul style="list-style-type: none"> <li>• Private wealth management</li> <li>• Various special types of funds, including interest-bearing funds for customers.</li> </ul>	<ul style="list-style-type: none"> <li>• A subsidiary of a leading multinational insurance company</li> </ul>
<b>Respondent 6</b>	Managing Director	Property Valuation, Management & Services	<ul style="list-style-type: none"> <li>• Commercial and residential property consultancy</li> </ul>	<ul style="list-style-type: none"> <li>• A subsidiary of a global multinational property company</li> </ul>

			<ul style="list-style-type: none"> <li>Property management</li> </ul>	
<b>Respondent 7</b>	Acting Managing Director	<ul style="list-style-type: none"> <li>Property development</li> <li>Property management</li> </ul>	<ul style="list-style-type: none"> <li>Property and tenants' management</li> <li>Property development services</li> <li>Property valuations</li> <li>Property advisory and transactions services</li> </ul>	<ul style="list-style-type: none"> <li>A subsidiary of a significant investment trust with a conglomerate of companies across various sectors, such as agriculture and manufacturing</li> </ul>
<b>Respondent 8</b>	Head of Property Management	Property Development & services	<ul style="list-style-type: none"> <li>Property Development</li> <li>Property Management</li> <li>Leasing and Investment broking.</li> </ul>	<ul style="list-style-type: none"> <li>Property development, investment and service group that has market coverage in sub-Saharan Africa markets.</li> </ul>

- Property Advisory
- Retail Services

### 3.6 Data collection methods

The research data was collected through semi-structured interviews with investors in commercial property investing companies operating in the Malawi property market. The semi-structured interviews have the advantage of asking standardised guiding questions to participants that ought to provide responses that can be easily compared to other participants' answers within the study (Denzin and Lincoln, 2018). Further, the semi-structured interview technique offers the advantage of getting specific information with a particular structure while allowing the interviewer to probe more for additional important information or clarification (Dawson, 2019). The participants were contacted through email to arrange an online interview meeting that was convenient for them, and an informed consent letter was part of the invitation email.

The interview data was collected with the aid of an Interview protocol (see attachment in appendix on p. 76) that was aimed to help the interview process to be within the topic of property decision-making while allowing the participant flexibility to explain more. The interview protocol was used to ask questions and record answers despite the recorded interview session. As Creswell and Creswell (2017) advised, research interview notes act as a backup if the recorded interview session is corrupted or equipment fails. The interview protocol was prepared in advance and used consistently across all interviews to allow investors to give responses to similar guiding questions for easy development of themes and analysis.

### 3.7 Data Analysis Methods

The qualitative data collected through semi-structured interviews were analysed using a thematic analysis approach aided by NVivo computer software to generate codes and themes from the data collection. Nowell *et al.* (2017) assert that thematic analysis provides the advantage of being a

more flexible approach that leads to a more robust and detailed account of the collected data. To better understand the experiences of the property investors on how they know their market environment and how they go about making investment decisions, thematic analysis was more suited for this inquiry to be able to draw comparisons with the findings of other researchers in the literature review. The themes were developed from the codes that emerged from the semi-interview data, and later themes were established. The findings from the semi-structured interview were analysed using the pattern-matching technique. Pattern matching involves the comparison of the empirical data findings with the literature review findings to establish the similarities and deviations in the decision-making process (Yin, 2014; Saunders *et al.*, 2019).

The interview recordings were transcribed, and data were coded from the transcripts, out of which patterns were identified to establish themes. Below is the diagrammatic illustration of the summary of the methods and methodology process employed in this study.

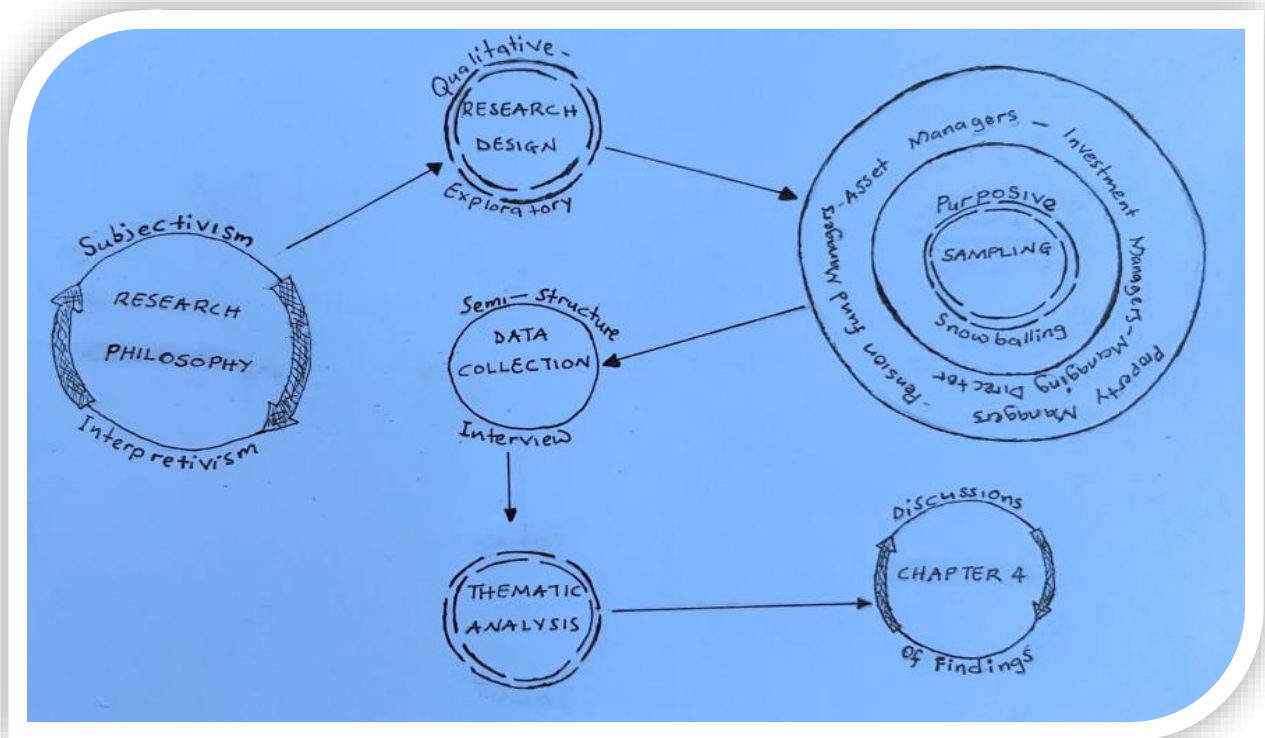


Figure 6. Summary of the methodology process source Author (2022).

### 3.8 Ethical Clearance and Considerations

The research obtained ethic clearance from the University of Cape Town on 26/10/2022 (see attached appendix on p. 75). The researcher anticipated ethical issues that arose in the research's data collection and analysis phase. Below is a table of the ethical issues and how the researcher minimised or eliminated them:

*Table 2. Research Ethical Considerations*

Ethical Issues	How they were minimised and eliminated
Disclose the purpose of the interview	<ul style="list-style-type: none"> <li>Participants were informed before the interview date about the study and that the research interview was for academic purposes.</li> </ul>
Participation in the research study	<ul style="list-style-type: none"> <li>Written consent for voluntary participants in the study was obtained before and on the day of the interview.</li> <li>The virtual platform for the interview was agreed upon for the convenience of the interviewee.</li> </ul>
Research participants confidentiality	<ul style="list-style-type: none"> <li>The researcher asked for consent from participants to record the session, and the recordings were stored in a password-protected hard drive only accessed by the researcher.</li> </ul>
Research participant anonymity	<ul style="list-style-type: none"> <li>In reporting the findings, the researcher did not use the names of</li> </ul>

specific participants but rather used coded names. For example, Respondent 1.

### 3.9 Limitations

The research was limited to commercial property sector investment and within the geographical location of Malawi. Further, the study focused on personnel in decision-making positions among institutional property investors in Malawi (Lilongwe and Blantyre).

