University of Reading

Liquidity in commercial real estate markets: a social networks approach

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DECLARATION

I confirm that this is my own work and the use of all materials from other sources has been properly and fully acknowledged.

Signed: ……

Date: ……...

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DEDICATION

To God Almighty for His Grace – He alone is Worthy!

To my parents and family

"Once we understand the asset, that defines our potential list of purchasers because we know what they look for"

"I know relationship is first, and it counts; making that person feel comfortable with me and my skills, and trusting me and knowing that I have the better interest at heart"

"Relationships are very important ... the best agents in the property business tend to be the ones with the best relationships with the closest client contacts ... they are the ones that are ahead of the game ..."

"... one could not read the final script in isolation and recover the lived world except through the partial and fallible inferential process of reading the signs on the page."

Harold Garfinkel in Lynch (2012) pp. 116

ABSTRACT

There are different perceptions of what liquidity means when analysing real estate markets. The application of financial market concepts of liquidity to real estate markets has been criticised for failing to consider the operational nature of real estate markets. Research on real estate market liquidity has embraced time on market as an alternative approach to understanding liquidity. However, variance analysis of time on market fall short of explaining explicit processes in which real estate transactions are embedded. This research has focused on analysing components of transaction processes which could explain time on market. This research explored time on market from a process perspective to understand the fundamental essence of real estate market liquidity in a way that captured the market's operational nature. Within this sphere, previous studies investigated the institutional and performance (calculative agencies) attributes. This research focused on social attribute embedded in commercial real estate sale transactions. The literature review, hence, covered the nature of real estate markets, search, and social network concepts to understand how involving brokers in searching could be associated with time on market in commercial investment real estate transactions.

The research question for this study was how egocentric uncertainty was associated with search in commercial investment real estate markets of Johannesburg, South Africa and London, United Kingdom identified as Alpha and Alpha++ global and world cities. Liquidity in global cities is contingent on how the processes by which the behaviour of intermediaries, the nature of social capital and the complexity of power relations generate capital flows. Qualitative approach and ethnomethodology were adopted to understand these socially constructed processes in commercial transactions. data collection involved interviewing 19 individuals in commercial real estate brokerage firms and investment fund management firms in both markets to establish replications and/or deviations in commercial real estate processes involving office sale transactions. Constructive theoretical thematic analysis was used to identify emerging themes.

The analysis of contingencies to sale transaction processes provided insight into the operational nature of commercial real estate markets. Brokers in both markets appeared to exploit cognitive, organisational and social proximities within their social networks to resolve information asymmetry and potential opportunism. A broker's perception of transaction demands and network resources seemed to influence search strategy choice. Informal social relations seemed to have been associated with the quality of accessible information to gain tacit knowledge in less sophisticated markets, and to gain market insight in more sophisticated markets. Further research is required to establish how social networks could influence the expedience of investment decisions or be associated with cultural embeddedness in transactions.

Table of Contents

LIST OF APPENDICES

LIST OF BOXES

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

BR	Broker
CAQDAS	Computer-aided Qualitative Data Analysis Software
EAAB	Estate Agents Affairs Board
EGi	Estate Gazette Interactive
EM	Ethnomethodology
FO	Foreign ownership
FSBO	For Sale by Owner
FSS	Fixed-sample size sampling
IPF	Investment Property Forum
IPRI	International Property Rights Index
IV	Investor
JNB	Johannesburg
KYC	Know your client
LON	London
MLS	Multiple listing service
OLS	Ordinary Least Square
OS	Optimal sampling
psf	Per square foot
REITs	Real Estate Investment Trusts
SA	South Africa
SACPVP	South Africa Council for Property Valuers Profession
SAPOA	South African Property Owners Association
SB	Single Branch
SNA	Social network approach
SS	Sequential sampling
TM	Trade Mark
TMT	Telecommunication, Media and Technology
TTN	Transcalar Territorial Networks
ToM	Time on market
UK	The United Kingdom
USA	United States of America

CHAPTER 1: LIQUIDITY IN COMMERCIAL REAL ESTATE MARKETS: A SOCIAL NETWORK APPROACH

1. INTRODUCTION

Liquidity is important in investment decision making. The choice of investment(s) involves not only expected consumption but also exit options if, for instance, an asset no longer fulfils its purpose, there is an unanticipated financial imbalance, or a better investment opportunity is availed for which cash is required. Liquidity refers to the ease with which an asset can be converted to cash. There have, however, been mixed perceptions about liquidity in real estate markets. Financial markets interpretation of real estate market liquidity as inefficient in information transmission has been criticised for its failure to consider the operational nature of real estate markets. Research on real estate market liquidity has embraced time on market as an alternative approach to understanding liquidity believed to reflect the operational nature. The focus has been on distribution analysis of outputs, and component analysis of transaction attributes. These approaches have contributed to better understanding of the nature of real estate markets, but still fall short of explaining the processes in which real estate transactions are embedded. This research explored commercial real estate market liquidity from a process approach to understanding real estate market liquidity in a way that captures the market's operational nature. Real estate transactions comprise marketing and closing processes. Using the commercial real estate markets of Johannesburg, South Africa and London, United Kingdom this study sought to explore the embeddedness of social relations in the marketing process in office sale transactions.

1.1 BACKGROUND TO STUDY

The term 'ease' is quite elusive to define but generally refers to the simplicity of achieving a task relative to activities or time. The 'ease' in real estate transactions can be identified by relative transaction price, cost, volume or time. Huge cash flows accompanied by large transaction volumes [within a given period] demonstrate that assets are easily trading in that market (Clayton et al., 2008). Hence, liquidity definitions depend on the way market efficiency is understood. In financial markets, market efficiency is centred on information efficiency, hence, definitions of market liquidity focus on immediacy, depth, breadth and resilience of markets (Lizieri and Bond, 2004, Kyle, 1985, Chordia et al., 2001). Grossman and Miller (1988), for instance, define liquidity as the 'cost of immediacy' relating to the willingness to sell than wait. Chordia et al. (2005) focus on market depth (volume) by emphasising the ability to transact large quantities of an asset in a short period at low costs. Fisher et al. (2003) and Ling et al. (2009) stress market breadth in terms in terms of periodic transaction volumes. Baum and Crosby (1995) define

liquidity with respect to resilience as the ability to minimise the impact of trading shocks and to revert to market price.

Real estate assets markets are unique. Assets are heterogeneous and trade thinly in spatially dispersed markets. Information is privately held, and brokers have a prominent role. This contrasts with markets for financial assets, where far higher transaction volumes occur on public exchanges. Transaction cycles in real estate markets are constrained by the need to search for assets, and the availability of market information to establish favourable asset prices. Hence, real estate markets are illiquid. The sources of illiquidity are 1) exogenous transaction costs such as agency and statutory transfer fees, 2) order processing costs relating to the risk of placing assets on the market and/or accepting instructions to search for counterpart traders, 3) inventory holding costs for the uncertainty of whether and when the transaction would take place, and 4) adverse information cost relating to the risk of dealing with a better-informed trader.

Studies such as Jud et al. (1996), Haurin (1988), Knight (2002), Miller (1978) and Orr et al. (2003) have taken an alternative approach to establishing the market's liquidity by focusing at the relative time of accomplishing sale processes. Searching in decentralised markets has a significant effect on the completion of transactions, hence real estate market liquidity is understood in terms of time on market. Keogh and D'Arcy (1999) and Byrne et al. (2013) argue that financial models of market liquidity fail to capture the operational nature of real estate markets. They advocate for emphasis on institutional approaches. Seabrooke and How (2008) maintain that real estate markets are institutions with social and economic framings which shape market processes and governance. Gotham (2006) also stresses that importance of understanding the processes which generate capital flows and network activity which create liquidity. Scofield (2011) reviews how knowledge brokerage in commercial real estate markets was associated with transaction costs and maintains that market structures comprise processes shaped by calculative agents who gain knowledge through human networks. These studies focus on legal and institutional frameworks in real estate markets. McNamara (1999), Crosby and McAllister (2004) and Devaney and Scofield (2013) highlight stages in commercial real estate transaction processes. These studies have, however, not addressed the role of relations among actors, and particularly intermediaries, in the processes which constitute what Seabrooke and Kent (2008) refer to as the operational zone of real estate markets.

Intermediaries are engaged often by principals with high information and search costs because they enjoy economies of scale in pooling and sharing information (Micelli et al., 2000). Studies in residential real estate markets such as Hendel et al. (2009), Levitt and Syverson (2008) and Baryla and Zumpano (1995) have demonstrated that involving real estate brokers can reduce the time on market, but does not significantly enhance the transaction price. To minimise search

costs, a broker needs to identify a sample that is likely to contain the best offer price. The problem to the broker is establishing a search policy with a sample rule that generates information-rich pool from which the best available utility is likely to be observed, and a stop rule that is flexible on controlling search costs. However, engaging an intermediary creates a potential agency problem that the intermediary may not act in the best interest of the principal when faced with search costs or prospects of higher remunerations. A conflict of interest would thus arise from how an intermediary would advise on marketing strategies and/or on accepting or rejecting available offers, hence, influencing the duration an asset remains on market. Hence, there is need to understand how brokers access quality information and maintain behaviour in the interest of the clients.

1.2 RESEARCH ISSUE

There are several differences in fundamentals that affect the search in housing markets from that in commercial real estate investment markets. Visibility through such media as posters, multiple listing services and newspaper advertisements is an important to determining sample size in housing market where the number of potential buyers is large, but unknown. Demand is consumption driven and depends on wealth, socioeconomic characteristics, and intended duration of stay. Repeat transactions between same brokers and buyers or sellers are rare. Transaction volumes are high and unit transaction values are relatively low. Sellers or brokers advertise houses, and buyers search properties. The broker's search problem is to maximise the sample size.

As Hardin III et al. (2009) note, brokerage in commercial real estate markets is different primarily because there are fewer active brokers who often know each other as well as well informed and connected investors. Commercial investment real estate transactions are wealth driven, and depend asset, market, and local economic characteristics. Networks, referrals and inside information are effective strategies for smaller sample sizes as in commercial transactions. Transaction volumes are relatively low, but unit transaction values are very high. Repeat business on the same or different properties, with the same buyers or sellers is common. Search friction is high since buyers, sellers and brokers are fewer but more sophisticated. Assets are significantly atypical. Search intensity is essential to minimise time on market. The broker's problem is to establish optimal search and stopping rules that minimise search costs in seeking the best offer price in view of information asymmetry and potential opportunistic behaviour.

Research on the role of brokers in commercial transactions such as Cheng et al. (2010b), and Scofield and Devaney (2013) has focused on transaction costs and time on market as an output. Research such as Gotham (2006) acknowledge the social and economic framings of real estate markets, but are directed at legal and institutional framing in commercial real estate market

process. This study takes a step back to understand liquidity in commercial real estate markets as a process shaped by relations in networks of market actors which is fundamental to the operational nature of real estate markets. The study further places the broker in a central role of commercial real estate market processes because of the intermediary role of pooling and sharing private information.

1.3 RESEARCH QUESTIONS

The research question generated from the conceptualisation is:

> *How is egocentric uncertainty associated with search in commercial investment real estate markets of Johannesburg, South Africa and London, UK*?

To address the research question, the following sub-questions are raised:

- *How do commercial real estate brokers perceive uncertainty in transaction opportunities?*
- *How do commercial real estate brokers resolve uncertainty in transaction opportunities?*
- *How are uncertainties to transactions associated with the way brokers search in investment office markets?*

1.4 RESEARCH PURPOSE AND OBJECTIVE

The purpose of this research is to capture the processes and relations which shape liquidity in commercial real estate markets by exploring how contingencies to search in market processes of sale transactions explain market liquidity.

1.5 RESEARCH DESIGN

The research adopted a qualitative approach as it is process driven (see Maxwell, 2012) which enabled the researcher to develop sufficient appreciation of market processes and understand the behaviour of transaction parties in a commercial real estate sale. Ethnomethodology was used as the research strategy because of its appropriateness for investigating socially constructed processes (See Morgan and Smircich, 1980). The researcher devised a constructive theoretical thematic analysis framework from Braun and Clarke (2006) to analyse data for themes of socially constructed meanings, that is, how respondents made sense of contingencies to search. Broad themes were theoretically guided by ethnomethodology rather than empirically emerging. The research collected data through face-to-face interview with respondents from an opportunistic sample of brokers and investors in Johannesburg, South Africa – a leading emerging market in Africa between October 2015 and November 2015, and London, United Kingdom – a leading developed market in Europe between May 2016 and August 2016 as well as May 2017 to June 2017.

1.6 DESCRIPTION OF STUDY AREAS

This study was undertaken in two global markets, Johannesburg, South Africa and London, United Kingdom. The two markets were purposefully selected to investigate search processes in global cities with different levels of real estate market maturity. Keogh and D'Arcy (1994) describe real estate market maturity to be a demonstration of diverse investment culture and business environment, flexible adjustments to market conditions, presence of sophisticated property profession, extensive information flow, market openness and standardised property right and market practices. These cities can be classified as global office markets. There is sufficient evidence of international financial activity concentration, a high concentration of cross-border activities which largely take place through an office network of high-order offices services. They host transnational firms and provide built physical infrastructures for international capital flows (Lizieri and Pain, 2014). Ultimately, global cities are spatial articulations of networks of human capital, social capital and power which form economic entities firms (Pain, 2008). However, there are indirect barriers to international real estate investments (Baum and Hartzell, 2012) including liquidity risk and cultural barriers. Liquidity and market size was considered a threshold factor for international market selection. Liquidity is important investors who would want to buy or sell assets in a short time. Slater (2002) stresses the importance of acknowledging the mixture of economic and cultural framings in economic action. Hence, knowledge of local culture is crucial to build relationships and achieve transactions for transnational business property investments (David and Halbert, 2014). Therefore, liquidity in global city office markets is a product of the behaviour of local intermediaries and tacit knowledge of the nature of local-regional social capital and complex power networks of real estate market actors which govern property rights alienation (Lizieri and Mekic, 2015, Halbert and Rouanet, 2014).