### 3.10 Summary

This chapter has discussed the philosophy underpinning this research: subjectivism ontology and interpretivism epistemology. Further, an exploratory qualitative research methodology was employed to gain more understanding of how investors make their investment decisions within emerging property markets with poor transparency. To achieve this, the study has conducted semi-structured interviews of commercial property investors operating in Malawi that provided a clear understanding of the property market environment and decision-making process from their point of view. Hence these property investors are the unit of analysis for this research. The semi-structured interview data was analysed through thematic analysis, transcribing the audio recordings, coding, and generating themes emerging from the semi-interview data.

The following chapter discusses the data results of this study's research methods and methodology.

## CHAPTER 4: DISCUSSION OF THE FINDINGS AND ANALYSIS

### 4.1 Introduction

This chapter presents and discusses the research findings from the data collected through semi-structured interviews discussed in the previous chapter. The research concentrated on the views of commercial property investors regarding the Malawi property market. The chapter commences with the research context. After that, the presentation of the findings and analysis of the data is organised following the guiding questions on the property market environment and property investment decision-making. Data themes were derived from the discussions and analysis of the interview. The findings are analysed through a pattern-matching methodology based on decision-making processes. A chapter summary is presented, outlining the critical issues that have emerged throughout the findings and analysis.

### 4.2 Research Context

This research aimed to explore and understand how property investors make investment decisions in markets with poor market transparency and how they analyse and understand these markets. To achieve this, the research conducted semi-interviews with commercial property investors in the Malawian market. The research focused on investors in decision-making roles: pension fund managers, asset managers, investment managers, heads of property management and managing directors. The findings from the semi-interview data are presented and analysed below under different guiding questions.

### 4.3 The sector of Property Investment

The study interview began with an introductory question posed to all respondents to understand the investment sector in which the participants make investment decisions. All respondents were asked, “*which sector of the property market do you invest in?*” and a follow-up question was asked to find out, “*which geographical location do you invest in?*” and “*what is the value of your property portfolio?*” All respondents indicated that they invest in commercial property across the country's major cities with a heavy focus on Blantyre, the commercial city and Lilongwe, the capital city. It

is also important to note that six respondents defined commercial property as office and retail property, with two respondents including hotels as part of the commercial property.

Respondent 3 explained further, saying, “...eh you know what? we do not invest in residential property because it is more problematic,” with another one adding a richer elucidation that residential property has lower returns compared to commercial property in this country, so they don’t consider it. This suggests that these institutional investors are biased towards commercial property rather than other property market sectors. In addition, this cemented their selection to participate in this study which is better placed to provide a richer view of their experiences making decisions in these types of markets.

*What is the size or value of your property portfolio?*

Interestingly all respondents expressed that the property investment they engage in is made on behalf of clients, and most property accounts for ten per cent of the asset portfolio. Almost all respondents were reluctant to disclose the value of their property portfolio. After probing more, some gave why it is not their mandate to release company or client information.

The replies from the respondents seem to suggest that investing in office, retail, and hotel, which they referred to as “commercial” property, has the best return and appears to be the sectors to invest in this market. Further, investors seem to have a similar strategy of hiding information about their size and value as part of the strategy to play the game.

### 4.4 Decision-Making Process

*How do you make a property investment decision?*

The respondents indicated that at the portfolio level, the first investment decision-making process starts with strategizing the investment level for commercial property. Two respondents explained that this is influenced by the investors' appetite towards the property. Similarly, another respondent expanded that the investment percentage is also primarily influenced by legislation regulated by Malawi's reserve bank.

## Making Property Investment Decision in A Market Environment with Poor Transparency

*“First thing you should know is that as asset managers, we are guided by two Acts, the financial services Act and Securities Act”, - Respondent 2 mentioned.*

Response 2 expanded that the regulations give investors a mandate to dictate property allocation in the portfolio. He further commented that some investors chose their property exposure allocation based on their sentimental value towards property. Respondent 1 summed up the average allocation of the property being 10 per cent of commercial property exposure in most asset portfolios. All respondents referred to the first stage as guided by the investment policy where the target return is set, property allocation and sector of the property depending on the level of investment.

Respondent 4 summed up the investment policy saying, *“this involves determining what the different type of assets will be in the portfolio, tolerable ranges, and limitations of return. Generally, you are working within your investment policy which you go into detail about what type of property you would invest in and what percentage of exposure in that market. This focuses on the choice of the property's location and quality, and you set returns benchmarks which inform your activities going forward.”*

Thereafter, the respondents revealed that they conducted market research, with one respondent calling it due diligence. The respondents further explained that in this analysis, they engage in assessment of, among other things, the population of the area they want to invest in, market rentals, vacancy levels, property valuation reports and construction cost or what one respondent referred to as the cost of finishing the building in a case where they are acquiring unfinished buildings. Further, legal matters on the subject commercial property, such as tenure, tax, MRA (Malawi revenue authority) fees and any outstanding charges and encumbrances on the property. Also, of interest is what six respondents stressed that most of the market research is conducted by external consultants. One respondent gave an example of one of the properties they want to acquire as part of their portfolio: an unfinished commercial building.

Respondent 2 said, *“...we are currently engaging consultants to assess the cost of finishing the development, and another one is assessing what cash flow it will generate in rentals.”*

## Making Property Investment Decision in A Market Environment with Poor Transparency

In addition, the market process involves an assessment of what the respondent called the financial feasibility of the investment. Interestingly respondent 1 referred to this stage as due diligence, where information on market rentals, valuation, and tax issues are collected from the market. Respondent 3 referred to it as market research, where they seek information on vacancy ratios, market rentals, demand, and suitability of the property investment. Respondents 5 and 6 referred to it as financial viability, while respondent 7 referred to market research. On the other hand, respondent number 8 referred to this stage as high-level appraisal, where the investment is considered broadly before the market information is sent to the investment committee. Respondent 1 revealed that they engaged an expert to conduct a valuation for the property under consideration, this feeds into the review of the offer in pricing and negotiation of the same.

Similarly, respondents 2 and 4 stressed that these financial feasibilities are conducted by consultants that help to collect and analyse market information about the investment. While respondent 3 expanded that with the advent of COVID-19, one has also to assess how easily the building can be repurposed. Another respondent highlighted the need to evaluate the type of tenants the property would be able to attract.

Respondent 6 said, *“in the case of commercial property, you have to consider who will be the anchor tenant and where you will get the other tenants to occupy the remaining spaces.”*

They further commented that this financial feasibility analysis forms the basis of the decision-making by presenting the cash flow projections, capital costs and investment profitability. Another respondent referred to this process as a high-level investment appraisal.

Respondent 2 revealed that once they have obtained information from the market relating to market rents, financial feasibility, development cost, and valuations, they take them to the client or investment committee. The respondents attest that the reports are taken to the investment committee, and respondent 1 referred to this stage as collecting all the papers and presenting them to the investment committee for review and final decision. Respondent 8 referred to the investment committee as the board where all reports are presented on the outcome of the market research to be evaluated further. The respondents further commented that the investment committee assesses the investment's profitability by focusing on the positive NPV, IRR, DCF, and

payback period with the set return target in their investment policy. Respondent 4 asserts that the ratios are used compared to the benchmarks already outlined in the investment policy. He added that gross rental yields, net rental yields, and leverage or financial structure are among the ratios that inform their decision-making. Further, the respondents added ROI and tenancy level analysis as critical tools to establish whether the investment committee would issue a go-ahead with the investment. Respondents 2 and 4 explained further that when the return is lower than the target return, they sometimes ask quantity surveyors to reduce the development cost or consider negotiating the property's purchase price.

Respondent 8 commented that,

*“Based on the positive IRR, the investment will be given the go-ahead even though the IRR can be as low as 4 per cent...”*

Upon the project being approved by the investment committee, the respondent indicated that they undergo finance structural analysis. Respondent 8 similarly referred to the processes as an assessment of the funding model for the investment. She further explains that a perfect financial model will allow the property's income to cover the capital cost. Similarly, respondent 6 shared the same viewpoint by referring to this stage as gearing, where the investor decides how much percentage debt should take and what percentage will be allocated to equity. In contrast, others preferred it to be the financial investment mechanism stage. During this phase, respondents revealed that they assess the best financing structure for the investment to achieve the return they aimed for in their investment policy. Of eight respondents, respondent 1 explained that pension fund investments are usually done on a cash basis, so there is not much consideration of other funding sources. Further, the respondents indicated that the capital structure involves not only the analysis of the percentage of debt and equity but also where to source funding and at what cost, which will not affect the return on the investment.

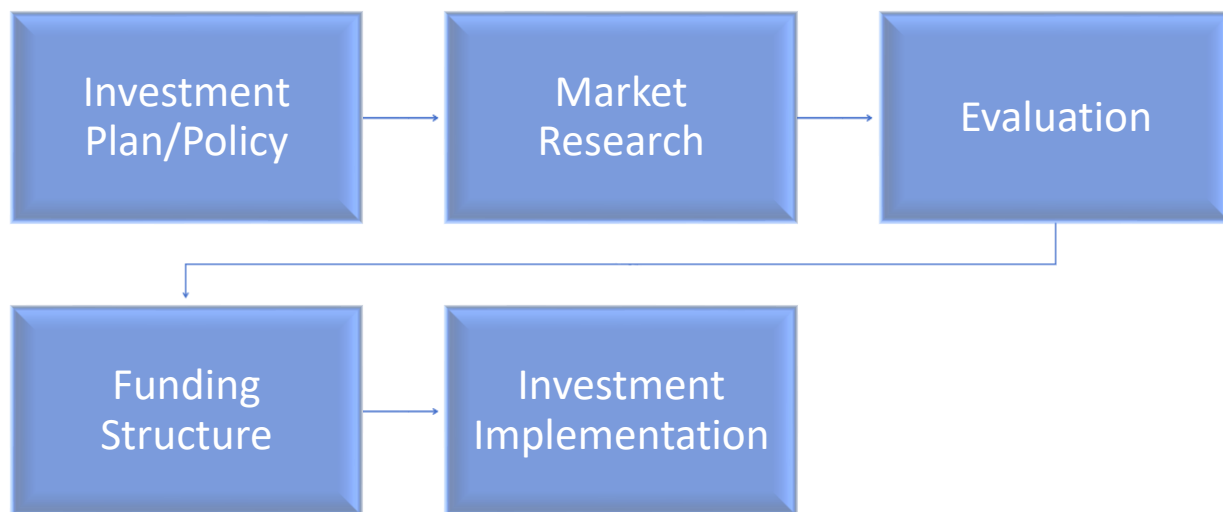
Respondent 5 summarised the process of determining the capital structure in this way, *“once the analysis of the whole investment has been done, you determine the financial model whether it is debt or equity that is a process of its own. Sometimes you engage external consultants to assist in finding the best financial models and even finding other investors to partner with, and these*

*external consultants are called arrangers. Before engaging arrangers, you must assess in-house whether you have the expertise or capacity.”*

The eight respondents proceeded with the observation that once the best mode of financing has been agreed on, actual construction commences or, in other cases purchasing the property. Respondent 8 referred to this final phase as the implementation model. At this point, the project managers and contractors are engaged to undertake the development. In the case of purchasing the property, respondents 1 and 4 revealed that it is the most preferred pathway to acquire the commercial property they engage lawyers and property managers. The lawyers and property managers (in-house or outsourced) assist in the transfer of ownership of the property, and later the property managers conduct the day-to-day operation of the property.

The respondents' views above have suggested a process pattern of five stages in arriving at the investment decision. The stages can be summed up into the following steps – 1. investment plan or policy, 2. market analysis or research, 3. evaluation, 4. funding structure and 5. the investment implementation stage. It is interesting to note that the five stages revealed by the interviewees on property investment decision-making in Malawi is a simplified decision process of the normative decision model, as pointed out by Roberts and Henneberry (2007), and it has the funding stage as compared to what Parker (2014) discovered in the Australian decision-making process. However, the simplified stages have similarities with what Roberts and Henneberry (2007) found in France and Germany's property market, with one stage short of the UK property market decision-making process.

The property investment decision-making process in emerging property markets with poor transparency can be summarised in the figure below.



*Figure 7. Property Investment decision making process in Malawi market (Author, 2022).*

The investors operating in the Malawi property market undertake a similar decision-making process as those in highly transparent markets, despite transparency challenges. Although the investors have different terminologies of the stages, their behaviour in each stage is somewhat similar. Interviews have shown that in the first stage, “Investment Plan/Policy,” the investor sets out the goal and how it will be achieved. This similar activity is also seen in the “strategy setting phase” noted by Roberts and Henneberry (2007) in the UK, France and German property markets. Similarly, Parker (2014) stated the starting thought process in the Australian property market, referred to as the envisioning stage, where the investor articulates the goal and how they intend to achieve it. However, the Malawian investors' decision-making process involves the “funding structure analysis”, which is different in cases of investors in a highly transparent market, as observed by Roberts and Henneberry (2007); Parker (2014). This phase involves finding development financing for other investment partners in line with the set goal of the investment. While similar decision-making structures are used, like in many industrialised countries, the level

## Making Property Investment Decision in A Market Environment with Poor Transparency

of information is vastly different. Below is the decision-making process revealed in the interviews and those revealed in the literature by Roberts and Henneberry (2007) and Parker (2014).

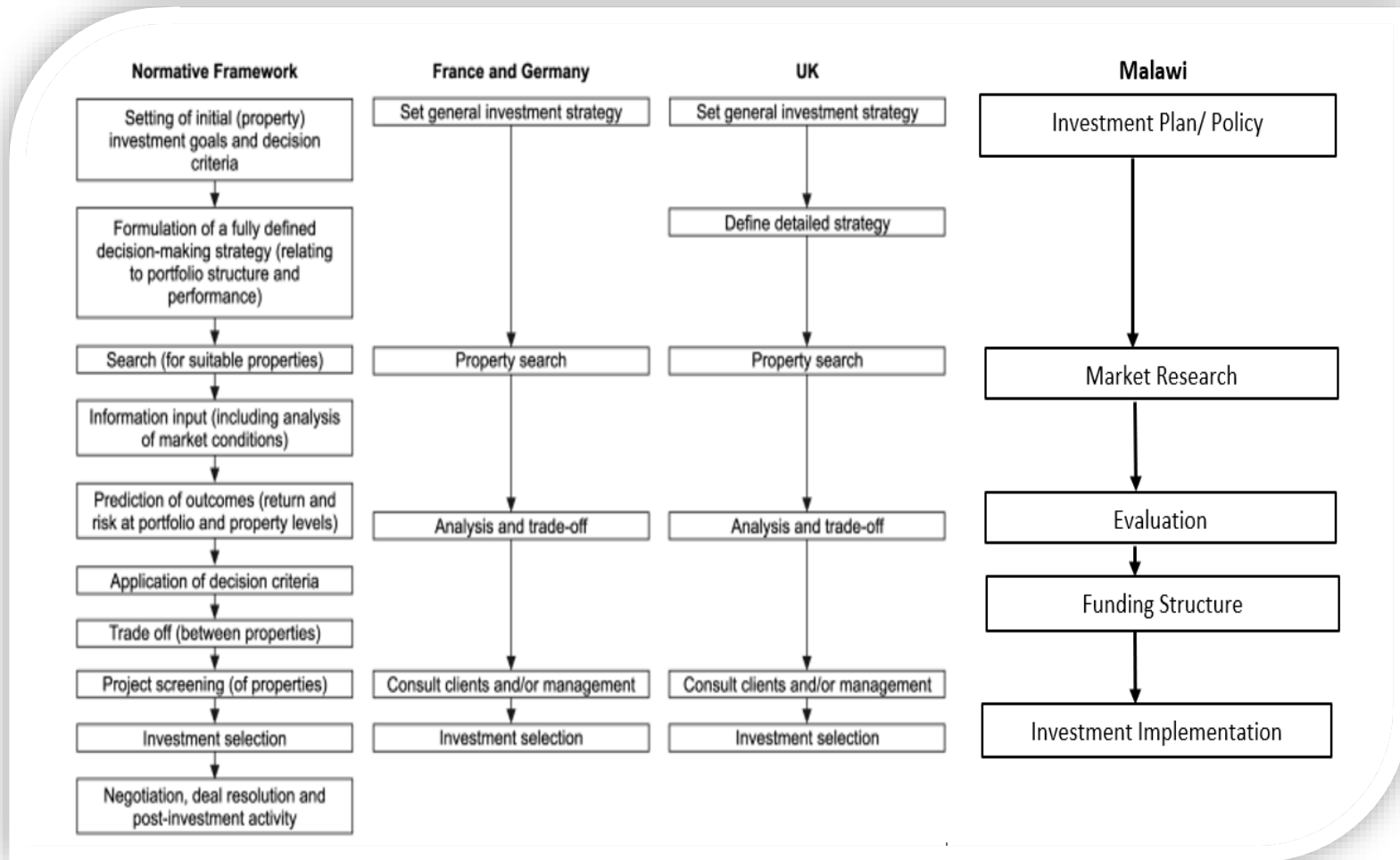


Figure 8. Decision-Making in Malawian (Author, 2022) & Normative framework & industrialised countries (Roberts and Hennebery, 2007).