Johannesburg, South Africa

Johannesburg was purposefully selected for its strong real estate investment fundamentals. South Africa is a member of the BRICS, an economic organisation for strong emerging markets of Brazil, Russia, India, China and South Africa. It is the second largest economy in Africa with an estimated US$341.2bn GDP in 2014 after Nigeria US$594.3bn (Knight Frank, 2015a). Gauteng Province, where Johannesburg is located, is the hub of both South Africa and African economic activity. The province generates 47.7% of employee remuneration and 50.4% of company turnover Its GDP, estimated at US$112bn (R811bn), contributes 34% of national GDP and 10% of continental GDP. 2015 GDP growth was estimated at 2.5% compared to 1.4% national GDP growth. (Republic of South Africa, 2014). The Global and World Cities (GaWC, 2017) ranks Johannesburg as an Alpha city – the only African city in the Alpha ranking – and 20th in General Network Connectivity. Johannesburg is identified as a major city with a high presence of

international business financial and professional advisory service firms. Its real estate market activity is dominated by private investors

The office sector identified as the Financial, Insurance and Real Estate Business (FIRE) sector is the highest contributor to GDP growth both at national (18.8%) and provincial levels (22.3%). The sector GDP growth for 2015 is estimated to be 4.2% compared to 3.16% national growth for the sector (SARB, 2016). 2015 REITs subscription included 26 listed and 2 unlisted funds with a total market capitalisation of R350 billion, and accounting for over 90% of office sale transactions (SA REITs, 2015). Prime rental hovered around US$264/$m^2$/year generating average [initial] yields (capitalisation rates) of 8.5%, vacancy rates at 11%, Prime-Grade rental growth of 5.7%. Development pipeline is estimated at 400,000m^2 by 2017 (SAPOA, 2015, JLL, 2015c).

Brokers are typically appointed by vendors to provide a range of professional advisory services from marketing preparation to closing processes. Brokerage is regulated by legislation with strict requirements for disclosure of conflicts of interests.

London, The United Kingdom

London was selected for its global role in both the real estate sector and macroeconomy. The United Kingdom ranked the second largest economy in the European Union achieving a GDP of £1.94 trillion, 16% of the regional GDP (Statista 2017b, World Bank 2017). Greater London contributed £334bn (22%) of UK Gross Value Adding (national income) and financial service employment of 356,100 in 2014 (City of London, 2016).

London is identified as a major city with a highly active institutional real estate investment market. Being an international finance centre, London has a significant presence of global business firms as well as foreign investors. It ranked first and as an Alpha ++ city in global connectivity (GaWC, 2017). The city led Europe's top 10 most active real estate markets with €21bn in capital flows between Q1 and Q3 2014 (PwC, 2015). It also led the most active global cities for transaction volumes at US$44.4 billion accounting for 62% of overseas transactions (JLL, 2015a). The development pipeline for 2016 was just under 1.4 million m^2 (Deloitte Real Estate, 2016). Prime rent ranged between £60/ft^2 and £62.5/ft^2 (£645/m^2 – £673/m^2) per annum with yields around 4.25%, and average vacancy rates of 7.7% (Knight Frank, 2015b, JLL, 2015b).

The brokerage is regulated by professional real estate bodies which prohibit dual agency on commercial real estate sale transactions. Hence, typical sale transactions involve separate brokers appointed by both the vendor and buyer sides.

1.7 SIGNIFICANCE OF STUDY

Studies on real estate liquidity are generally concentrated in the housing market. This market has large transactions volumes partly because unit space consumption sizes are relatively small, and socioeconomic structures are more dynamic than in commercial markets. Since there are many buyers and sellers, bargaining intensity is likely to be moderately low. Mobility in commercial real estate is relatively low. There are also relatively fewer buyers and investable assets on the market. Search costs are likely to be higher because unlike in the housing market where arrival rates can be enhanced by multiple listing services, commercial real estate marketing involves intensive searching. While there are studies that have applied search models in commercial real estate markets, there is no established evidence of studies that investigate how a searcher's social network influences, search strategies and commercial investment real estate liquidity.

The role of social relations in broker search strategies in commercial real estate transaction processes has not been explored. Literature on the role of brokers mainly focuses on the Principal-Broker relations, listing price influence, and broker remuneration effects on market liquidity. Furthermore, studies on real estate market liquidity have focused on the housing markets. These markets have many real estate brokers handling huge transactions hence there is no need to seek information through networks. Dual agency is common mainly for advising on closing processes. Buyers and sellers in commercial real estate markets are often represented by separate brokers. This study addressed the problem of broker relations on search strategies in real estate markets with limited participants by:

- Establishing the nature of social network among commercial real estate brokers
- Developing a framework of understanding how social interaction shapes search
- Examining the influence of social network-driven search strategies on time on market

1.8 STUDY OUTLINE

The research covered commercial office real estate markets and market liquidity in developed and emerging markets, agency theory, search theory, duration analysis, and social network analysis in the conceptual framework, and mixed methods for the research framework literature.

The thesis is structured in the following way:

Chapter 2 reviews literature on the nature of real estate markets covering real estate market characteristics, real estate market efficiency, and real estate liquidity. The chapter explores the nature of real estate markets under three sections which are real estate market characteristics, real estate market efficiency, and real estate liquidity. The chapter identifies sources of illiquidity and the importance of search to time on market.

Chapter 3 explores search concepts for real estate markets including search models, and search costs to understand how search strategies relate to search duration. It reviews literature on fixed-sample size, sequential and optimal to establish distinguishing attributes. The chapter provides a descriptive review of exponential, Weibull and Log-logistic duration models to understand how search strategies relate to search duration. The chapter ends by reviewing search duration, and search intensity as components of search cost, and the role of broker intermediation as well as the agency problem in real estate markets.

Based on broker influence on search duration and the privacy of information, Chapter 4 explores the relevance social network concepts to search and broker behaviour. The chapter explores how networks could be associated with the way private information is exchanged and contribute to explaining the operational nature of real estate markets. The chapter reviews the nature of networks, when networks matter, and how social network approaches resolve market uncertainty. It also reviews empirical studies on social networks, and discusses real estate characteristics that make social network approaches relevant to real estate markets. It closes by presenting an outline of the conceptual understanding of the relationship between search strategies and social networks drawn from literature used primarily to enhance the relevant vocabulary in data analysis.

Chapter 5 presents the research design perceived to capture the operational nature of real estate markets. Chapter 3 explored the search concepts to understand how search is conducted since it contributes to time on market. It develops a conceptual framework for understanding the search process by drawing on literature review presented in chapters 2 to 4 and presents the ensuing research question. The relevance of ethnomethodology as a research strategy and constructivist theoretical thematical analysis as analytical framework is presented too.

Chapter 6 presents findings on Johannesburg, South Africa empirical work based on the research design set out in Chapter 5. This chapter presents emerging themes of potential contingencies associated with search in commercial real estate sales transactions in an emerging market and generates a substantive theory. Chapter 7 uses the same analytical framework as in Chapter 6 to present emerging themes from empirical work on the London market in the United Kingdom to draw on contextual issues that may not have been captured in the Johannesburg study.

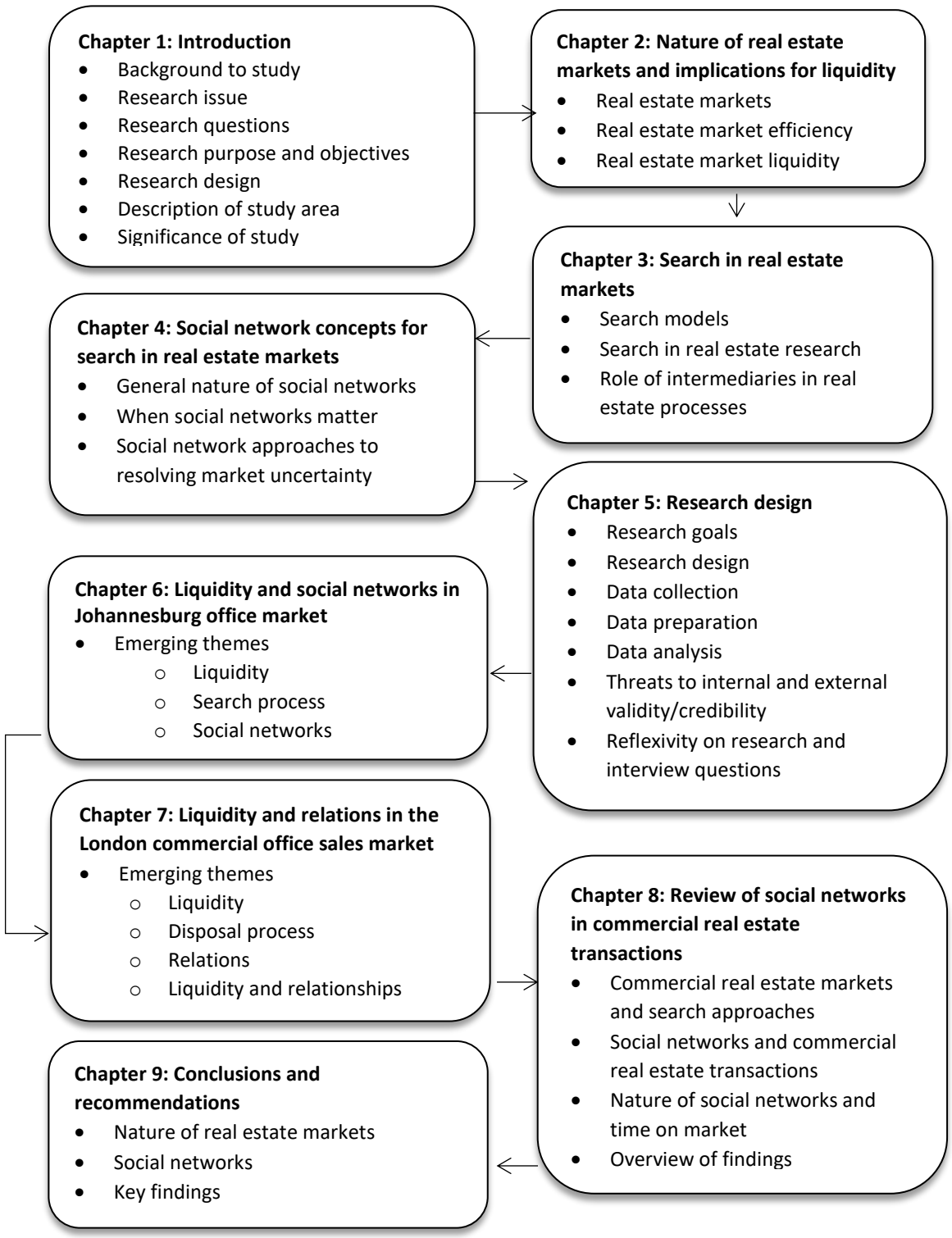
Chapter 8 presents a discussion on emerging themes how search is conducted, and the role of social interaction from Johannesburg and London. This chapter sought to highlight learning points that would contribute to understanding contingencies in sales transaction processes from a social network point of view. It reflected on research findings from Johannesburg and London on how contingencies to the search process could be identified, and how social network approaches would be used to resolve ensuing uncertainties. The chapter presents a consolidated

substantive theory of the search process, highlighting sources of contingencies, and social network approaches to resolving them.

Chapter 9 presents the conclusions and limitations of the study. This chapter presents a summary of how the operational nature of real estate markets can be understood from a process point of view. It presents key overviews on findings and ends with an outline of practical implications, contribution to theory, limitations and areas for further research.

A summary of the chapter outline is presented in Figure 1-1 below.

Figure 1-1: Summary of chapter outline



CHAPTER 2: NATURE OF REAL ESTATE MARKETS AND IMPLICATIONS FOR LIQUIDITY

2. INTRODUCTION

Liquidity in commercial real estate markets has drawn wide attention from investment and research communities. Commercial real estate markets, though often second to residential markets in both in stock and total value, tend to be the dominant market for real estate investors. The fundamental purpose for investment is to maximise stakeholders' wealth and/or minimise exposure to risk. Some specific reasons why investors are attracted to commercial real estate include long-term income flows and uniqueness from other asset classes for risk diversification. Liquidity, which may simply be described as ability to shift resources when there is an opportunity to do so, is fundamental to investor decision on switching between asset markets. Conventional real estate literature (see Maier and Herath, 2009) tends to align the understanding of liquidity across asset markets with information efficiency indicators used in financial asset markets such as transaction volumes and price impact to mention a few. However, these information efficiency indicators of market liquidity fail to capture the fundamental nature of real asset markets like asset heterogeneity, localised market knowledge and privately held information (Keogh and D'Arcy, 1999) and (Lin and Vandell, 2007). In this respect, research on real asset market liquidity should consider the operational nature of information transmission such as transaction processes. This chapter, hence, explores how the nature of real estate markets shapes the way liquidity is expected to be understood in these markets. The chapter comprises three sections which are real estate market characteristics, real estate market efficiency, and real estate liquidity. The outcome of this chapter is an understanding of key market attributes which explain the operational nature of real estate markets.

2.1 REAL ESTATE MARKETS

Callon (1998) describes a market as, "*a coordination device that opposes buyers and sellers, and the prices which resolve this conflict are both the input and outcome of agent's economic calculation*." The market, therefore, implies calculative agencies, organisation, and processes. To participate in the market, calculative agencies need information to i) identify actor and goods, and the possible distribution of goods among actors, ii) rank the distributions to establish preference, and identify and describe the actions that generate the distributions.

Slater (2002) maintains that the fundamental defining feature of markets is a kind of transaction to alienate property rather than the refined form of calculation that limits social relationships between transactors. Markets are defined not by stability of legal entities and frameworks that allow for reliable and predictable encounters, but by the embeddedness of private property to

parties from a sense of obligation beyond the immediate transaction. Araujo (2007) emphasises that different market forms have different calculative agencies, forms of qualitative judgment and assemblage of expertise. Hence, there is need to understand how marketing, which in real estate context often involves broker services, contributes to the creation and operation of markets.

There does not seem to be a clear definition of real estate markets. While it may be apparent that real estate markets facilitate or constrain alienation of property rights, there is a challenge in clarifying whether they extricate traded property from transaction parties, or they disentangle calculative agencies from network framings which could vary between markets and contexts. The complexity and peculiarity of real estate markets distinguish them from other asset markets (Anghel and Hristea, 2015). Transactions could, however, merge or separate property rights in such modes that broadly create owner-occupier and investment markets respectively as shown in Table 2-1 below.

Table 2-1: Real Estate Market segments

Owner-occupied market	Investment market
Owner-occupant Asset Holding = Consumption demand	*Lease* Asset Holding < Consumption demand
	Investor Asset Holding > Consumption demand

Source: Adopted from Henderson and Ioannides (1987)

These markets each tend to have distinct actors with perceived rather than objective distributions of assets and property rights (DiPasquale and Wheaton, 1992). The distinction in acquisition motives between owner-occupier and investment is fundamental to the constraints which influence actor behaviour in transaction processes (See Theurillat et al. 2015). Hence, understanding similarities and distinctions between these markets from existing literature is essential to developing a conceptual framework of the operational nature of office sales markets.

The rest of this section explores these market segments in housing and commercial real estate markets. The housing market is discussed for two main reasons. The first is to highlight the depth of research undertaken in the market which could provide insight to general market fundamentals. The second reason is to establish the distinguishing characteristics which make it relevant to modify research tools developed for this market when analysing commercial real estate markets.