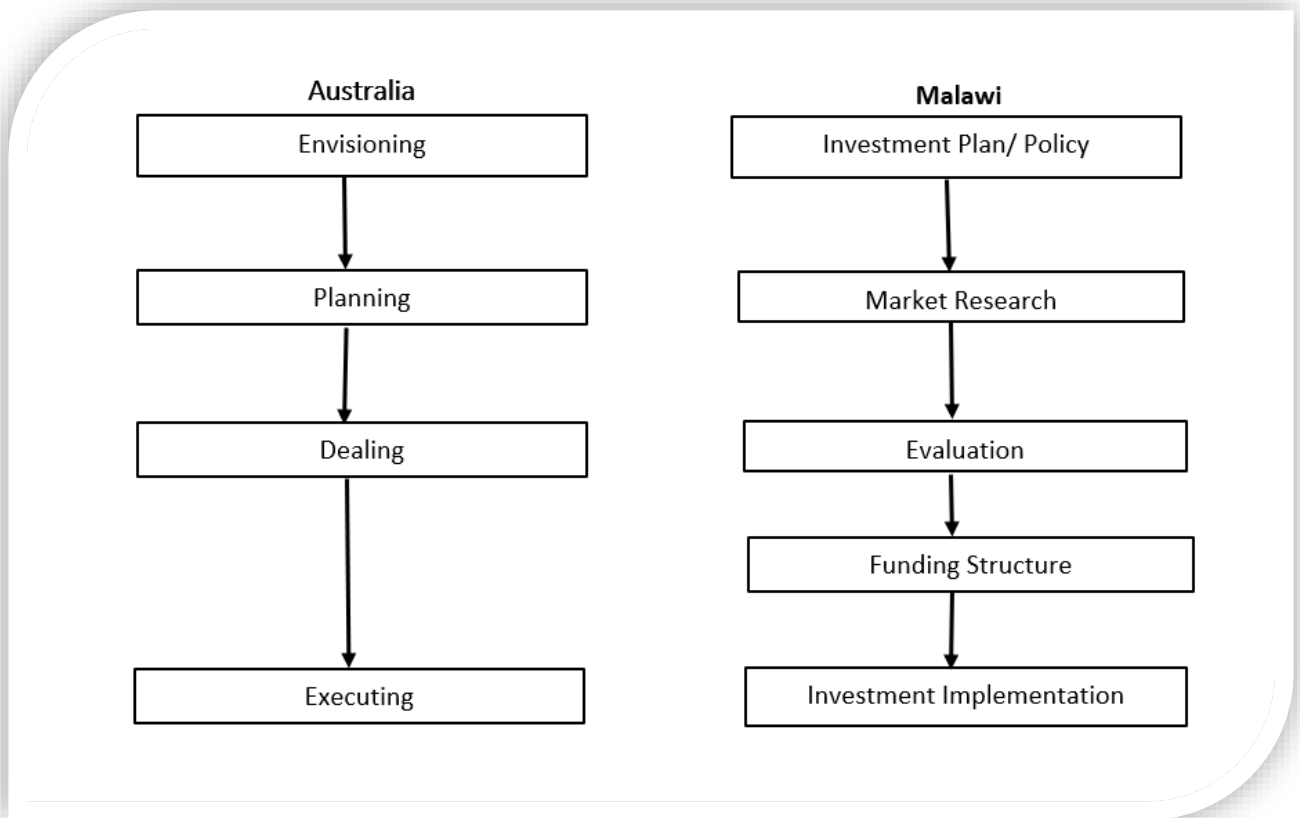


Figure 10. Australian (Parker, 2014) & Malawian decision-making process (Author, 2022).

The Global real estate transparency index report (LaSalle, 2020) indicates that information is hardly available in low and opaque property markets. However, the investors' behaviour of engaging consultants who collect data and provide them in a structured manner to aid in their decision-making process shows that there is information in these markets. Interestingly, investors are overcoming the information deficit by incurring more transaction costs with the engagement of these independent consultants, similar behaviour observed in property valuers in these markets by Mooya (2009).

In addition, the interview has also revealed that investors in these markets even if they do not have the same level of data, they rely on rational evaluation tools based on quantitative techniques to inform their decision-making process. Such tools are the payback period analysis, ROI, IRR, NPV analysis and DCF. Surprisingly when asked what critical role modern portfolio theory

plays in informing their decision, it showed that it is less critical. Respondent 4 said, *“you know those things (referring to modern portfolio theory) are only found in books.... here you look at your payback period and then consider the returns.”* This shows that some models are more suitable or beneficial for players in these markets than others. Further, players seem more concerned about the return and when the investment will pay back.

Consistent with other literature (Tversky and Kahneman, 1974; Gallimore and Gray, 2002; Kahneman, 2011; Mooya, 2016; Parker, 2019), the investors' methodology of acquiring information and entering into decision-making revealed an interesting tendency to biases and heuristics that play. Investors in Malawi market rely on data collected from their peers, which subjects them to anchoring and adjustment bias. Further, this behaviour makes them even more susceptible to availability heuristics because they put more weight on the information they collect easily from their peers and consultants, which might not reflect the market (Kahneman, 2011). In addition, representative and confirmation bias plays out as well since they base their decisions on information collected from the consultant, which mostly is the presentation of their portfolio performance and not the market. Confirmation bias emerges in the planning stage as the respondents revealed that their client's choices and allocation are dictated. They will end up finding information that supports the choice of the investor rather than being objective in their research and evaluation, as respondent 2 indicated that *“most often it is the client who dictates the percentage allocation of the property in the portfolio and the property sector to invest in from there we conduct a market study”*.

### 4.5 Information for Property Investment Decision Making

*What property data do you require/use to make a property investment decision?*

The respondents replied that they seek property values from certified property valuers operating within the market. Respondent 2 explains that such valuations inform them of the price they should offer to acquire the property. However, respondent 4 said that sometimes these valuation reports are questioned on the accuracy of the values assigned to properties.

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*“Sometimes you receive the valuation report of a certain property, and you see the rentals being charged and the value assigned to that property...eh eh. you start to wonder how he arrived at this value with a strange yield...”* Respondent 4 said.

Respondents 2, 4, and 7 said they asked other valuers to conduct the valuation exercise on the same property to address these information reliability questions. They revealed that they would get three valuation reports in certain instances and choose the value that seemed more representative of the market. Further, respondents 2, 3, 4, 5 and 7 reveal that they outsource these services in most cases as they only have the expertise to collect and analyse the market information. Respondent 2 revealed that they engage property experts like Knight Frank, Broll Malawi (now called bml corporate real estate services) and MPICO.

In addition, respondents 2 and 4 indicated that in the case of new development, they consider obtaining construction costs from quantity surveyors and professional drawings from architects and engineers. Respondents 2 and 4 pointed out that they sometimes purchase properties still under construction. In such instances, they require both the value of the property and the cost of completing the development, together with a structural analysis report from engineers.

*“...for example, now we are in the process of purchasing a commercial property in Lilongwe that is not fully developed.... we are obtaining what it would cost to finish the development from quantity surveyors, structural soundness, and the valuation of the property before we complete the transaction.”*

Respondents 1, 2, 3 and 8 revealed that they also obtained information on rentals that are being charged on similar properties in the area. All respondents indicated that they obtain this information from property managers, most of whom outsource such services. Two suggest that they use their in-house property managers to provide them with such information. In addition, three respondents mentioned vacancy rates. Where respondent 3 expressed that,

*“...you also have to consider the vacancy levels within existing buildings in the area you want to build.”*

Another, respondent 6 said,

*“...information on the tenancy levels in the market is very important to see if you will be able to get tenants for your property.”*

Respondent 1 revealed that they also assess the tenancy level the property can achieve while holding the asset in the portfolio. Further, the six respondents, namely respondents 1, 2, 3, 4, 6 and 8, revealed that they also use economic performance information of the country, which they obtain from different stakeholders that publish the country's economic performance. Further, this information includes inflation, the economy's overall performance, the area's demography, and forex performance.