2.1.1 Owner-occupied market

Owner-occupier markets comprise exchange of assets whose consumption and holding demand are combined in the occupant. Acquisitions of real estate assets is characterised by diverse motivations for adjustments to household consumption in housing market, or to contribute to a firm's overall business goals in corporate real estate markets at different stages of the occupant's life. Owner-occupier choice of assets could be driven by rent-saving (Sinai and Souleles, 2005),

maintenance cost (Harding et al., 2000), tax benefits (Bourassa and Yin, 2008), and borrowing constraints (Genesove and Mayer, 1994). Owner-occupation is, however, associated with the risk of holding assets inflexible to changing consumption demands. While acquisition decisions tend to coincide with disposal decisions, mobility to new premises is tied to particular events. Head and Lloyd-Ellis (2012), for instance, maintain that the ability to sell a house (real estate market) could influence a decision to accept a job (labour market). Therefore, the behaviour of owner-occupier vendors or purchasers in real estate transaction is associated with how contingencies to mobility – changing asset holding – are co-resolved with changes in consumption demand, hence influence the immediacy of transaction completion.

i. Housing Market

Residential properties are often acquired to meet consumption demand such as accommodation, proximity to employment or socioeconomic amenities (Henley, 1998, Henderson and Ioannides, 1989, Van der Vlist et al., 2002). Flavin and Yamashita (2002) find that consumers in the US also hold housing to take advantage of preferential tax treatment of owner-occupied housing, and avert transaction and agency costs involved in buying [additional] housing if they sought to separate consumption demand from asset holding demands.

Housing consumption may change over time and could be adjusted by incurring costs (Henderson and Ioannides, 1989). Mobility tends to increase among young households as family sizes grow, and among aging households downsizing accommodation (Ioannides, 1987, Banks et al., 2012). Diaz-Serrano and Stoyanova (2010) find that though most housing characteristics significantly affected housing satisfaction, only room space – an attribute of accommodation stress - had direct impact on housing mobility in all 12 European Union countries in their study. Van der Vlist et al. (2002) find that the probability for owner-occupying mobility in households intensified with increases in wealth, family size and age of household head (regardless of gender), and it dropped as the income path tilted to the future, as well as when the cost of ownership increased. Dufty-Jones (2012) argues that housing mobility can also be seen through lenses of political constraints of movement, resource inequality, and governmentality of freedom and resource distribution in relation to households over and above geographic concepts of space and proximity. The implication for housing markets is that understanding transaction activities should consider how household adjustments rather than site or local area attributes are linked to mobility. It is, therefore, important to consider how household mobility incentives relate to search behaviour in housing markets, feeding back into understanding transaction activity in these markets.

ii. Corporate real estate

Corporate real estate is acquired as part of the business strategy of firms whose core business is usually non-real estate (Liow and Ingrid, 2008). A business strategy addresses at least three

fundamental elements of an organisation, which are customers, employees and processes (Stephen, 2001) to achieve the overall organisational goal of maximising shareholder wealth. When incorporated into the core business strategy, corporate real estate contributes to achieving the business goal of providing an appropriate business operational environment for generating wealth (Nourse and Roulac, 1993, Gibler et al., 2002, Shiem-Shin Then, 2000).

Another reason for corporate real estate owner-occupying is to maximise shareholders' wealth through strategic acquisition of real estate assets (Glascock et al., 1989). Brounen and Eichholtz (2005) find that firms with large corporate real estate holdings tend to have low betas and so can finance corporate real estate with cheap debt. Corporate real estate is also acquired to enhance stock market performance, or as a source of cash in distress times. Liow and Ingrid (2008) find that firms hold corporate real estate for as long as it contributes to efficiency, makes profits grow and increases value on the balance sheet.

Corporate real estate space demand evolves with customer needs, and business processes. Ideally, corporate real estate should provide an environment that satisfies customer service, and promotes the corporate brand through building designs that reflect the provided services (McDonagh and Nichols, 2009, Singer et al., 2007). Workspaces are also designed to enhance the functionality of employees, and overall organisational productivity (Lindholm and Leväinen, 2006). As their requirements change, firms may target a stock of smaller decentralised assets to enhance customer accessibility or larger single asset acquisitions to centralise business operations.

Liquidity is pivotal to mobility in both housing and corporate real estate markets. Asset purchase, a quicker option for adjusting to changes in consumption demands compared to development, requires intensive search for assets with flexible designs in locations offering convenient access to amenities or customers. Held assets may not provide the kind of environment flexible to changing household or customer needs. Yet disposing of such assets in the short term could be difficult. Consequently, real estate liquidity can have profound effects on mobility. The occupier's mobility in owner-occupied markets seems to be associated with shifts in occupants' attributes whether household consumption or corporate business needs. This association points to a need for better understanding of how occupier asset consumption and holding circumstances, hence the mobility constraints explain transaction activities in real estate markets.

2.1.2 Investment market

In investment markets, consumption and asset holding are separated between the occupant (tenant) and owner (investor). Hence, the demand for space an asset provides is generated in a separate market from that for ownership of the asset. Occupiers' consumption and flexible mobility demands are not directly associated with investor's changes to asset holding requirements although occupier demand ultimately underpins investment cash flow. Rather,

acquisition of assets in this market pursues a motive to maximise investors' net wealth through income flows for let space and/or capital appreciation.

Real estate investment styles are broadly classified as core or non-core, a similar classification adopted in financial markets (Sirmans and Worzala, 2003, Peyton, 2008) to reflect investor objectives and enable asset comparison in investment decision making. The identified benchmarks for investment styles are building quality, risk and investment attitude, and strategy. The criteria include property type and physical characteristics, tenancy quality, property market conditions, relative appreciation and income contributions to return, capital structure used to finance the property, ownership competencies, including management and leasing capabilities, and liquidity (GMAC, 2005, Poddar, 2004, Kaiser, 2005, Shilling and Wurtzebach, 2012).

Core real estate comprises high quality investment office, retail, apartments or industrial assets with stabilised income flow, blue-chip tenants, and low vacancy in prominent locations (Geltner, 2001). These assets have low risk, but generate higher returns than other low risk assets like treasury notes. They are often low-leveraged (not exceeding 40%), and are occupied by high-quality tenants. Returns are primarily generated by stable current income comparable to fixed income securities. Core real estate assets are suitable for diversification as they have low correlation to other asset classes (Pieper, 2013). Typical investors include professional real estate companies, institutional funds, international banks, and private high net-worth individuals.

Non-core real estate investments are 'ground-up' and 'turnaround' development projects financed through illiquid private vehicles (Geltner, 2001, Kaiser, 2005). These investments are equity-type investments motivated by short-term capital appreciation through value-adding or opportunistic strategies. Value-adding repositions assets through extensive rehabilitation and active management to generate above-market returns through income growth and capital appreciation (Kaiser, 2005, Chinloy et al., 2013). Value-added assets are moderately leveraged with LTV between 40 and 70%. Typical investors are often closed-end funds who commit funds for periods of between 3 and 7 years, and open-end funds with undefined terms.

Opportunistic real estate investment is an aggressive strategy of realising value in niche market real estate assets. Projects are typically ground-up developments of specialised real estate or distressed property acquisitions. This investment style involves specialised acquisition of development land or distressed properties, and management strategies that minimise business and leasing risks associated with the individual asset (Callan Investment Institute, 2011). Returns are generated predominantly through capital appreciation. Opportunistic assets have the highest leverage ratio ranging between 50 and 80%. The holding period is between 1 to 3 years, the shortest of the three asset types. Opportunity funds are almost exclusively closed-end fund coupled with mezzanine finance. Investors, often sophisticated developers, have low control over

the project viability hence require higher compensation in returns by maximising margins between sale value and costs (Kaiser 2005, Theurillat et al. 2015).

Drawing from the discussion above, the real estate investment market comprises three investment styles which differ in sources of returns, strategy, and investor type as shown in Table 2-2below.

Table 2-2: Real Estate Investment Market Styles

Style	Returns	Strategy	Investors
Core	Income	Stabilised Rent	Institutional funds
Value-added	Income & capital appreciation	Active Repositioning	Closed- & Open-end funds
Opportunistic	Capital appreciation	Niche Development	Closed-end fund

Source: Adopted from Kaiser (2005)

A couple of lessons can be drawn from the review of owner-occupier and investment markets. Asset holding motives, while contributing to mobility in both markets, are driven by different fundamentals. Mobility in owner-occupier markets is associated with shifts in the alignment of consumption or business operation needs with asset holding. It tends to be tied to the ability to dispose of current assets and acquire new assets at the occurrence of events which modify an occupant/asset holder's consumption needs. The mobility drivers are slightly different in investment markets. Here, mobility is associated with shifts in the asset holding motives only. An asset holder's mobility within or between asset styles is linked to wealth adjustment and not directly associated with events crucial to occupant's consumption needs. This distinction of asset holding mobility between owner-occupier and investment markets is the first step towards understanding the operational nature of real estate markets. It sets a stimulating premise to explore how search strategies could be associated with mobility incentives in owner-occupier and investment markets. What is common in both markets, however, is the point about the ability to dispose and/or acquire real estate assets within the constraints of the underlying asset holding motives. The next section of this chapter explores efficiency of real estate markets, which could be understood in relation to resolving asset holding motives.

2.2 REAL ESTATE MARKET EFFICIENCY

An explanation of market efficiency in resolving asset holding motives is relevant to understanding market liquidity. The word '*ease'*, widely used in describing liquidity (See Carruthers and Stinchcombe, 1999), indicates some form of minimal effort expended to achieve an outcome and ideally relates to efficiency. This section explores the fundamental concept of economic efficiency and narrows down to real estate market efficiency to understand the underpinnings of real estate market efficiency.

Economic efficiency in early academic literature was divided into technical and allocative efficiency. Technical efficiency related the achieved output to the potential output available from a determined set of resources. A firm was described as technically efficient if it consistently produced larger output from the same quantities of resources than other firms (Yotopoulos and Lau, 1973). Allocative efficiency entails deploying resources to the best inputs given their prices and marginal productivities, and produced profits (Murillo-Zamorano, 2004).

Contemporary understanding of economic efficiency is directed at market efficiency which includes allocative, operational and information efficiency of factors of production. Operational efficiency is the efficiency of explicit market processes, while information efficiency refers to a market's ability to fully reflect all available information in the prices (Zou, 2014, Samuelson, 1975). Investors allocate resources to securities assuming prices always 'fully reflect' available information. The information sets could be historical prices, events or private information (See Efficient Markets Hypothesis by Fama, 1991, Fama, 1970). Information is expected to be readily available to traders through operationally efficient transmission mechanisms, hence, abnormal returns cannot be achieved through strategic trading. A market is information efficient if price information is readily available to all traders at any time, and observed transaction prices indicate current market prices for assets on the market (Fama, 1970). The fundamental role of the market is to coordinate information flows to market participants to establish market prices for the traded assets. In an information efficient market, transaction prices reflect market prices of trading assets. Price information is readily available to traders, hence there is no advantage in holding information beyond the current trading period. A market is information inefficient if past information can be used to predict market prices and earn abnormal returns (Guntermann and Smith, 1987).

Information efficiency does not emphasise allocative and operational efficiencies. Rather, it is assumed that investors acquire securities to have a claim on returns generated by a firm efficiently allocating productive resources. All (current and previous) information on events and decisions that affect payoffs is readily available and fully reflected in the current trading price. Hence, returns from productive assets depend on how firms allocate resources mobilised through private and/or public markets and not on investors' information advantage. Allocative efficiency is tested at investor level by whether investors pay the best price for claims on productive assets, and at firm level by whether firms deploy resources to the best production inputs given their prices.

Efficiency of real estate markets has been explored from urban economics, financial economics and institutional approaches. Urban economics studies focus on allocative efficiency of land and real estate resources in urban land markets. Conceptually, there is an optimal real estate stock for a given level of space demand beyond which marginal benefits from extra stock units diminish

(Harvey and Jowsey, 2003). Allocative efficiency is achieved when a firm acquires a real asset at a price that generates a return comparable to or above market returns.

The financial markets approach to real estate market efficiency borrows from the neo-classical perfect market concept of information efficiency. There is substantial research, some of which is discussed below, on comparing information efficiency of direct real estate, indirect real estate and financial asset markets. Markets are tested for weak-form efficiency by either examining cross-sectional correlation of relative or abnormal returns over time, or by implementing trading strategies based on previous returns (Guntermann and Smith, 1987). The underlying assumption is that if a market is inefficient, investors would detect the asset mispricing and take positions to earn abnormal returns. There would be signals of capital in- (out-) flows to (from) under (over)-priced assets.

Some studies have used Real Estate Investment Trusts (REITs) returns and volatilities as proxies for underlying properties to overcome the information deficiency on infrequently traded commercial real estate, and avoid using appraisal-based market values as price indicators. Appraisal-based market values are believed to be smoothed values and do not represent the value of the individual real estate asset. REITs data are perceived to be transparent and comparable to other data on exchange-traded assets (Geltner et al., 2003). Some studies that have also sought to establish whether REITs behave as stock or as real estate. Pavlov and Wachter (2011) find a significant relationship between REITs and underlying real estate assets only in the office sector. Oikarinen et al. (2011) investigate the behaviour of real estate security prices and those the underlying direct assets on the assumption that they respond to shocks in fundamentals in the same way. They find real estate securities prices to lead direct real estate prices. The sluggish response of direct real estate prices was attributed to low liquidity, few market participants, high transaction costs, and decentralised private markets.

Other substantial research has been conducted to investigate the information efficiency of real estate markets (See Atteberry and Rutherford, 1993, on industrial markets, Clayton, 1998 on residential markets in British Columbia, Kleiman et al. 2002, and Griffin et al. 2010 on international markets). Gatzlaff and Tirtiroğlu (1995) and Maier and Herath (2009) provide surveys of literature on real estate market efficiency reviewed with reference to the three forms of the EMH. There are mixed results on whether real estate markets are information efficient, though more articles tended to find the markets to be inefficient.

Prior to these studies, Locke (1986) acknowledged the difference in practice between fundamental analysis in securities markets and the ‘street wise’ approach by valuers, and sought to investigate whether the nature of real estate markets met the pre-conditions for the application

of portfolio theory. They found that real estate markets displayed different characteristics from financial markets and that the failure of real estate proxies to conform to minimum requirements of efficient markets hypothesis rendered attempts to apply portfolio theory to the management of property portfolios to be unsuccessful. Unsurprisingly, findings from subsequent research have been consistent with (Locke, 1986), concluding that real estate markets for direct investments are different from financial markets. These findings reinforce the challenge of the rationale for using information efficiency as an indicator of real estate market efficiency. The broader terms of allocative efficiency and operational efficiency in market efficiency are taken for granted in information efficiency approaches.

Institutional approaches are emerging concepts that focus on market processes (Keogh and D'Arcy, 1999, D'arcy, 2006). The approaches emphasise exploring the operational processes which are assumed to be efficient in financial markets, but facilitate or constrain market activities in real estate markets. The next two sub-sections review the fundamental distinctions between real estate and financial asset markets, and the relevance of institutional approaches to understanding real estate market efficiency.