Respondents 1, 2, 3, 4, 6 and 8 further indicated that another critical piece of information is the returns on the market for similar investments. This information the respondents obtain from fellow asset managers and published reports on portfolio performances of other asset classes.

The interviews with investors suggest that the most critical information they look at when making property investment decisions are property values and rental income. These values are obtained from valuers as indicated in their decision-making explanations of the market research stage. In addition, information on development cost, vacancy rate and market rental of similar developments are also paramount.

Surprisingly, the investors' actions to minimise transaction costs seem to engage in mutual trust transaction activity where they obtain other information on property market investment from their fellow asset managers. Respondent 6 refers to the mutual trust transaction as a *“confidential transaction”* when he said, *“property information is obtained on the confidential transaction, so it is hard to disclose such information on the market”*. There is somewhat of a common expectation that everyone will need something from the other, and they created that network based on that joint trust. Respondent 3 put it very well, saying, *“you know if I need market returns information, I will just call a few friends from other asset management companies...”* being asked whether they might refuse to share the information, he further explained that *“they cannot refuse because they know that tomorrow they will need something from me as well”*. This behaviour was also noted in property valuers operating in a similar market by Kabanga and Mooya (2017), where valuers overcome the information deficit by seeking information from other practitioners. This behaviour

leaves the players open to anchoring on the first information they receive and adjusting from there to arrive at what they deem market representation.

### 4.6 Investment Analysis tools

*What property investment tools inform your investment decisions?*

All the respondents replied with a different list of in no order of importance on financial matrixes or ratios that inform investors in decision making. The list included the following financial ratios without ranking them on importance; payback period, internal rate of return, net present value, discounted cash flow analysis and returned on investment. In addition, respondent 3 added the economic projections and political analysis to the list, a reasonable test to assess the reliability and comparative multiples. Respondent 4 added the stress test analysis as among the tools that inform their decision-making on property investment.

Clearly from the interviews with the investors is that despite the challenges encountered in accessing reliable and quality information, quantitative techniques play a critical role in informing their decision process (Farragher, 2008; Adams *et al.*, 2012; Salzman and Zwinkels, 2017). Further, despite the importance of quantitative techniques in understanding the property market, the players also focus on institutional arrangements and their impacts, primarily seen in the need to assess economic and political projections.

### 4.7 Half Empty or Half Full

*On a scale of 1 to 10, how would you rate the availability of the following information? (1 being poor availability, 10 being fully available)*

Respondents were asked to scale the availability of property information that informs their decision-making. The information choices were vacancy rates, property yields, market rentals, construction costs, and other relevant property information. Respondent 1 rated the availability of information as 3/10, and respondents 2 and 7 rated the availability of information as 6/10. While respondents 2, 3 and 5 rated the availability of information on a scale of 5/10. Another respondent, 8, was torn between 3.5/10 and 5/10 owing to her understanding of being privileged to be with

## Making Property Investment Decision in A Market Environment with Poor Transparency

the network of some custodians of property information; however, she ended up giving it a score of 5/10, calling it “a generous rate”. Below is an illustration of the scale of availability of property information.

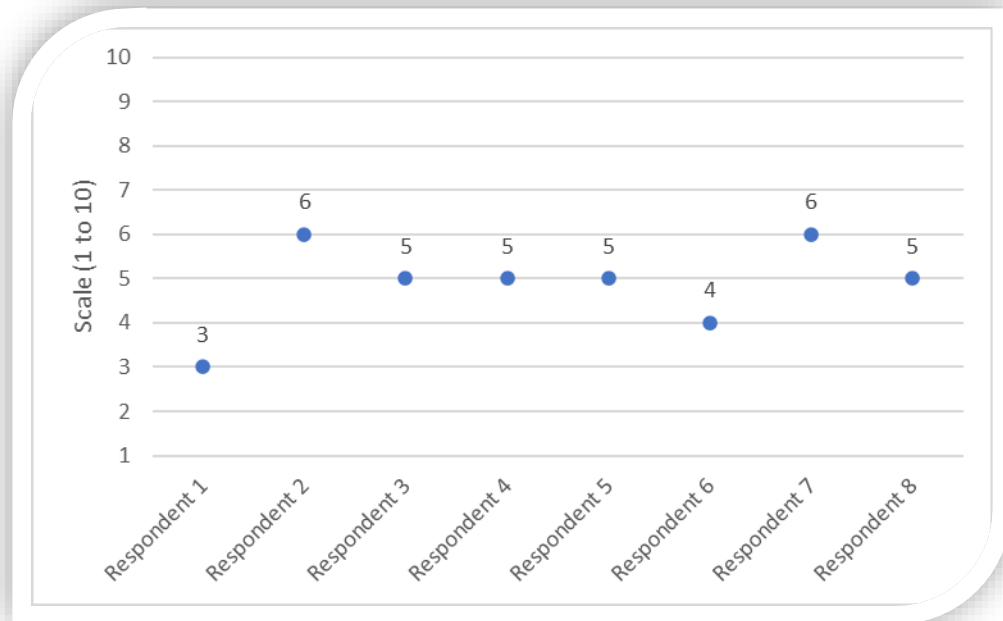


Figure 11. Property Information availability scale from 1 to 10; 1 implying no information available and 10 implying full availability of information (Author, 2022)

Respondent 2 commented that “...information is not easily accessible; one must know specific people to obtain property information. Sometimes you find people hiding information because they want to be paid before sharing it.”

Respondent 3 disclosed that “property information is not published and only Knight Frank does publish, but that information is a reflection of their portfolio, and oftentimes it is not kept up to date.”

Respondent 1 revealed that “...for rental yields, it is only Knight Frank reports that cover that, and you will notice that the data focus much on their properties which is not a representation of the market report.”

Respondent 6 explained, "...you see, eh...you have to hire someone to collect the specific information you want and present to you; otherwise, it will be hard to do it yourself if you do not know people."

The scale analysis from the respondents shows most of the information available at 5/10, which reveals that at any decision-making point, the investment players are faced with somewhat a confidence score of 5/10 on the market information. However, when asked to explain why their rate is not 10/10, they indicated that the difficulty in accessing the information was the critical reason they scored it lower than 10. Further, interview answers revealed that to access the information, players in this market must know someone who knows the data, processes it, and presents it to them in a structured form at a higher cost. In addition, to win this investment game, players should find means to enter the network to benefit from the mutual trust transaction cost, as noted earlier in this analysis. This institutional arrangement of the market could be why the global transparency index 2020 ranks these markets as low transparent or opaque. It would be challenging to assess market performance or get a score on market fundamentals. In addition, the replies reviewed that when deciding based on what has been presented to them by consultants and with a rate of 5/10 clearly shows they make decisions based on little information, relying on availability heuristics and anchoring.

This confirms the findings in the literature that information available in these kinds of markets is patchy; the means of collecting the information raise some question on the quality and reliability of the information (Mooya, 2009; 2016; Kabanga and Mooya, 2017; Namangale and Chimalizeni, 2021; Anim-Odame, 2022; Viruly and Karam, 2022). As narrated by one respondent above that some hide information. This is what Seabrooke and How (2004) argued that not all players aim to promote perfect competition because they are benefiting from the information deficiency. Further, this confirms Roberts and Henneberry (2007) assertion that investors operate in an imperfect market environment. Information-sharing among players within a mutual trust network creates an institutional arrangement. Eichholtz *et al.* (2011) argue that this arrangement increases information costs for international investors entering these markets.

### 4.8 Making better decisions.

*Would you make better decisions if information availability were improved?*

The overall response to this question was that improving property information availability would help investors make better decisions based on reliable information. One respondent commented that the availability of information would encourage many investors to enter the market with ease as the level of information asymmetry would be reduced. When asked further, *“that would make them take more risk?”* Two respondents revealed that improved availability of information would make investors take more risks. Respondent 1 commented, *“I would say it will help not to take more risk but help make better investment decisions on where to develop and how to develop. I believe most developers do not use market information in their decisions.”* Respondents 5 and 8 agreed with respondent 1 that improvement in information would make investors make better decisions. However, they pointed out that institutional investors mostly base their decisions on numbers while other general investors seem they rely more on gutfeel. On whether the situation is different between property sectors, they responded that the situation is similar across the property market sector.