2.2.1 Real estate and financial asset markets

Tyrrell and Bostwick (2005) maintain that even though the return-risk trade off in real estate assets may be comparable to that in financial assets, pricing mechanisms are different. Financial assets are priced using readily available market information from transaction prices. In real estate markets, operational issues such as disproportionate information holding, differing search costs, and bargaining (Quan and Quigley, 1991) affect how transactions information is transmitted. In financial theory, a pricing mechanism's efficiency in transmitting market information indicates liquidity. A market that delays in transmitting market information is deemed illiquid. Keogh and D'Arcy (1999) and Byrne et al. (2013) argue that conceiving liquidity in terms of information efficiency fails to acknowledge inherent real estate characteristics which affect the price mechanism. This sub-section reviews real estate and financial assets classification and distinguishing characteristics to understanding the relevance of institutional approaches to real estate markets.

i. Asset Classification

Barth (2006) defines an asset as a resource controlled by the entity because of past transactions and events, and from which future economic benefits are expected to flow to the entity. Greer (1997) defines an asset class as a set of assets that bear some fundamental economic similarities to each other and that have characteristics that make them distinct from other assets that are not part of that class. Assets, as controlled resources, can be classified broadly as real or financial assets.

Real assets are tangible goods that can be used to produce [higher order] goods and services, and generate net income to the economy such as commodities and real property (Bodie et al., 2010). Commodities, as defined by Menger (1981), are economic goods that are in such external circumstances that the intention of their owner to sell them can be easily discerned by anyone. Real property is land, building and anything permanently attached to land (Harvey and Jowsey, 2003). Commodities can have a central market where they can be displayed, while real property trades in its locations.

Financial assets are intangible assets that derive value from contractual claims on real assets (Rose et al., 2008). These assets are acquired to mitigate short term consumption imbalances, and/or to create wealth in the long term. In a portfolio, asset selection criteria include income stability, capital security, marketability and liquidity characteristics. Such criteria might also be applied to certain real assets where separation of ownership and use has led to the development of investment markets, e.g. commercial real estate markets.

Another way of classifying assets is by relating markets in which they trade to their ability to sell at short notice. Private markets are markets in which assets cannot be sold at short notice and therefore require long investment horizons. Public markets on the other hand are markets where assets can be traded at short notice (Geltner, 2001, Scott Jr, 1994, Ducoulombier, 2007, Banfield, 2014). Table 2-3 below presents some examples of assets classified by type and market.

Table 2-3: Asset classification by type and market

	Private Market	**Public Market**
Equity Asset	Private Equity, Real Estate	Public Equity, REITs, Commodities
Debt Asset	Bank loans, LBOs	Bonds, MBSs

Source: Geltner (2001)

Assets in an investment portfolio are selected on such criteria as income stability, capital security, marketability or liquidity. They could be compared by expected returns and volatility within a market. Liquidity is cardinal when making comparison between markets**.** Real estate assets tend to have stable income flows and long-term capital appreciation, but are not easy to sell in the short term. By comparison, financial assets can be sold easily but income flows and asset prices are volatile.

ii. Distinguishing Characteristics of Real Estate and Financial Asset

The term ‘real property’ is traced from early English Law that sought to distinguish between ‘real’ and ‘personal’ property. Property was deemed ‘real’ if the court would grant to the dispossessed owner the *thing* itself and not merely give compensation for loss (Megarry et al., 2012). In other words, there would not be sufficient compensation to the dispossessed owner of real property other than the recovery of the dispossessed thing. The dispossessed owner of

personal property may be returned to the *thing* or alternatively be given compensation. A further distinction between real and personal property is 'fixity'. Real property is immobile and recoverable. This qualifies real property to be reinstated to the dispossessed owner [by court action] as the disposed 'thing' cannot be removed, but remains in its location. Dispossession occurs by actual eviction of the owner from the location of the thing.

With personal property, the 'thing' may be taken away from the location where the owner was disposed of it, hence it may not be recoverable. In such an event, the dispossessed owner can only receive compensation. Though real property refers to the intangible bundle of rights that subsist in real estate, and real estate refers to tangible land, and buildings, in conventional usage real estate refers to the bundle of rights, land and building collectively. The definition highlights important distinguishing real estate characteristics, namely, heterogeneity, fixity of location, multiplicity of interests, and indivisibility which are discussed below.

Heterogeneity and fixity of location: The distinction of real estate assets by location, design or workmanship gives real estate unique spatial identity (Maclennan and O'Sullivan, 2012, Marsh and Gibb, 2011) and affects utility. Every real estate asset sold is spatially heterogeneous (Wilhelmsson, 2002) and hence is a different economic good (Engel and Rogers, 1994). Its utility depends also on location characteristics such as amenities, infrastructure, and proximity to employment or clients. Observed transaction prices, therefore, indicate the monetary equivalent of the derived utility from differentiated economic goods (Wyatt, 1997). Hence, even if the market was to be information efficient, transmitted price information would be relevant to the traded assets, but not to other assets on the market.

Multiplicity of interests: The bundle of rights in real estate comprise ownership, use and disposal rights. Ownership and use rights can be held together or separately. A leasehold interest is created when the rights are held separately. Real estate owner-occupier and investment markets are distinguished by the manner use rights are held (Sayce et al., 2009).

Indivisibility and capital requirements: Unlike financial assets which can be traded in small units as desired, direct real estate asset transaction can only trade whole units. Indivisibility contributes to real estate short sale constraint (Kallberg et al., 1996), market entry barriers (Gau, 1987), diversification limits (Ibbotson and Siegel, 1984, Seiler et al., 1999), limitation in capitalisation information (Clayton, 1998), and difficulties of using real estate in index construction (Morrell, 1993, Brown, 1988). Owing to the lumpiness of real estate assets, huge capital sums are required for acquisition, which are often mobilised via external finance. In the housing market, for instance, capital requirements to purchase whole units affect buyers' tenure choice between owner-occupying and renting to balance consumption demand with affordability (Flavin and Yamashita, 2002, Balta and Ruscher, 2011).

These unique physical, legal, economic, and regulatory characteristics distinguish real estate assets from financial assets, and real estate markets from financial markets. As highlighted in 2.3.1iii below, these attributes of direct real estate assets affect short-term price transmission. Consequently, the distinguishing characteristics of direct investments in real estate lead to uncertainty in real estate markets owing to information asymmetry – a kind of friction which deters parties from mutually beneficial trade in a free market (Wong et al., 2012) – and potential opportunism from information advantage.

2.2.2 Institutional approaches to real estate market efficiency

Studies reviewed in 2.2.1 above demonstrate researchers' use of financial concepts to investigate real estate market liquidity. In recent years, there have also been studies on the role of institutions in allocative and operative efficiency of real estate markets. Kasper and Streit (1998), and Williamson (1998) describe institutions as informal constraints and formal rules that structure political, economic and social interaction meant to restrict possible opportunistic behaviour. Healey (1992), D'Arcy and Keogh (1999) and Seabrooke and How (2008) maintain that real estate markets are institutions with social and economic framings that govern market processes and environment. Seabrooke and Kent (2008) identify real estate institutions as comprising constitutional, governance and operational zones. Constitutional zones contain laws and policies which define rules and boundaries of acceptable economic behaviour. Governance zones are tertiary institutions which interpret and implement constitutional rule regimes. They rely on constitutional powers to manipulate incentives, sanctions or penalties to operating agents. Keogh and D'Arcy (1999) and Lizieri and Bond (2004) insist that focus should shift from the collective efficiency of the market to that of market processes – operational features of market activities - to stakeholders. Black et al. (2003) maintain that including institutional assumptions of economic behaviour in traditional economic assumptions could lead to more accurate (as well as reliable) decision models. The economic sociology of transactions is discussed in 4.2 below

Operational differences between financial and real estate markets make the use of information efficiency a challenge in analysing real estate market efficiency. As noted by Locke (1986) and Lizieri and Bond (2004), the traded assets and markets have different characteristics. Securities are claims on a firm's activities – production of goods and services – priced under neo-classical perfect market conditions. Byrne et al. (2013) argue that applying the information efficiency concept as in efficient capital markets to real estate markets overlooks the constraints of the allocative and operational efficiency assumptions with respect to the unique characteristics embedded in real estate asset. As Locke (1986) and Lin and Vandell (2007) argue, the underlying conditions for a perfect market are hardly fulfilled. Real estate assets are thinly traded in dispersed local markets, and transaction information is privately held. Price discovery is delayed, hence observed transaction prices do not signal market prices. Evans (1995) and Keogh and

D'Arcy (1999) also argue that the information efficiency approach does not acknowledge such factors that generate transaction prices as buyer/seller psychology, time to sell, and the role of brokers in real estate market processes. The operational components of real estate markets, namely, real estate transaction process, pricing, marketing, and completion, are discussed below.

i. Real Estate Transaction Process

Keogh and D'Arcy (1999) and Byrne et al. (2013) maintain that market mechanisms that govern transaction processes are overlooked. Stubkjær et al. (2007) define real estate transactions as procedures that are necessary for owners to legally dispose of their ownership (or related real property rights) and a new owner to acquire them.

In an institutional context, a transaction is perceived to consist of ex- ante and ex-post processes. Brown and Potoski (2003) describe an *ex-ante* transaction process as one of searching for counterpart traders, bargaining, risk hedging and identifying the regulatory constraints which occur in the operational zone – the inner orbit of transactions in which real estate information and assets are priced and exchanged (See Seabrooke and Kent, 2008). The main actors are end-users (buyers and sellers) and intermediaries (brokers) who exchange information and capital resources. *Ex-post* transaction processes refer to management processes associated with internally producing services or contracting them from external sources. They consider information gathering, and guarding against the risk of opportunistic bargaining (Malone et al., 1987).

Crosby and McAllister (2004) identify six stages in a typical UK commercial real estate transaction (sale) process which are property portfolio decision to sell in a specific sector, decision to sell specific asset, pre-marketing period, marketing period, due diligence period and exchange to completion. It is important to discuss these stages to better understand the operational nature of real estate markets.

a. *Decision*: this is a stage when decisions are made regarding identifying the sector or sub-market from which to dispose assets, identifying specific assets to dispose of, and approving the commencement of marketing the asset.
b. *Pre-marketing*: the appointed marketing team reviews marketing approaches considering the seller's interests, asset characteristics and potential market pool. At this stage, the marketing team may provide valuation information and advice on listing or guide price. Information packages such flyers, brochures or signboards are compiled in readiness for marketing.
c. *Marketing*: the marketing team disseminates information about the transaction opportunity through adopted marketing strategies, whether on- or off-market, in search of potential buyers. When a potential buyer is identified, the parties negotiate the transaction price and

Heads of Terms. Devaney et al. (2016) find a split in transaction pricing between best bids in developed markets and private negotiations in emerging commercial real estate markets. At this point, legal advisors are appointed to commence processes for transfer of ownership. The marketing team's involvement effectively end at this stage.

d. *Due diligence*: this stage is often undertaken by the acquisition team to verify the condition of asset and legal interests to justify the transaction amount.
e. *Exchange of contract*: at the end of the due diligence and with both sides satisfied with price and information, sales contracts are exchanged
f. *Completion*: this stage effectively transfers ownership from the vendor to the buyer

Real estate transaction processes can therefore be understood to comprise ex-ante and ex-post processes. Ex ante processes, which are pre-marketing and marketing stages, tend to influence intra-market liquidity. Variations in ex-post transaction processes from due diligence to completion, which McNamara (1998) refers to as post-marketing stage, tend to be structured by legal regimes in specific markets hence affect inter-market liquidity (See also Scofield and Devaney, 2013).

ii. Real Estate Pricing

Consumer choice between heterogeneous goods is contingent on the utility derived from differentiated goods and the price to pay for the differences in the goods (Azar, 2011). Transaction prices in information efficient markets indicate market prices of assets on the market. Prices are generated by a market clearing system without buyers and sellers interacting.

Real estate pricing refers to setting an offer, asking and/or transaction price. Real estate asset prices are generated through search and bargaining efforts. Expected transaction price is estimated using either comparable sales transactions adjusted for asset characteristics and time on market (market value), or by discounting expected cash flows (investment value). Consequently, sellers are inclined to evidence-based valuation while buyers tend to use expectation-based valuation approaches (Clayton, 1998). Transaction price is, thus, determined through negotiations (Gavazza, 2011) and when a seller (buyer) is content that the offered amount is satisfactory (Quan and Quigley, 1991) for foregoing (acquiring) the right of ownership.

Though sellers tend to be inclined to evidence-based valuations, current values of real estate assets on the market are not directly observed. Observed transaction prices reflect market values of assets that have been subjected to different market conditions for some time until sold. Sellers form expectations from observed transactions as market evidence of the highest possible utility maximising exchange amount. Buyers use anticipation of future cash flows to estimate values, and maximise net worth by seeking the lowest possible transaction price (Lin and Vandell, 2007). Goetzmann and Peng (2006) maintain that transaction prices are misleading indicators of market

values when the bases of valuations for seller and buyer are different. Furthermore, real estate assets are not transacted frequently enough to immediately correct the mismatch. Hence, real estate markets are deemed to be inefficient as demonstrated by transaction prices departure from market values (Geltner et al., 2003, Keogh and D'Arcy, 1999, Clayton, 1998, Guntermann and Smith, 1987).

iii. Marketing methods and the role of Brokers

Marketing is crucial in the creation and operation of real estate markets. Unlike commodities, which can be displayed at a central place in such a manner that the owner's intention is conspicuous, real estate assets are often marketed at their locations and through networks of intermediaries. Kotler et al. (2013) define marketing as a social and managerial process by which individuals and organisations obtain what they need and want through creating and exchanging value with others. They further outline the marketing process, shown in Figure 2-1 below, as comprising five primary steps of understanding customer needs, devising a marketing strategy, creating customer value, building customer relations and reaping the rewards for creating superior customer value.

Figure 2-1: A Simple marketing process model

Source: Kotler et al. (2013)

The need to understand how marketing contributes to the creation and operation of markets has also been emphasised (See Araujo, 2007). Research on real estate marketing tends to concentrate on marketing strategies such as the traditional multiple listing services or non-traditional marketing, broker compensation, and broker moral hazards (See Munneke et al., 2015, and Johnson et al., 2005) and 'capturing value', emphasising market performance as indicated by price or time on market. Though research in housing markets has shown that household circumstances rather than housing characteristics are crucial to household mobility (See 2.1.1i above), current research on liquidity in the housing market, some of which is reviewed below, has focused on housing and local market characteristics which relatively explain housing satisfaction.

Turnbull and Sirmans (1993a) investigate how Multiple Listing Services (MLS) and other institutions transmit information to potential buyers. They analyse whether less informed buyers described as first-time, and out-of-town buyers, pay a significantly different price from former-

owners and in-town buyers. They find no effect, and conclude that MLSs guarantee that housing markets are efficient. The influence of advertising on price dispersion is explained in the Stigler Model (See Chapter 3 below). Lambson et al. (2004) examine if out-of-town buyers pay more for single family houses considering higher search costs, time constraints and beliefs of price distributions. They find, contrary to Turnbull and Sirmans (1993), that out of town buyers bought relatively larger houses and paid relatively higher prices than in-town buyers. Liu et al. (2015) investigating the relevance of geographical proximity to commercial real estate investors' cost of acquiring information also find nonlocal investor to overpay for investment assets compared to local investors.

Benefield et al. (2011) investigate the relationship between time on market and photo depictions in multiple listing services. They use a hedonic model to test the effect of additional interior and exterior pictures on time on market and price assuming photo depictions influenced arrival rates. They find diminishing price gains for incremental interior and exterior photo depictions. They also find diminishing time on market increments with additional interior photo depictions and no effect from exterior photos. A probable explanation for this outcome is the influence of household characteristics on expected utility. Interior photo depictions provided key information about utility which could have been used for inspection shortlisting. Allen et al. (2015) also find similar effects of photo depictions through MLS, virtual tours and public as well as broker open houses on house sale prices and time on market.

Baryla and Zumpano (1995) explore how location fixity has information and search cost implications not observed in public markets. Since real estate goods are heterogeneous and in fixed locations, potential buyers seek both higher utility and cheaper prices. Real estate brokers are involved in searching and playing intermediary roles of advising on asset value estimates. Haurin (1988) asserts that real estate brokers are particularly important in interpreting the heterogeneity of assets to owners of atypical houses.

There has been substantial research on real estate brokerage in the US housing markets (See Zietz and Sirmans, 2011). The role of real estate brokers is to intermediate transactions on behalf of vendors or buyers (Allen et al., 2015). Other traditional brokerage services include market information, advice on listing price, marketing preparation, screening prospective buyers, facilitating buyer-seller matching and assisting with negotiations (Bernheim and Meer, 2013, Devaney et al., 2016).

Salant (1991) explores how using a broker in a residential sale transaction is associated with an asset's time on market and price. Since brokers have access to MLS as well as other channels of communication, they were more likely to contact prospective buyers than an owner using FSBO and relying on signboards. He finds that the price adjustment to be insignificant when a broker

is engaged, and that by-owner search terminates sooner if the frequency of drawing a buyer in the absence of a broker were small.

Turnbull and Dombrow (2007) examine how individual agent characteristic - agent gender, functional specialisation strategies and investment in local knowledge - affect house selling price while controlling for firm-specific effects and supply/demand conditions that vary by neighbourhoods. They argue that individual agents have more channels through which they influence transactions than their skills in matching sellers with buyers. Broker assistance is not observed in price or marketing time, but there is a net advantage of lower search and transaction costs for both buyer and seller. They find that neither gender nor functional specialisation affected selling price or time, but there were gains from partnering transactions across firms.

Marketing fundamentals, as outlined by Kotler et al. (2013), emphasise understanding client requirements as a pre-requisite for developing a marketing strategy. Research on understanding how household mobility is integrated into marketing and shapes the operation of housing markets is captured in 4.4.1 below on page 90.

The role of brokers in commercial real estate markets is quite different from that in residential markets. Brokerage function is perceived as one of facilitating transactions by providing sufficient information to principals to make informed investment decisions. Brokers enjoy economies of scale with respect to information and search cost. Scofield and Devaney (2013) find that the nature of investors tends be a more significant influence than asset heterogeneity on the choice of brokers.

Hardin III et al. (2009) highlight the fundamental distinctions of brokerage in commercial markets as being fewer transactions, largely known investors, much reduced number of active of brokerage firms, and brokers who know the other market participants. Acquisition and disposal decisions are based on standard evaluation techniques since markets are more transparent and information tends to be readily available. They find that transaction prices in markets with sophisticated participants were less likely to be impacted by brokerage activities. In contrast, Liu et al. (2015) find increases on acquisition prices and reductions in disposal prices when brokers were engaged in commercial transactions.

The role of brokers in private markets has been challenged. Levitt and Syverson (2008) argue that, though the advantage of hiring an expert intermediary in a transaction would be the informational advantage they would have over the counterparty, the expert could as a consequence of this private information mislead their client to maximise their own payoff (See also Rutherford et al., 2005). McAllister et al. (2008) note that institutional investors avoid establishing relations with external brokers because the brokers' opportunistic incentives could affect their reputation on the market.

The behaviour of real estate brokers in real estate transaction could be explained by the concept of the role of an [economic] agent in an economic institution. Granovetter (1985) argues that actors do not intransigently adhere to a written script for a particular interaction of social categories that they happen to occupy, but their purposeful actions are embedded in the system of social relations. Brokers contribute inputs to a subsystem and receive from it resources such as money, knowledge or personnel which take value by virtue of the demand for them by members of that social system. The resources may be traded in wholesale transactions in exchange for those that the actor does not have, or applied to a specific goal to achieve institutionalisation – the creation of normative standards to regulate behaviour on enforcing individual contracts with other actors in the subsystem. As most resources exchanged are not liquid enough to devise their prices in an unambiguous manner, there are considerable transaction costs, which inevitably also vary with the interaction between individual personality and the resource (See also Scofield, 2011)

Clark's (1972) illustration of resource exchange, though dated, is relevant to current understanding of broker activities in real estate transactions. In an ideal resource transaction, *parity norm* indicates an individual receiving benefits from a system proportionate to inputs. *Social altruism norm* is where an altruistic actor tends to support a 'deserving' actor by disproportionately contributing to the social system. There is interdependence of utilities linking payoffs to "need" of each individual. *Institutionalised values* depict individual payoff proportional to overall balance of inputs and outputs to the social system over the whole period of their relationship to that system. When individual payoffs are different from institutional payoff, there is a social imbalance. Social imbalance may be 'corrected' through institutionalisation of certain cultural elements that essentially legitimate and maintain positions of power in which subordinates may further be subordinated or the superordinates may have their power eroded.

To maintain positions of power that enhance their benefits from a system, actors may form coalitions and activate resources at their disposal to the extent that they will maintain the balance between the individual and social system payoff coefficient. Coalitions thus form along congruence of ideological outlook, size of coalition, size of contributing share, shared vision of the non-divisible benefit, and complementary resources among coalition members. Resource interchange may thus be influenced by coalition membership within a social system. Transaction costs - resource 'price'– may vary between actors inside and outside of coalitions.

The analogy of resource exchange to real estate brokers is the complexity of searching for heterogeneous assets in decentralised markets. Brokers form networks (coalitions) in which market information is shared to the extent that brokers receive benefits in reciprocity relative to

the range (coalition size) and shared vision (cohesion) and maintain prominence (position of power). The association of agency networks, resource exchange in sales transactions and liquidity in commercial real estate markets is central to this study focusing.

iv. Real Estate Transaction Completion

The final component of understanding the institutional nature of real estate markets is transaction completion. The component comprises due diligence, contract exchange and legal completion. Due diligence is undertaken to hedge the buyer against possibilities of holding adverse information about the transaction which could affect the negotiation of exchange price (Crosby and McAllister, 2004, Seabrooke and How, 2008). It involves a thorough investigation of real estate asset and location quality, market and investment market analysis to establish exit strategies, and economic analysis to identify micro and macroeconomic fundamentals that affect real estate markets. It also involves an analysis of risk to the legal status of the real estate asset, and establishing factual issues about the transaction. In some cases, it is also a statutory or regulatory requirement that should be complied with (CREFC, 2013, RICS Oceania, 2009). This is explained in inventory risk under real estate market liquidity (2.3.1iii) below.

Exchange of contract takes place at the end of due diligence. The sales contract signifies the agreement to transfer interests, and specifies conditions that should be fulfilled to complete the transfer. Legal completion is the date that interests in the transaction are finally assigned to the purchaser. In some markets, legal completion can be done at the same date as the exchange of contract. In other markets, there is a minimum 'cooling-off' period before legal completion within which either party could reverse the transaction. There may also be mandatory disclosures such as stamp duty, and transfer taxes that should be completed before the transfer deed is entered (Miller et al., 2006).

Considering the distinctions between real estate and financial markets, as well as the institutional nature, real estate markets cannot be information efficient for several reasons. Real estate assets are heterogeneous, markets are segmented, and information is disproportionately held. Asset prices are determined by seller optimal stopping rules. Brokers privately hold transactions information and their incentives could influence buyers/sellers to accept or reject prices. Market transactions are not recurrent enough to correct mispricing hence parties undertake due diligence to hedge against making decisions based on adverse information. In a market of this nature, efficiency as in 'immediacy' (Grossman and Miller 1988) may not be achieved at a level comparable to public markets. Information efficiency concepts, thus, fail to capture these characteristics. Since market efficiency and liquidity go in tandem, it is important to review how the real estate market (in)efficiency relates to real estate liquidity.

2.3 REAL ESTATE MARKET LIQUIDITY

The fundamentals of real estate market efficiency have been highlighted in 2.2 above. The discussion below demonstrates the linkage between market efficiency and liquidity which is essential to establish the position of the broker in real estate liquidity. Two broad dimensions of liquidity identified from Geltner et al. (2003) and Amihud et al. (2006) are information transmission efficiency and information search efficiency.

2.3.1 Liquidity as information transmission efficiency

Liquidity in public markets relates to market efficiency in transmitting price information to traders. In public markets, trading is centralised, assets are homogenous with a single characteristic hence do not require individual inspection, and market information is readily available. Assets can be traded immediately at market price since there are many [informed] buyers and sellers at any time, and transfer of asset ownership is immediate. Since observed transaction prices indicate market prices, investors cannot use market information to earn abnormal returns. Amihud et al. (2006) identifies three sources of illiquidity, namely, exogenous transaction costs, demand pressure, and inventory risk.

i. Exogenous transaction costs

Exogenous transaction costs include brokerage fees and order processing (paper-work See Copeland and Stoll, 1990) as opposed to stand-by compensation (See Affleck-Graves et al., 1994) and taxes on transaction. The effect of these costs on the asset prices is unrelated to the underlying securities (Glosten and Milgrom, 1985). Buyers (sellers) reduce (inflate) the bid (ask) price to accommodate transaction costs so that the gross (net) transaction amount does not exceed (fall below) the maximum (minimum) amount they can offer (accept). In an efficient market where prices are determined by the market, the difference between buyer's ex-ante and seller's ex-post valuations is expected to be insignificant. Due to large market inventory and relatively less effort in order-matching in financial markets, broker fees, order-processing costs, and taxes per unit transaction are low.

ii. Demand pressure

Though it is assumed that there are always buyers and sellers in an efficient market, this is not the case in reality. Natural buyers may not be available when an investor needs to sell quickly. Market makers provide immediacy services to traders who want to transact quickly, but face uncertainty of whether and when they will transact. Hence, market makers charge for stand-by order-processing and inventory holding cost by reducing the price at which they buy assets from 'quick' traders. Order processing cost [in this case] is a fee that market-makers charge for standing ready to match buy and sell orders, and for taking risk to wait for a potential buyer. (Affleck-Graves et al., 1994, Amihud et al., 2006, Lin et al., 1995). Inventory holding cost is the

compensation market makers require for holding less diversified portfolios. It arises from uncertainty of when future transactions are likely to occur, before which a market maker bears uncertainty of returns (Ho and Stoll, 1981).

iii. Inventory risk

Market makers also face the risk of trading with a seller that may have private information about order flows. A better-informed trader with knowledge of a potential transaction that is likely to affect security prices may seek to take a position on asset before information is publicly available. Market makers include the adverse information component to compensate for the risk of trading with better-informed traders in their order flows (Lin et al., 1995, Glosten and Harris, 1988).

Sources of illiquidity in real estate markets with respect to information transmission efficiency are extensive. Exogenous transaction costs are high. Agency costs, order-processing fees such as legal costs, and transfer taxes are relative to transaction prices. Administration fees are fixed costs recovered from low transaction volumes, hence unit costs are high. When buyers and sellers incorporate their portions of these transaction costs into reservation prices, the bid-ask spread relative to the mean price is significant (See Clayton et al., 2008, Fisher et al., 2003, Fisher et al., 2004).

With respect to stand-by order-processing and inventory holding costs, there are no intermediary market-makers that buy-hold-sell assets *per se* in real estate markets. The equivalent of market makers are value-adding and opportunistic investors who buy, turnaround and sell in the short term. Effectively, brokers are match-makers that accept instructions to sell on behalf of sellers. They face inventory holding costs due to uncertainty about 'whether' (liquidation risk) and 'when' (marketing period risk) an asset will sell (See Lizieri and Bond, 2004, Lin and Vandell, 2007). Real estate brokers do not provide immediacy services hence are not exposed to stand-by order-processing costs.

The third source of illiquidity in real estate markets is adverse information. In financial markets, adverse information is traded-off by adjusting reservation prices in subsequent transactions (See Goyenko et al., 2009). Observed transaction prices in real estate markets do not fully reflect the market price for a trading asset (See Lin and Vandell, 2007, Wyatt, 1997). Information is privately held by real estate brokers. There are possibilities that brokers hold back information that affects their incentives in the transaction (See Rutherford et al., 2005, and Levitt and Syverson, 2008). The adverse information cost cannot be traded off as in financial markets. Unlike in financial markets were some units of a security are traded at a time at revised prices, real estate is traded in whole units. Transaction costs are huge and may not justify short term repositioning. Transaction price is negotiated after all possible factual issues are verified through due diligence (See Crosby and McAllister, 2004). Information efficiency expectation about

allocative and operational efficiency, therefore, fails to capture these unique private market characteristics as is the case for real estate markets.

2.3.2 Liquidity as information searching efficiency

Gotham (2006) highlights fundamental concerns about attempts to 'transform' spatially-fixed and opaque real estate assets into transparent assets assuming characteristics as those of financial assets, and overlooking the processes which create shared agreements and relations through which transactions occur. Search is an essential process associated with assets which trade in private markets such as for real estate. Assets are heterogeneous, and consequently the variance of offer prices is high (Haurin, 1988). Since market information is disproportionately held, and transaction prices tend to lag market prices, the likelihood of sellers' *evidence-based* valuations differing from buyers' *expectation-based* valuations is high. Prices are determined by buyer/seller attitudes towards trading off price expectation with willingness to wait. Given that transactions take place in decentralised markets, buyers and sellers continue searching for each other, until negotiations yield satisfactory exchange prices.