As expected, improvement in the availability of reliable information would encourage players to take more risks. The interviews further advanced this thought, revealing that players would make much better decisions backed up by sufficient and updated reliable property market information. In addition, the sentiment from the respondent agrees with what GRETI (2020) report advances: improved transparency would encourage more players to enter the investment market. Respondent 8’s narration underscored in saying, *“when information availability is improved, it will make investors not to miss out on opportunities...I think most opportunities are missed because we do not know of them”*. Interestingly, no one mentioned that improvement in information availability would reduce transaction costs, and respondent 4 confidently stated that he was willing to pay if someone created a platform that offered reliable property market information. This shows that the current situation benefits some institutions and players within the market.

#### 4.9 Uncertainty

*What are the significant risks that you face?*

Respondents expressed that the risks they face when investing in commercial property in Malawi are, liquidity risks. Respondent 3 explained that you should buy properties that you would easily sell on the market should the investor want to cash out on their investment. Further, respondent 7 reveals that questionable valuation reports are among the market risks. He said, *“you request three different valuation reports from different consultants. You notice that there is a gap in the valuations of about 30% or even more in certain cases”*. In addition, the interviews indicated that interest rate, occupancy, and forex risk are among the most critical risks they consider when playing the investment game. Respondent 3 commented that if you are developing a commercial property, you must consider forex issues because almost 65% of the building materials are procured outside the country.

Similarly, respondents 5 and 6 shared the same view with respondent 3 that when developing commercial property, you must consider the forex risk because most of the building materials are imported. In addition, respondent 6 included institutional risk as among the risks that investors experience during property investment. He further explained that,

*“Planning approval process takes a long time to approve developments. By the time it has been approved, the market has changed, and you have to recalculate your returns and development cost.”*

Contrary to the above, respondents 3 and 5 commented that *“planning application procedures are done to follow paperwork, but sometimes they are ignored...”*

The comments reveal an interesting thought that the regulations institutions are not that strong in certain instances, which the investors can ignore. The regulation and institutional process can significantly affect an investment in certain cases. In such instances, it could be considered among players' risks in these markets. Further, this is in line with the risk GRETI (2020) transparency index report rated lower transparent and opaque markets as having weak regulatory and legal

institutions. In addition to these risks, players in this market consider forex, occupancy, and interest rate risks.

### 4.10 Improving Market Transparency

*What are the factors that would improve market transparency?*

Respondents expressed that the government should lead in collecting and publishing updated property information. Respondents 1,3,6, 7 and 8 commonly explained that the ministry of lands should collect this property information and function as a depositary and repository of property information. Respondent 7 explained that property companies should be placed under regulation to publish their property information. He explained that *“most players in this property industry are not listed on the stock exchange market, so they choose to hide information.”*

Similarly, respondent 3 suggested further that the property companies publish their property market information in detail like in other advanced markets. In addition, respondents 4, 5, and 6 expressed that there should be a databank that anyone who needs property information can access at a fee. Further, respondent 4 believed that if companies or large investors publish their property information, it will help in improving market transparency. The replies suggest that an improvement in transparency could be better spearheaded by the government institutions being custodians of market information. Respondents agree to level the playing field by improving the availability of reliable market information. However, this also opens entrepreneurial opportunities for private entities to bridge the gap and start collecting data and presenting it to the market in a structured manner. The entrepreneurial entities could follow an example of Rode’s report and SAPOA's reports in the south African property market.

### 4.11 Critical Themes arising from the research.

The critical themes arising from the interviews after coding the data from semi-structured interview are numerical, mutual trust transactions, high transaction costs, behavioural techniques, and adaptability.

### 4.11.1 Mathematical approaches Dependency

The interviews with investors revealed that despite the low level of reliable property information available, investors gravitate towards mathematical tools and numerical information to inform their decision-making and behaviour in the investment game. Respondents 2, 4, 5 and 6 revealed that they conduct financial viability using mathematical techniques to analyse market information to inform their decision to invest in a particular property. Further, respondents 4 and 8 revealed the use of NPV, IRR, DCF and payback period tools that inform their decision-making. Despite respondents 3, 4,5, and 8 ratings of the availability of information at a similar rate of 5/10, the investors still prefer mathematical approaches to inform their decision-making process and behaviour. The interview data has shown that numerical approaches play a critical role in decision-making despite poor transparency environments prevailing in this property market.

### 4.11.2 Mutual-Trust Transactions

The interviews have further revealed a distinct behaviour among the investors on how they acquire information within the market. Respondents 3 and 6 revealed that they engage with fellow asset managers or property managers to share their property information. This activity of seeking and sharing information second-hand is done on mutual trust that everyone will need some help with information at any time. Further, respondents 2 and 4 underscore the point that for one to have access to information must know specific people or be within their trust network to benefit from this type of transaction. The sentiments of respondent 6 summarise the disadvantage of not engaging in a mutual transaction in acquiring the information, “...*you must hire someone to collect that information for you*”.

### 4.11.3 High transaction costs

The behaviour of investors in acquiring market information in the Malawian market experiences high transaction costs owing to the limited availability of information. Respondents 2, 3, 4, 5 and 7 revealed that when you want specific information, you must pay consultants to provide well-structured information for decision-making. Respondent 6 further adds that you must hire consultants to collect precise information and present it to you for decision-making. The poor

market transparency makes investors incur more costs to access information that informs their decisions, and new investors entering these markets must be willing to incur even more costs. In addition, those who provide second-hand information influence the amount of information they share and at what cost. Respondent 2 illustrated this point well when they expressed that some second-hand information providers hide information in expectation of payment before they share it.

### 4.11.4 Behavioural techniques

The behaviour displayed by investors on how they acquire information, and the source of that information reveals a heavy reliance on some heuristics and biases, which are intuitive shortcuts in decision-making. The acquiring of second-hand information from other market practitioners, as exhibited by respondents 2, 3, 4, 6 and others, reveals the use of availability heuristic and representative heuristics. In the decision-making process, they overreact to information provided second-hand by fellow asset managers and, in some instances, property managers. To this behaviour, respondents 1 and 3 warned that most of the information offered second-hand or published is a representation of the company portfolio, and often it is not up to date. Similarly, respondent 2 expressed concern that some hide information in expectation of being paid to provide complete details they know concerning the market status.

Further, those who provide second-hand information control how much information they should share, influencing investors' decisions through anchoring. In addition, all eight respondents revealed that the client or investors, in most cases, have the mandate of dictating the choice of property to be part of the asset portfolio in the planning stage. This could lead to confirmation bias, where they will weigh more on information reinforcing their choice.

### 4.11.5 Adaptability

The data collected from investors revealed the theme of adaptability to the market environment conditions. This is evidenced in the simplified five-staged decision-making process from the ten-staged normative decision-making model discussed in the literature review. This streamlined process begins with an investment plan or policy to market research, evaluation, and funding

structure ending with investment implementation. The simplification stems from the limited availability of information expressed through respondents 3, 4, 5 and 8 ratings of the availability at a similar rate of 5/10. The investor's responses suggest they make optimal decisions based on the information they have managed to access despite the poor transparency. Further, they create a network where they share and access information through peers and other stakeholders within the property market.

### 4.12 Summary

This chapter presented, discussed, and analysed the findings from the semi-structured interviews with asset managers, investment managers, managing directors and pension fund managers. The lived experiences of the research participant revealed that investors in the Malawian market undergo a five-stage decision-making process in their property investment decision. These stages are Investment planning or policy, market research, evaluation, funding structure and investment implementation. Furthermore, they operate in an uncertain and imperfect market environment with high transaction costs. Throughout this decision-making process, investors rely on information such as property values, market rentals, returns, vacancy rates and development costs. This is a result of a lack of market transparency. Further, this information is sourced through the engagement of property consultants and fellow asset managers. In addition, the financial (mathematical) tool is critical in informing their decision-making process.

Investors rely on heuristics as part of their methodology of deciding based on the available data because of the low availability rate of information. Moreover, the data analysis has revealed that despite playing the investment game in a market with poor transparency, investors use a similar approach to those in the high transparency markets. Accordingly, the analysis has further shown that for one to access information, they should be connected to the right stakeholders within the markets. Finally, the analysis has brought the following themes: positivism, mutual trust transaction, high transaction cost, behavioural techniques, and adaptability. In addition, the research is showing that the proposed theoretical framework in the literature review could be useful to explain how these markets function.