There is a substantial literature on liquidity related to search efficiency in the housing market such as Lippman and McCall (1986), Kluger and Miller (1990), Krainer (2001) and Genesove and Han (2012) and in the commercial real estate market by Cauley and Pavlov (2002), Fisher et al. (2004), Lin and Vandell (2007) and Clayton et al. (2008). In these spheres of studies, liquidity is conceived as the expected time an asset is likely to remain on the market to sell at market price. A seller (buyer) who spends more time and effort searching is likely to find a buyer (seller) willing to pay (accept) a higher (lower) price for an asset with specified qualities (Anglin et al., 2003). The longer it takes to find a buyer (seller) willing to pay (accept) the maximum (minimum) price for an asset, the more illiquid is the market. Some factors that influence time on market are rational delay and valuable real option to wait, which are discussed below, and marketing methods which were discussed in 2.2.2iii above.

i. Rational delay

Sellers may delay transacting real estate assets for various reasons. In a market where information asymmetry is typical, sellers delay trading to rationally update the reservation price (Clayton et al., 2008). This is likely to be typical to how a seller shapes expected value when a broker is not engaged (Salant, 1991). Mortgage obligations can also have supply-side effects on real estate markets. In negative demand periods, sellers hold back the decision to sell. Cauley and Pavlov (2002) find that when there are down payment requirements, equity contribution from the sale towards the next purchase would be relatively low. Genesove and Mayer (2001) find that the aversion for loss from asset price cuts after a market boom drives sensitive sellers out of the market. Krainer (2001) asserts that sellers may also wait longer hoping to achieve higher prices

than if they sold immediately. This behaviour is explained in the Kohn and Shavell Model later in 3.1.2 below on page 41.

ii. Valuable real option to wait

Clayton et al. (2008) describe value in waiting as the opportunity cost of not completing a transaction. In down markets, sellers intensify their search for higher valuation buyers hoping that the likelihood of finding one increases the longer the search. In hot markets, the likelihood that prices will fall (mean- revert) in the next period is high. Sellers accept lower prices now to avoid the opportunity cost of waiting for the next period in which prices could be even lower than current prices (Genesove and Mayer, 2001). The option value of waiting may be restricted if the seller has a framed time to sell. Glower et al. (1998) identify possible reasons for a framed time to sell as planned date to move, new employment, offer or purchase of another house, atypical house, and incorrect list price at the time of listing. A seller is likely to sell as the constraining event approaches. Holding costs start to accrue if the seller does not complete the transaction by the end of the sale period, hence the net realisable value may fall below current offer prices. Zuehlke, (1987) find that vacant house sales are more time-dependent than occupied house sales demonstrated by stronger incentive for diminishing reservation prices. The Kohn and Shavell, and Morgan and Manning Models presented later in Chapter 3 demonstrate how estimation of future price distribution affects the decision whether to start searching or not, which is essentially exercising the option to wait.

The influence of rational delay and valuable option to wait reinforce the need to explore how actor behaviour in anticipation of sale price is associated with real estate market liquidity.

2.3.3 Liquidity in commercial real estate markets

Compared to the residential market, research on liquidity in direct commercial real estate markets has been sparse. The Investment Property Forum (IPF) has been instrumental in advancing research on liquidity in this market. Pioneering research includes McNamara, (1998) and Crosby and McAllister (2004). Publications between 2005 and 2014 covered various commercial investment avenues focusing on valuation and risk. Since 2014, there have been a series of publications with a central theme of seeking to understand liquidity in a real estate context.

Lizieri and Bond (2004) review various definitions of liquidity such as ease and certainty of converting an asset to cash at/near market value (Baum and Crosby, 1995), unconstrained ability to buy or sell an asset (Key et al., 1998), and conversion of an asset to cash focusing on time (McNamara, 1998) among others as some of the notable dimensions. From the financial markets perspective, they point out such definitions as ability to trade costless (O'Hara, 1997) and the cost of immediacy (Grossman and Miller 1988), and rate of transaction volume (Fisher et al., 2003). They acknowledge that liquidity in direct [commercial] real estate markets has various

dimensions and is complicated by nature of the markets – asset heterogeneity, large lots, spatial markets, role of brokers and information asymmetry. Hence, applying liquidity concepts and proxies used in securities markets, such as transaction volumes, Bid-Ask spreads or holding period costs, among others, to real estate markets is difficult. These measures only provide partial insight to real estate market liquidity.

Subsequent research by Ametefe et al. (2015) and Marcato et al. (2015) reviewed literature on estimating liquidity and identified the following types of proxy variables for measuring liquidity in asset markets: transaction cost, volume-based, price impact, time-based and return-based measures. Marcato (2015) analysed various liquidity measures – Time on Market bias, Liquidity bias, and Market liquidity premium – in estimating the risk and return profile of an illiquid asset to capture the tightness, depth, breadth, immediacy and resilience dimensions of liquidity.

Lizieri and Bond (2004) recommend that, in the case of real estate, more attention should be paid to understanding the transaction process such as asset pricing, role of brokers and uncertainty around transaction date and/or amount. Moreover, Lizieri and Matysiak (2004) summarise the recommendations for future attention on understanding the implications of liquidity on commercial real estate markets as variations in transaction rates, analysis of probability of sale, analysis of the property sale process, and research into holding period, risk and return expectations among others.

Crosby and McAllister (2004) analyse real estate sales and summarise the transaction process into six key stages, which were identified earlier. While acknowledging that their study extends the understanding of real estate transaction processes, they note that there are still some outstanding issues such as the causes of variations in transaction times, and how various sectors react to liquidity 'shocks'.

The next major research report on understanding liquidity in direct commercial real estate markets since the 2004 IPF report was by Devaney and Scofield (2015) exploring the relationship between time to transact, asset characteristics, market conditions and other factors using a sample of UK commercial real estate transactions. The aim of the study was to understand causes of variations in time to transact, which in turn drive liquidity. The study analysed the distribution of completion times of various transaction stages from introduction to completion in relation to these attributes. They found considerable variability in overall time to complete and in component stages across sectors. Notably, large lot sizes such as portfolio sales were found to be associated with longer time to transact because of the complexity of transactions. Downturn market conditions were also found to be related to longer time to transact, but asset price was not found to have a significant effect on time to transact.

Devaney et al. (2016) reviewed how liquidity in direct commercial real estate varies between markets and how such variations relate to real estate pricing in various international markets. Unlike previous studies which focused on quantitative analysis of liquidity dimensions, this research incorporated a qualitative approach as well to understand how transaction processes and activities vary in different markets. The qualitative analysis sought to establish transaction processes, brokerage models processes and fees, as well as time to transact. The quantitative approach analysed differences in transaction activity across the international markets. This research is probably the first to deliberately seek to understand the operational nature of the components of transaction processes in commercial real estate markets which were advocated for by Keogh and D'Arcy (1999) and more recently Byrne et al. (2013). Noting the complexity of liquidity in direct commercial estate markets (Lizieri and Bond, 2004, Locke, 1986) and the focus of research since then, the broad distinction of the market from residential markets (Allen et al., 2015), the nature of transaction process in international markets (Devaney et al., 2016), and the social embeddedness of economic action (Granovetter, 1985, Slater, 2002), the unresolved question is how various components of the transaction process identified by McNamara (1998) and Crosby and McAllister (2004) are accomplished.

2.4 SUMMARY

The purpose of this chapter was to explore the nature of real estate markets. Real estate markets facilitate the alienation of property rights in the kinds of transactions which create owner-occupier and investment markets with distinct actors, mobility incentives and qualitative judgment about the distributions of goods. A common feature of both markets is the concern for efficiency in disposing and acquiring property assets – market liquidity - to address changes in asset holdings motivations. Though there have been attempts to perceive efficiency of real estate markets through financial markets indicators, research has shown that real estate markets do not satisfy the fundamental requirements for doing so. Transaction costs are high; market makers do not hold risky assets; market players disproportionately hold private information. The complexity of real estate markets warrants a focus on transaction processes, pricing, and the role of brokers rather than information transmission efficiency.

This review established that there has been substantial research on liquidity housing markets and relatively less on commercial markets focusing on these attributes. The difference in mobility drivers between housing markets which are predominantly owner-occupation driven and commercial real estate markets which are investment driven signals for critical consideration of how understanding of the former could be inferred to the latter. Operations in the two markets are shaped by marketing strategies which seek to address different mobility drivers. In this respect, a critical point identified from a marketing point of view and seems to be overlooked in real estate research is understanding how marketing contributes to the operation of markets.

Marketing is an ex-ante process involving understanding customer needs, devising marketing strategies, building profitable relations and delivering value which creates not only profits but customer equity as well. The way marketing addresses fundamental mobility drivers is likely to differ between housing markets dominated by unsophisticated owner-occupiers and commercial real estate markets with highly-informed investors.

Hence, liquidity in real estate markets should be understood from a perspective of the process of searching for information not only about understanding the asset and local market but also the (potential) asset holder mobility incentives. The next two chapters explore the search and marketing strategies in real estate markets (Chapter 3) and social networks viz-a-viz building customer relationship and equity (Chapter 4).

CHAPTER 3: SEARCH IN REAL ESTATE MARKETS

3. INTRODUCTION

Chapter 2 reviewed the nature of real estate markets and its implication on how liquidity could be understood. It highlighted that search was essential to understanding real estate market liquidity owing to fundamental market characteristics such non-homogenous assets, low transaction volumes and decentralised markets. It was noted that a focus on transaction processes, which have been identified to include ex-ante marketing and ex-post completion processes, was essential. Search is a cardinal component of the ex-ante real estate transaction processes. This chapter reviews how search can be conducted and the conditions that influence search strategies. It has three sections, which are as follows: 1) generic search models covering three search approaches, 2) search in real estate markets including search duration and search intensity and 3) the role of intermediation in real estate transactions. Much of the existing literature refers to residential real estate markets with few studies of commercial real estate markets which are the focus of the present research. While the literature provides useful conceptual understanding, mobility drivers in these markets tend to differ. Hence, the extent to which the findings in residential markets are relevant to commercial real estate markets is considered. The chapter explains how real estate search costs relate to search strategies and their bearing on intermediation and the operation of commercial markets. The broker is identified as an important intermediary in search in a principal-agent relationship due to market friction that exists in both residential and commercial markets. It is concluded that there is a void of research examining the resultant social processes that underpin contemporary search and intermediation, and the inferences for liquidity.

3.1 SEARCH MODELS

Search in direct real estate markets implies the identification of appropriate stock (Gallimore et al., 2006). It essentially fulfils the marketing stage of the transaction process, and is informed by the preceding decision and pre-marketing stages. Drawing from Crowston et al. (2015), it is noted that search is not only a process of seeking potential buyers and sellers, but also of gathering substantial and specific market knowledge widely distributed across different information sources. Rae (2015) highlights five concepts of search as including i) goal-directed search undertaken by informed people, ii) complex processing of differently sourced information, iii) resolving uncertainty in unknown set of opportunities, iv) rules determining search sampling and termination, and v) search constraints such as money, time and access to information.

Search can be a formal, or an informal activity. Formal search involves non-personal intermediaries such as advertising, listing services, passive brokerage and direct bidding (Huffman and Torres, 2001). Formal search models assume the arrival of events, which in real

estate transactions would be offers, is a Poisson process - random draw from a distribution with unbounded support (See Albrecht et al. 2016). Sellers, buyers and brokers in markets with greater trading activity and data availability such as housing markets tend to use formal search strategies with non-personal intermediation. Repeat transactions between the same parties and/or brokers are also rare, hence relations do not seem to matter. Most trading is between unsophisticated individuals who, for most of the part, do not hold large portfolios of housing assets (Allen et al. 2015). Hence, formal search through advertising to unknown buyers tends to be common.

Informal search uses personal influences such as referrals, access to inside information and networks. It relies on ties, ability, knowledge, branding, contacts, reciprocity and trust (Davern, 1997, Marin and Wellman, 2011) among buyers, sellers and brokers in a specific transaction context. There is growing attention towards the role of informal search particularly in global real estate investments (See for instance Lizieri and Pain, 2014, David and Halbert, 2014 in Chapter 4 below). However, there is little that is known about how informal search is relied on particularly in commercial real estate exchange transaction processes. These markets as noted in 2.1 above are characterised by infrequently traded but high-valued assets in spatially dispersed markets. Buyers and sellers tend to be few and sophisticated yet have high information and search costs hence highly likely to engage brokers (See Hardin III et al. 2009). Understanding how formal and informal search approaches are used starts with reviewing the common search models.

Various search models have been developed predominantly from labour studies, but their relevance extends to any search markets including real estate markets. A typical way of identifying a search model is by its sample and search rules. Sample rules define the sample size per search episode – an event during which samples are observed - and procedures which determine the search outcomes. Search rules are decision criteria for commencing, continuing and terminating search. Search models are useful to establishing when it is optimal for a searcher to stop searching and accept the best price available under a specific set of conditions. The challenge to real estate search processes is that conventional concepts, though contributing to the body of knowledge (See Rae, 2015), still do not address the complexities of differentiated and dynamic information sourcing or holding. The search models by Stigler (1961), Kohn and Shavell (1974) and Morgan and Manning (1985) presented in reduced form below are reviewed to understand fundamental search processes and rules which may be associated with real estate transaction processes.

3.1.1 Stigler Search Model

The Stigler search model is a *fixed-sample size* search model which assumes a known opportunity set and a single search episode in a search period. It demonstrates how information quality can be associated with sample size. Stigler (1961) sought to highlight the significance of information

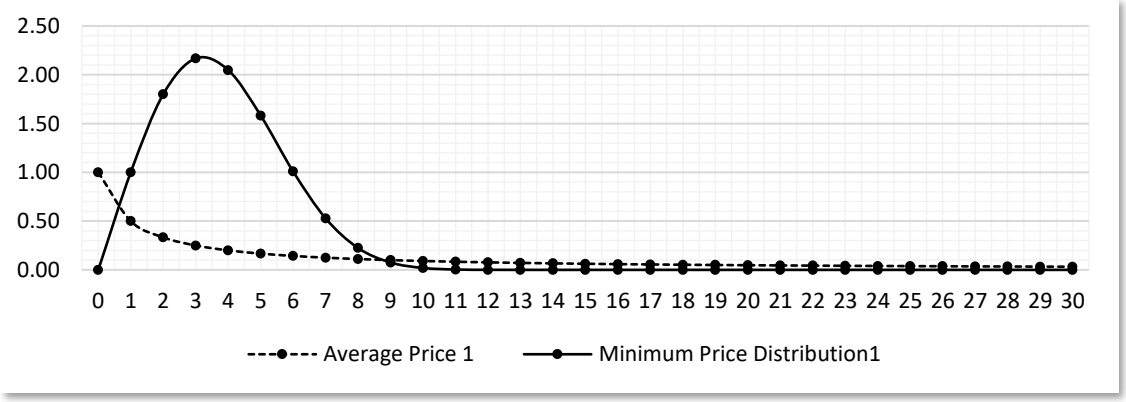
and the role of search in ascertaining market prices. The context of the explanation was set to a situation where buyers searched for sellers, but still applicable in the converse situation. The price of similar goods or services was assumed to be varied because markets were not perfect in distributing information. Price dispersion, therefore, indicated a searcher's perceived distribution of asking prices, and in turn, the degree of market cohesion of price knowledge. Low price dispersion signified more coherent market information, and hence there was no gain from searching instead of settling for an immediate available seller.

Search problem

Stigler's view was that the identity of the seller was important to buyers looking for the most favourable price. Search costs, expressed as time, would be proportional to the number of sellers approached and vary among buyers. The costs would be determined by the cost per search and the proportion of sellers in a geographically-defined population. Small (large) samples required less (more) time to mobilise but yielded less (more) information. The search problem was to establish the optimal amount of search to yield quality information where search costs would equate to marginal savings in a search period.

Meanwhile, savings to the searching buyer from paying the maximum price depended on the distribution of the minimum (asking) price in a search sample, and the number of searches relative to the population of sellers as shown Figure 3-1 below. The likelihood that an observed price being the average asking price was estimated by a price-to-search function $[1/(n+1)]$ assuming the maximum offer price is 1. It adjusted downward as the number of searches (n) increases. Stigler's point was that by increasing the number of searches, a buyer had a better price distribution perception indicated as a rising and then falling variance, and saved by paying less than the maximum price. However, the marginal benefit of each search declines to a point where they would be negligible, and it would be optimal to stop.

Figure 3-1: Minimum Price Distribution and Average Price Relative to number of searches



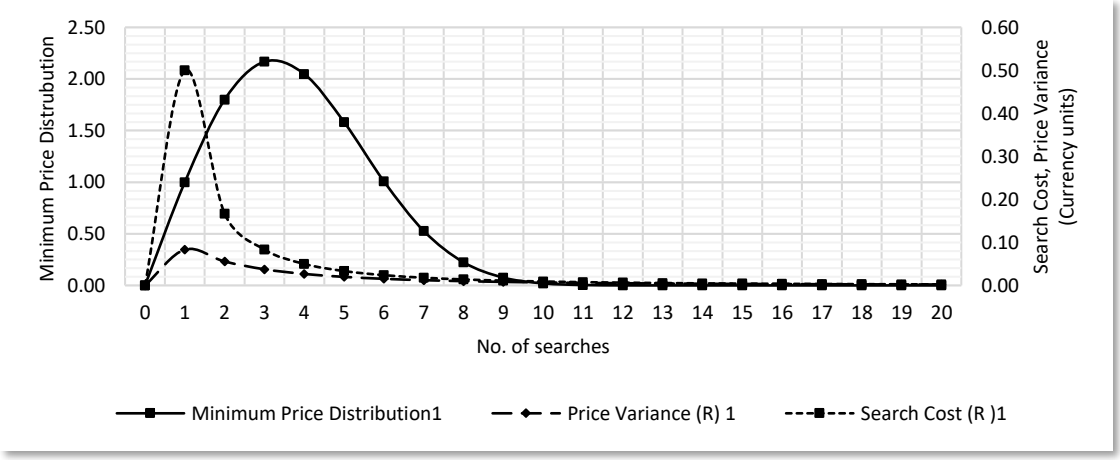
Source: Adopted from Stigler (1961)

Stigler's model has been simplified by assuming the buyer has no competition with other buyers. In real estate markets, search and comparison are hindered by the fact the asset heterogeneity affects prices, hence price distribution relates to different economic goods. Yet, search is necessary to ensure that buyers are matched with appropriate assets for their mobility incentives. Furthermore, the need for search would depend on several other factors such as:

i. *Capital requirements:* searching could generate larger savings, but would require more effort if the commodity price formed a relatively large portion of the buyer's income,
ii. *Size of informed buyers and sellers*: the presence of larger numbers of well-informed buyers and sellers reduce search time as the dispersion of prices would be low, and
iii. *Geographical size of market*: search costs increase the larger the geographical size of the market because it would take more time to identify potential sellers

Since the effectiveness of search depended on the identity of sellers, Stigler (1961) argued that using a large sample search strategy such as advertising introduced a large number of buyers to a large number of sellers. This fits the context of residential markets where potential buyers and sellers are typically unknown to each other. Advertising was costly, but it required less time to reach large populations. It was, therefore, cost-effective and could be used by buyers to determine the optimal amount of search to establish the most favourable price. Advertising also increased the proportion of identified sellers. Consequently, the variance of prices declined and stabilised. Price dispersion and cost per search decline as sample size increases. Figure 3-2 below demonstrates the effect of sample size on price variance and cost per search.

Figure 3-2: Price variance for n searches



Source: Stigler (1961)

So, in Stigler's (1961) model, the optimal amount of search was the sample size where the searcher's marginal saving due to lower price dispersion was equal to the search cost. The Stigler model fits a buyer-led search common in owner-occupier markets such as housing markets. The

use of internet MLS as shown in such studies as Zumpano et al. (2003), Ford et al. (2005) and more recently Rae (2015) demonstrates how brokers in residential markets facilitate large searches for properties to unknown potential buyers.

Since the publication of Stigler (1961), several studies have sought to identify optimal search strategies that are more cost-effective than fixed-sample size. Dobbie (1963), Morse (1970), Kohn and Shavell (1974), Salant (1977), Rosenfield and Shapiro (1981), Bikhchandani and Sharma (1996) and Morgan and Manning (1985) are some of the prominent studies on the search theory. Of these studies, the Kohn and Shavell (1974) and Morgan and Manning (1985) are explored to understand alternative approaches to optimising search.

3.1.2 Kohn and Shavell Theory of Search

Kohn and Shavell (1974) model is a sequential search model which aims at reducing search costs by sequentially reviewing the marginal utility for a search decision where the full opportunity set is not known. Search is a sequence of sampling of a good or service from an unknown opportunity set. The Kohn and Shavell model is explained in a context of a seller-led search, but applicable to buyer-led search as well. The seller as the searcher, has options not to search, to search and stop after the i^{th} draw, or continue search and stop after unknown draws. An optimal policy is necessary to prevent searching in perpetuity. In principle, even though the opportunity set might not be known, there is a level of expected utility, referred to as the switch-point level of utility or the reservation or listing price (P^*) at or beyond which a seller can decide to stop searching and enjoy the pay-off. As new observations of offers are made, the expected utility may shift in response to changes in search cost, utility discount rate, risk aversion and the perceived price distribution. The optimal rule is to terminate search when the best available utility is equal to or higher than the seller's reservation price otherwise, it continues. Search, therefore, is a process of sequential observation episodes and a decision is made at the end of each episode to either terminate the search or continue.

The search Problem

In sequential search, the search problem is to choose a policy that guides the searcher whether to search or not, after observing a sequence of realisations from a possibly infinite series. Given the utility from observed search outcomes the decision to stop depends on 1) the perceived distributions of samples having observed search outcomes until that point, and 2) the pay-off for terminating search. These two search decision conditions are explained below.

Distribution of probability

A seller's perception of the distribution of potential buyers in an opportunity set is either objective with certainty, or adaptive as new information arrives. With objective distribution,

samples are mutually independent and identically distributed such that the expectation for each draw from samples at different times remains constant. The opinion of the search consumer is based on information only from a fixed-sample size (See Stigler, 1961) and is not time-variant. There is no new information to enhance pay-offs. A gain to the searcher is achieved by chance when a random higher value sample is drawn from the finite population. Since expectation is static, continuation of search beyond the current search episode is not justified. In financial markets, for instance, there is no need to search beyond the available opportunity set because all information is available immediately and sample returns of security are mutually independent and identically distributed.

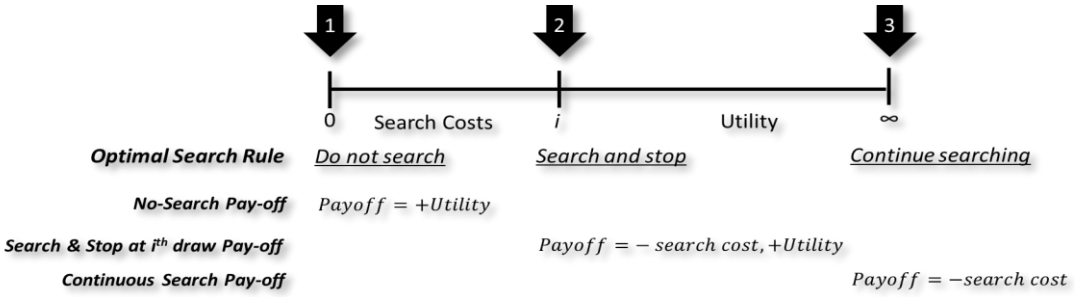
In adaptive distribution, the perception of the subsequent distribution is '*learned'* from prior observation. Each new observation provides new information which is used in adjusting the anticipation of future pay-offs. Both the searcher's distribution perception and net pay-off are time variant. Searching is justified as new information could enhance pay-off, but time-variant search cost could erode the pay-off. Search stops at an optimal point. The population of assets on the market is neither known and nor finite. Furthermore, as goods are heterogeneous, even though each transaction conveys new information, search costs also increase. Adaptive distribution is therefore likely to be relied on in private asset markets where the opportunity set of assets on market or market players is hardly known.

Pay-off determinants

Pay-off to a seller searching for a potential buyer is a function of the expected price, search costs, and the probability distribution of search samples. It is observed in what are referred to as the inspection and experience cases. In the inspection case, pay-off is a random search cost incurred as the search continues. The searcher observes samples and does not act on them, but decides to continue searching. Pay-off in the experience case is in form of the utility derived from actual consumption of the asset before it is sold. The searcher (seller) therefore considers the trade-off between incurring more search costs and have a better perception of price distribution while enjoying the utility of holding the asset, or accept the available offer, forego the utility from holding the asset and cut search costs. The optimal search rule determines when search terminates. Where searching does not terminate immediately but at i, the inspection case pay-off is the discounted search cost over the search period (see Figure 3-3 below). The net pay-off is the difference between the discounted value of the current utility, including income or savings as well as sale price, and search costs. A searcher's decision to terminate search is contingent on the marginal utility and search cost trade-off which is continuously revised through an adaptive rather than objective price distribution perception. A seller would not wish to resume searching

after stopping if the opinion about the future and pay-offs are informed only by time-invariant sample information.

Figure 3-3: Illustration of pay-offs



Source: Derived from Kohn and Shavell (1974)

The decision to stop searching remains just as important at any point now or in future since search cost and price distribution perception justifying the termination action remain the same throughout. If opinion and/or pay-offs were time-dependent, the seller would consider resuming searching. In real estate markets, this trade-off between utility and search costs may considerably vary particularly between owner-occupier and investment markets in relation with mobility drivers. A searcher with urgent need for adjusting to current consumption demands or higher search cost in conjunction with low perception of price distribution could be compelled to discontinue search and accept an available offer equivalent to the reservation price rather than continue searching. Conversely, an investment asset holder with high utility from say current rental income, prospect of a higher price, low search costs and without compulsion for consumption adjustment would be willing to continue searching until a potential buyer at the expected price is found.

There is an infinite set of search policies that a seller may adopt to determine to terminate search. If the optimal stopping policy is to search and terminate at some point i in the short term, the seller incurs search costs until that time, and receives a pay-off equivalent to the maximum between the value in exchange and the discounted value of owning as at i. The value of the search and stop policy is a continuous comparison of how expected utility and search costs during in previous and current search episodes relate to the prospect of achieving an expected sale price in the subsequent search episode.

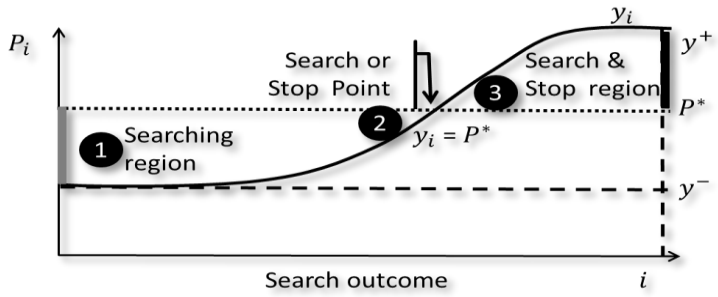
Changes in household characteristics such as income or family structure planned date to move, new employment, offer or purchase of another house (See Glower et al. 1998) are some time-variant circumstances that could alter a seller's value of owning. A similar observation is identified in Salant (1991) regarding an owner's consideration to re-engage a broker or terminate search if a house did not sell within an expected time frame. Investment real estate markets with

few but well-informed market players may not offer prospects of improved price distribution perceptions by continuing to search hence search is likely to terminate early. A seller's decision to leave an asset on the market for a longer period with the hope for a better price could negatively influence future offers and prospective buyers.

Search decision regions

The searcher's perception of price distribution as indicated above informs a searcher whether, in view of current utility and search cost, it would be prudent to terminate search. Unlike the fixed-sample size model which has one high information yielding search episode, a sequential search model could have infinite search episodes. A searcher hence uses a reservation price as a benchmark for deciding whether it necessary to continue searching or to terminate. Figure 3-4 below illustrates a searcher's decision-making regions in a sequential seacrh model.

Figure 3-4: Search and stopping decision-making



Source: Author illustration derived from Kohn and Shavell (1974)

The curve y_i indicates a searcher's adaptive perception of the best available utility (offer) at search episode *i*. (y^-) and (y^+) are the respective minimum and maximum prices expected for asset *X* between which search is certainly optimal. If the best available utility is below y^- the searcher opts to withdraw from the market and not search at all. This is the level Genesove and Mayer (2001) note as the trigger for loss aversion. P^* represents the seller's reservation price which is equivalent to his/her discounted utility. The buyer price spread is (y^-) to (y^+) while the seller spread is P^* to (y^+). In static sample distribution, as in financial securities, buyer and seller spreads are so marginal that y_i equals P^* for any sampling policy. It is optimal to stop at any sample draw, but search stops immediately as there is no new information.

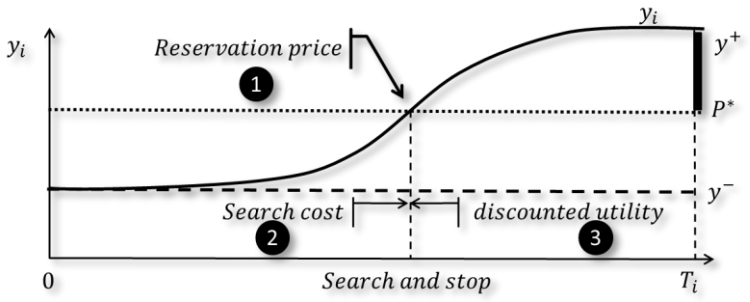
In search region (1), the best available utility y is less than the reservation price P^*; hence it is not optimal to stop search. Point (2) is an equilibrium point where the best available utility equals the reservation price. At this point, the searcher is indifferent between continuing and stopping the search. It is optimal to stop searching at this point or at any point afterwards (region 3) where the best available utility is higher than the reservation price.