## Making Property Investment Decision in A Market Environment with Poor Transparency

The next chapter will use the findings from this chapter to draw the study's conclusion and recommend areas for future studies.

## CHAPTER 5: CONCLUSIONS AND RECOMMENDATION

### 5.1 Introduction

As discussed in chapter 1, this study aims to advance an understanding of how investors make a property investment decision in markets with poor market transparency. The chapter starts with reflecting on the emerging themes from the interviews vis-à-vis those emanating from the literature review. Later the chapter assesses whether the research has achieved its purpose by revisiting each research objective and expressing how it has been completed. Further, this chapter will state whether the research supports or refute the research proposition set in chapter 1. In addition, the chapter will end with outlining the recommendation for further research and a chapter summary.

### 5.2 Reflection of the research

The research findings have revealed the following themes: Investors' reliance on mathematical tools in decision-making processes. This positivist view has been evidenced in how investment players analyse the property markets and gravitate towards mathematical tools to inform their decision-making process. Further, there seems to be considerable evidence that in Malawi, A market with low market transparency there is evidence of decision making through mutual trust transaction activities . This relies on acquiring market information from fellow practitioners Additionally, the theme of high transaction costs that investors incur in acquiring pertinent property information is critical in the decision-making process. This is a consequence of poor transparency in the property markets of Malawi.

Additionally, behavioural techniques in decision-making, especially availability, representative heuristics, and anchoring, are among the themes revealed in the interview data. Lastly, the adaptability theme revealed by the respondents on how they address the information deficiency owing to the poor transparency environment of the market. Further, in the quest for adaptability, the investors deviate from the normative decision-making process to five stage decision process using behavioural techniques and available information in making optimal investment decisions.

It should be noted that the findings of the research seem to support the themes that were observed in the literature review. Through the literature review, themes emerged - the themes of peer dependency were players obtaining information from fellow practitioners within the same market (Kabanga and Mooya, 2017; Namangale and Chimalizeni, 2021), high transaction cost (Seabrooke and How, 2004; Mooya and Cloete, 2007; Mooya, 2009). The adaptability theme was also revealed in the literature review of more industrialised countries adapting to the market environments in the decision-making processes through behavioural approaches (Roberts and Henneberry, 2007; Parker, 2014; Mooya, 2016; Salzman and Zwinkels, 2017). Although the themes from the interview data follow a similar pattern to those in the literature review

### 5.3 Achievement of Research Objective

The research objectives were to:

- 1) Analyse how investors make property investment decisions in Malawi commercial property market with poor transparency.
- 2) Determine the information that property investors use in the decision-making process.
- 3) Establish the sources of information that property investors use in decision-making.
- 4) Establish the extent to which property investors use behavioural approaches in commercial property investment decision-making.

#### 5.3.1 Achievement of Objective 1.

The first objective of this research was to explore how investors make property investment decisions in the Malawi commercial property market, which is characterised by poor market transparency. The objective was achieved in part through a critical literature review and the other part through interviews with investors in the commercial property sector in Malawi. The literature review provided the normative decision-making model that suggests how investment decisions should be made. It was found that the normative model has ten stages for investment decision-making (Roberts and Henneberry, 2007). Investors use a simplified decision-making process in practice concerning the normative decision-making model. Literature found that in Australian, UK,

German, and France property markets, investors employ a similar decision-making process of setting the investment strategy, property search, analysis and trade-offs, and purchasing of the property (Roberts and Henneberry, 2007; Parker, 2014). The literature review further found that the reason underpinning the simplification of the normative decision-making process is the use of heuristics.

However, the interview with commercial property investors in the Malawi property market has found that their decision-making process follows a similar structure to those in more industrialised countries. As opposed to the ten stages in the normative decision-making process, the Malawian decision process simplifies the normative decision model. Despite the Malawian property market having challenges with regards to access to reliable market information and being not transparent, like in the industrialised countries, the investment process follows a similar decision-making process. The Malawi decision-making model is undertaken through the following stages.

1. The first stage is investment planning or policy, where investors set out what they want to achieve with the investment. It involves setting up the returns they want, how much exposure they want to property and what type of property to invest in and exceptions they might allow throughout the investment process.
2. The second stage is conducting market research to find the actual property and location to invest in. Further, it involved property valuations, the establishment of construction costs, vacancy rates, and possible rentals that can be achieved by the property. In addition, the demand and suitability of the property investment are also assessed here.
3. The market research report is sent to the evaluation stage. This is done by what the interviewees called the investment committee. This involves the assessment of the financial suitability of the property with the set goal in the investment planning/policy stage.
4. The fourth stage is the funding structure covering a standalone stage that is not considered in the decision process in the UK, German, France, and Australian property markets. This considers how they will finance the property investment through debt plus loan ratio or cash. This is done regarding the set policy in the first stage.

5. The final stage is investment implementation, where the investors engage in the actual purchase or development of the property. This involves the engagement of several stakeholders in the property development or purchasing process and the activities engaged after investment.

This has shown that despite investors operating their investment decisions in a market environment with poor transparency and high transaction costs, they make their decisions in a similar structure as they would in a more transparent market but rely on less certain sources of information. Although the decision-making structure is similar in more industrialised countries, the information level differs.

### 5.3.2 Achievement of Objective 2.

The second objective of the research was to determine what information investors rely on when making property investment decisions in the Malawian property market. The research found that investors in the Malawian property market rely on different kinds of information in their decision-making process. The information relied upon is the returns being offered for similar properties on the market, the level of vacancies in the property market within the location the investor would like to invest, and the market rentals for similar properties. In addition, they consider the inflation rate performance of the country's economy and the overall economic performance, which touches on the forex performance. Further, active demand is available for the property within the location and legal requirements.

The interviews have further revealed that investors put more reliance on specific financial matrixes in making their investment decisions. For example, the payback period, IRR, NPV, ROI and the DCF informs investors what type of information they should seek from the market. Further, the anticipation and desire to minimise or eliminate the vacancy risk, forex risk and interest rate risk that investor identifies in this market motivates them to put more weight on positivist tools to inform their decision-making despite the transparency issues.

### 5.3.3 Achievement of Objective 3

The third objective was establishing the information sources investors rely upon in this market. This objective was partly achieved through a literature review; however, it essentially was achieved through interviews with investors in the Malawian property market. The literature review found that in poor transparent markets, property information is obtained from fellow practitioners, the behaviour noted in property valuers by Kabanga and Mooya (2017) and Namangale and Chimalizeni (2021). Likewise, the interviews concluded that investors behave similarly to property valuers in this market by collecting information from fellow asset managers or pension and property managers. In addition, investors collect information relating to property values and construction costs from consultants with the technical knowledge to collect the information in this market, analyse it, and later provide it to investors in a structured manner.

In these property markets, the transaction cost is high owing to poor market transparency. To overcome the costs and deficit in information, investors obtain market information primarily from second-hand sources whose providers are also asset managers and property managers.

### 5.3.4 Achievement of Objective 4

The final objective was to establish the extent to which property investors use behavioural economic approaches in commercial property investment decision-making. This objective was achieved through a critical literature review on heuristics and biases property investors use in decision-making. The semi-structured interviews revealed how they utilised. The literature review found that in property markets environments with high or poor transparency, investors make use of decision-making shortcuts (heuristics) in their decision making and in imperfect transparent markets, they are relied upon heavily (Tversky and Kahneman, 1974; Gallimore *et al.*, 2000; Gallimore and Gray, 2002; Roberts and Henneberry, 2007; Mooya, 2016). The review found the following heuristics as applicable to the property market: the representatives, availability heuristics, anchoring and adjustment bias, and framing and confirmation bias. Further, the literature found that owing to poor transparency and cognitive constraints, investors deviate from normative decision-making models, as observed in the decision-making model in the literature (Gallimore and Gray, 2002; Salzman and Zwinkels, 2017).

Comparably, the interviews have found that investors in these markets use heuristics and biases in their decision-making process. The following heuristics have been established through the interviews, representative heuristics, confirmation bias, anchoring, and availability heuristics. This confirms the findings from the literature. In this market with information availability at a majority rate of 5/10 and second-hand means of acquiring market information, the investors exert more weight on heuristics and biases in the decision-making process despite using financial matrices to process the property data.

### 5.4 Revisiting the Research Question

How do investors make property investment decisions in the property market with poor market transparency?

The previous chapter's research findings explored investors' decision-making processes in property markets with poor transparency. This research has found that investors in these markets deviate from the normative decision model. They employ a simplified five-stage process like that of investors in more transparent property markets, a simplified process of the normative decision model. This simplification is attributed to the high transaction cost associated with acquiring market information required for decision-making, deficiencies in the availability of reliable market information and the use of heuristics and biases. The decision-making process follows these stages: investment policy or planning, market research, evaluation, financial structuring, and investment implementation. Although the decision-making structures are like those in more industrialised countries, the level of information is different.

### 5.5 Revisiting the Research Proposition

*Property investors in emerging countries put more weight on behavioural decision-making approaches in making property investment decisions.*

The research findings support the proposition. Although investors use financial or mathematical techniques to make sense of the collected data, they rely heavily on heuristics and possibly biases to arrive at an optimal decision. It has been revealed how investors in Mawali acquire market

information and the high transaction cost they incur. It demonstrates the players' adaptability in these market environments, which also make it more challenging for international investors to succeed in the local investment environment.

### 5.6 Recommendations for Future Research

Based on the findings, analysis and conclusions presented in this study, the following recommendations for further studies are proposed:

- a) An experiment on whether investors would change their decision-making process if presented with complete market information.
- b) Assess the decision-making process in non-institution investors in emerging countries.
- c) What are the investment benefits and challenges of accessing property market information second-hand?
- d) What are institutional failures and their impact on property investors' behaviour in Malawi property markets?
- e) How dependable is a property investment decision making according to normative models in an environment with poor market transparency?

### 5.6 Chapter Summary

Reliable property market information is critical to an investor in making optimal investment decisions. Nevertheless, in emerging markets, reliable market information is limited, but investors continue to make investment decisions on the availability of market data. The literature review revealed that investors in both industrialised and emerging markets deviate from the normative decision-making models and adopt a four to five-stage decision-making model which suggest how investment decisions are made in reality. This research has found further that investors adapt to the poor transparency conditions of the property market in their decision-making process. Further, they follow a five-stage decision process model: investment planning or policy, market research, evaluation, funding structure, and investment implementation. The deviation from the

## Making Property Investment Decision in A Market Environment with Poor Transparency

normative model could be attributed to poor transparency and the use of heuristics and biases. Throughout the decision method, investors use financial tools to inform their decisions, for example, DCF, NPV, IRR, ROI, payback period and many others.

The research also suggests that although the decision-making process is like that found in industrialised countries, the information availability is different. The information in markets with limited information is sourced and provided second-hand from market player. Amongst other recommendations, the researcher recommends that a further study should be undertaken on an experiment on whether the investors could change their decision process after being provided with complete information. This research should play a role in assisting investors entering markets with limited information as well as the strategies that they should be following. Existing players need to be aware of the heuristics and biases at play in the course of decision-making.

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## 7.0 Appendices

### Consent Form

#### INFORMATION SHEET AND CONSENT FORM

#### **STUDY TOPIC: MAKING PROPERTY INVESTMENT DECISIONS IN A MARKET ENVIRONMENT WITH POOR TRANSPARENCY**

Hello, my name is GODFREY H. KADZUWA, and I am conducting research towards a master's degree at the University of Cape Town. I am researching property decision-making in emerging property markets and would like to invite you to participate in this project.

I am interested in understanding how property investors make property investment decisions in emerging market environments and what information they base their decision on and where they get the information and what tools they use in the process of decision-making.

Please understand that your participation is voluntary. The choice to participate is yours alone. If you choose not to participate, there will be no negative consequences. If you choose to participate but wish to withdraw at any time, you will be free to do so without negative consequences. However, I would be grateful if you would assist me by allowing me to interview you.

If you agree to participate in my study, you will be interviewed at a time and on either zoom or the Microsoft Team's online platform at your convenience and comfort. The interview will involve questions about sources of information and how you make a property investment decision in this type of market environment. It should last about 30 to 45 minutes. With your permission, I will record the session and take notes during the interview. The recording is to accurately record the information you provide and will be used for transcription purposes.

To ensure confidentiality the individual names and any identifiable information will not be used in the data analysis and reporting of this study. Further, the recordings will be stored in a password-protected hard drive only accessible to the researcher during the transcription phase thereafter they will be deleted.

If you choose not to be recorded, I will take notes instead. If you agree to be recorded but feel uncomfortable or change your mind for any reason during the interview, I can turn off the recorder at your request. Or if you do not wish to continue, you can stop the interview at any time. I expect to conduct only one interview, however, follow-ups may be needed for added clarification. If so, I will contact you by email to request another online meeting.

Please note that this information will only be used for academic purposes and there will be no data sharing with any other third party. Should you have any questions or concerns please contact me at [kdzgod001@uct.ac.za](mailto:kdzgod001@uct.ac.za) or my supervisor A/Prof Francois Viruly at [francois.viruly@uct.ac.za](mailto:francois.viruly@uct.ac.za).

**Consent:** I have read and understand the explanation provided to me, and I voluntarily agree to participate in this study. I have had my question answered to my satisfaction, and I have been given a copy of this information and consent form.

**Name of Participant**..... **Date**..... **Signature**.....

Ethics Clearance:



2022/10/26

EBE/02031/2022

RE: Research Ethics Committee Project Approval Letter

Dear Godfrey Kadzuwa,

Your application for ethics review of your project titled

MAKING PROPERTY INVESTMENT DECISION IN EMERGING PROPERTY MARKETS WITH POOR TRANSPARENCY

has been reviewed and evaluated by the

CEM:Dept. of Construction Econ&Managemnt Research Ethics Committee (REC).

Based on the information supplied your application has been successful and is approved.

You may proceed with your research project titled:

MAKING PROPERTY INVESTMENT DECISION IN EMERGING PROPERTY MARKETS WITH POOR TRANSPARENCY

Please note that should:

- (i) any serious or adverse effects to participants occur and/or,
- (ii) aspect(s) of your current project change and/or
- (iii) any unforeseen events that might affect continued ethical acceptability of the project occur then you should immediately report this to the approving REC. You may be required to submit an amendment to this application, in order to determine whether the changed aspects increase the ethical risks of your project.

Please note the following additional conditions associated with this approval:

- (i)

Regards,

CEM:Dept. of Construction Econ&Managemnt

Research Ethics Committee

## INTERVIEW PROTOCOL

### Interview Protocol

#### MAKING PROPERTY INVESTMENT DECISIONS IN A MARKET ENVIRONMENT WITH POOR TRANSPARENCY

##### Introduction

I want to thank you for being willing to participate in the research interview for my study. I am conducting research as part of the requirements for a master's degree in property studies at the University of Cape Town. My research seeks to understand how property investors make investment decisions in an emerging property market environment with poor transparency. To achieve this, the study has developed research questions within the following broad themes; decision-making, type of information used in decision making and investors' behaviour in a situation with improved data availability that will be part of our interview.

Our interview today will take approximately 45 minutes. To ensure confidentiality the individual names and any identifiable information will not be used in the data analysis and reporting of this study. In addition, any information from this interview will not be shared with any third party. As per the consent form, the interview session will be recorded. Should you change your mind, please let me know.

##### Indicative Interview Questions

1. Which sector of the property market do you invest in?
  - a. Which geographical location do you invest in?
  - b. What is the size/ value of your property portfolio?
2. How do you make your investment decisions?
  - a. Do you rely on Modern portfolio theory and other statistical techniques?
3. What type of data do you require/ use to make such property investment decisions?
  - a. How do you establish the reliability of this information?
4. What are the traditional property investment analysis tools that aid your investment decisions making?
5. On a scale of 1 to 10, how would you rank the availability of the following information:
  - a. Vacancy rates.
  - b. Capitalisation rates.
  - c. Market rentals.
  - d. Construction cost rate
6. Would you make better decisions if information availability were improved?

## Making Property Investment Decision in A Market Environment with Poor Transparency

- a. Would you take a greater risk?
  - b. Is it different per sector (residential, office, retail)?
7. What are the major risks that you face?
  - a. What data do you have or use to calculate risks?
8. What are the factors that would improve market transparency?