Simple as this illustration might appear, there could be significant differences between seller and buyer perspectives of minimum and maximum price spreads in private real asset markets. Lin and Vandell (2007) and Clayton (1998) for instance, maintain that sellers have retrospective perceptions of value based on indicative market transactions. Buyers, concerned about the opportunity cost of future benefits, have a prospective perception of valuation.

Reservation Price

Since the opportunity set is not known, the reservation price plays a critical role in search termination decisions. The reservation price 1), commonly referred to in real estate markets as the listing price, is an expected amount where best utility available under a static distribution is equivalent to net pay-off to the searcher, which is trade-off between the search cost 2) and discounted utility 3) (See Figure 3-5 below).

Figure 3-5: Optimal stopping reservation price



Source: Author illustration derived from Kohn and Shavell (1974)

The expected price, equivalent to the total cash outlay including costs, depends on the belief about the posterior distribution of search outcomes after observing an offer X_i at time i. The optimal stopping point is established by sequential comparing available offers when a search outcome equates to or exceeds the reservation price. Ihlanfeldt and Mayock (2012) find out-of-town buyers in residential markets tend to have home-bias anchoring of expected prices in destination markets.

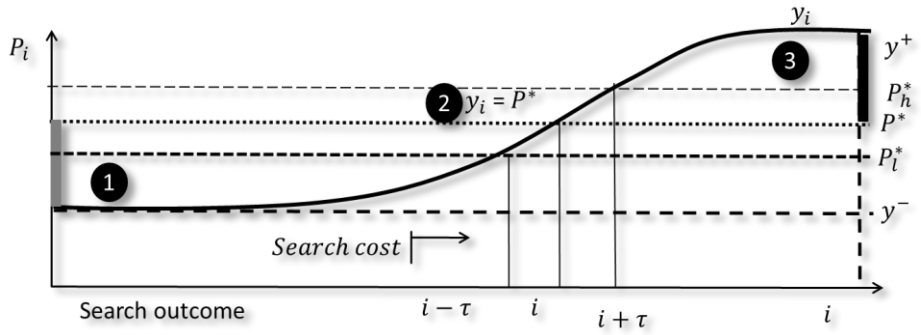
A searcher may maximise net pay-off by either revising the reservation price or intensify search. These options are explored below because they are relevant to understanding seller and broker net pay-offs incentives in sale price and remunerations.

Reservation price adjustment

A seller, having observed offers and formed expectation of future distribution of prices, may decide to adjust the reservation price. Such a decision can affect potential transaction price, search costs, and duration on market. Shifting the reservation price upwards (downward) from

$P^*$to P_h^* (P_l^*) as shown in Figure 3-6 below moves the optimal policy rightwards (leftwards) and thereby increasing (reducing) search costs.

Figure 3-6: Effect of reservation price on search cost



Source: Author illustration derived from Kohn and Shavell (1974)

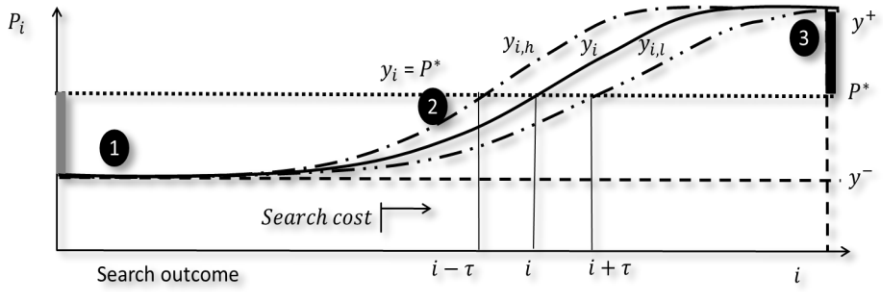
There are a number of observations that have been made in real estate research regarding motivations for using listing prices as indicators of reservation prices. Northcraft and Neale (1987) find that manipulated listing prices anchored values assigned to properties. They argue that psychological literature and empirical evidence indicate that an arbitrary chosen reference point (anchor) significantly influences value estimates and that value estimates to not significantly adjust from the anchor to the true value of an object. Anglin et al. (2003) claim that the effect of high [listing] prices on market time is amplified in markets with low dispersion of listing prices. Lambson et al. (2004) and Clauretie and Thistle (2007) find biased price belief to be among the attributes which lead less-informed buyers to pay premiums on asset prices.

Rosenthal (2011) demonstrates how seller's broker incentives such as fixed commissions and other variable costs influence listing prices in pursuit of maximising net pay-offs. Knight (2002) find, however, that higher listing prices intended to anchor sale prices tend to be costly due to longer sale durations and ultimately houses sell at lower prices. Chen and Rutherford (2012) and Krainer (2001) also find higher house listing prices to be associated with longer duration. Anderson et al. (2013) find that real estate brokers tend to negotiate for longer marketing duration when sellers overprice houses. Therefore, it can be said that in the absence of information asymmetry, listing prices may not significantly influence the perception of the reservation price but would instead affect search costs.

Search intensity adjustment

Search intensity, which can be described as the rate of offer arrivals, affects search cost without adjusting reservation price. Search costs adjust to changes in the period between search episodes (See Figure 3-7 below).

Figure 3-7: Effect of Search Intensity on search cost



Source: Author illustration derived from Kohn and Shavell (1974)

Increasing (relaxing) search intensity shifts the cumulative price distribution curve leftward (rightward) from y_i to $y_{i,h}$ $(y_{i,l})$ reducing (increasing) search costs owing to variations in search duration from i to $i-\tau$ $(i+\tau)$.

Brokers are used in real estate markets to, inter alia, intensify search at lower transaction costs (Devaney and Scofield, 2013) and search durations (Baryla et al., 2000). Turnbull and Sirmans (1993) find that multiple listing helps out-of-market buyers have similar market information as in-market buyers. Salant (1991) concludes that engaging a broker does not significantly improve the sale price over that achievable under For-sale-by-owner, but it reduces the time on market. Studies on dual agency also indicate transactional efficiency in matching buyers to sellers in residential markets (See Hendel et al., 2009)

Maury and Tripier (2014) contend that search intensity is associated with ex-ante heterogeneity such as mobility drivers, and preferences or exogenous idiosyncratic disturbances of steady-state properties such as moving from relaxed to desperation price dispersion in real estate markets over and above the endogenous functioning of market. This is consistent with Wheaton's (1990) argument that prospects of remaining in a 'mismatched' state determine both the search effort and offer prices made by buyers. Further discussion on listing prices and search intensity is covered in 3.2 below

Whether similar patterns exist in commercial investment markets is uncertain owing to lack of formal research in the area. Though there are have been developments in commercial listing services such as CoStar Propex™, there is no evidence of research on how and in which situations broker intermediation in the market influences search intensity.

The Kohn and Shavell (1974) model places less emphasis on sample size because the opportunity set is not known. Since search could continue *ad infinitum*, the model focuses on reducing search costs by confining search between the lower and upper price boundaries. The search problem is therefore to establish a search policy on when to terminate search. The decision to terminate

search is sequentially comparing net pay-off for stopping with continuing to search. Search terminates when the perceived marginal price gains is not justified by the incremental search cost. This would be the kind of policy that might be pursued in thin real estate markets where owing to few market participants. The perception of price distribution is not static, but adapts to new information from subsequent search episodes. As it where, search costs are also cumulative, and the final cost is only known upon termination.

3.1.3 Morgan-Manning Optimal Search Model

Against the background of the Stigler (1961) fixed-sample size search model and Kohn and Shavell (1974) sequential search strategies, Morgan and Manning (1985) present the optimal search model which has properties of both fixed sample size and sequential strategies.

Fixed-sample size search strategy has the advantage of obtaining extensive information but at high cost. Sequential searching is cost-effective as marginal search costs depend on the decision to continue searching or not, but it yields low information from each search.

In a sequential search strategy, only one sample is observed per episode. The perceived price distribution 'learned' from the observation. Search costs and discounted utility then influence the decision whether to proceed with searching or not. The sample size and search period are not known until search terminates either when the best available offer exceeds the reservation price or when marginal net pay-off for continuing to search is zero.

Morgan and Manning (1985), therefore, argue that there is an optimal search strategy that is both information-rich, and cost-effective which sequentially searches sizeable samples from a known opportunity set. The objective of the optimal search strategy is to sample enough observations to reduce price dispersion (Stigler, 1961) while maintaining search cost flexibility through periodic sampling (Kohn and Shavell, 1974).

The Search problem

A searcher expecting a utility maximising outcome periodically observes offers in tranches from a known opportunity set. Search terminates when the searcher acts on an observed outcome that exceeds the expected utility. The circumstances which induce search termination differ between fixed-sample size and sequential strategies. The search problem is to establish a trade-off.

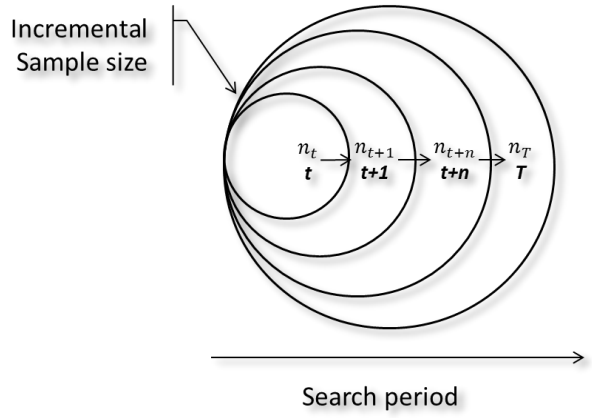
A fixed-sample size search assumes the searcher has knowledge of the opportunity set per search episode. Sampling in each tranche is, however, random. A searcher observes all samples simultaneously and draws a utility maximising observation rather than relying on one outcome to decide whether to undertake another search episode or stop. A sequential searcher draws one sample per search episode from an unknown population, and only decides at end of the episode

whether to continue searching or terminate and act on the drawn sample. The number of observations is only known when search is terminated, but the opportunity set remain unknown.

An optimal search strategy combines the best of the fixed-sample size, and sequential sampling strategies. It utilises the of fixed-sample size strategy's ability to collect rich information through large observations in a single episode and the flexibility of sequential sampling to control search costs through small-sized observations. The search problem is to establish a search rule that maximises expected utility. The searcher relies on current available information to decide the number of observations to be made in a search episode, but controls search costs by observing some and not all available opportunities. The searcher decides at a date i) whether to continue searching in the subsequent episode or not, ii) the number of observations in the search episode if search continues, iii) to demand a further fixed number of observations if continuing to the next episode, and iv) to act on best available utility if stopping at the current search episode.

The sequential search process in an optimal search strategy is illustrated in Figure 3-8 below. The circles illustrate incremental sample size as more observations are demanded if the best utility observed from previous samples is less than the expected utility. Search terminates anywhere between period *t* and *T*.

Figure 3-8: sequential sampling under optimal search strategy



Source: Author illustration derived from Morgan and Manning (1985)

The search problem in the Morgan and Manning (1985) model is to establish decision rules for searching and acting on observations. A sequential searcher may not have knowledge of all available observations. Expectation of utility is estimated from an infinite sequence of observations. Morgan and Manning seek to place search decisions within an optimal time frame (*T*) for the available information (*N*). They note that searchers can estimate expected marginal utility over a good and can revise the expectation at the end of each search episode after observing at least more than one outcome within the episode. The adaptive price distribution is informed by observing a series of small (n_{t+n}) samples in a search period *t*. Exhaustion of available

observations (n_T) results in automatic search termination. The searcher is assumed to have initial knowledge of the decision from the prior search period to either stop search and not demand new observations at the end of the current search episode, or continue searching demanding a further set of observations (n_{t+n}) from a known opportunity set (X_T). For search to be an option at $t + n$ there should be at least 1 observation available in opportunity set. Search can continue to the next episode $t + n$ if there are available observations which can be demanded. The searcher uses current knowledge and known opportunity set to determine the subsequent observation sample.

Search terminates when the searcher decides not to continue searching in or at the end of period t. A searcher that terminates search at t enjoys utility u_{*t}. To determine if the utility is maximised by terminating at *t*, the searcher assesses the expected utility from continuing with search to the next period and compares it with the utility from terminating. If the searcher has knowledge of the utilities of all observations, search stops as soon as the utility-maximising observation is drawn, as in efficient financial markets. Where the searcher is oblivious of the highest utility, search continues regardless of previous outcomes until the last observation from the demanded sample is drawn.

Morgan and Manning (1985) identify search costs as comprising financial search cost such as time spent in searching, and psychic cost which is the searcher's subjective equivalent of the stress involved in searching. Both financial and psychic search costs are assumed to remain unchanged during the search episode.

If search terminates at *t*, the searcher incurs search costs, obtains information and acts on the available observation. The utility of the termination is the searcher's wealth at *t* when the searcher acts on the available set, which is a mixed indirect-direct utility function. Indirect utility is the maximum value function of the utility to searcher contingent on searcher's wealth, and direct utility is contingent on price, which is search cost.

Just as in sequential search model, if search continues, the searcher develops posterior price distribution for the next search episode from the earlier price distribution. The expected utility of continuing search at *t* is the difference between the psychic cost and discounted expected gain from demanding observations to be received in the subsequent search episode. Otherwise, the searcher may recall and act on the best available (search with recall) or act on the last search outcome (search with no recall). Search can be terminated even when there would still be available observations if a searcher anticipates that the outcome in subsequent search episodes until the opportunity set is exhausted is likely to be lower than the current available utility.

Optimal Search Rule

A searcher with knowledge of the stopping rules, sample rules, search costs, and who can estimate marginal utility from terminal or searching actions can formulate different search rules and establish the optimal search rule with the highest expected present value of utility. Search is justified when search costs and the distribution of outcomes are time-variant. The duration of search indicates the ease with which a searcher takes a terminal action. The decision to terminate search depends on the initial knowledge accumulated from observed samples, the expected utility from terminating or continuing search, and the search cost if search continues. The searcher's objective is to maximise the net pay-off, which can be achieved by minimising price dispersion through large-size single period sample with known distribution, reduce search costs through infinite small-size sequential samples with adaptive distribution, or finite sequential samples with adaptive but initially static distribution.

3.1.4 Summary and Comparison of Search Models

At the beginning of this section 3.1 above, it is mentioned that a search model is identified by its sample and search rules. Optimal search strategy seeks the best of both worlds. An opportunity set large enough to provide exhaustive information is set. The searcher periodically demands sizeable observations to provide relatively sufficient information. Depending on the distribution of outcomes (offer prices) in the drawn samples, the searcher has the flexibility to increase, maintain or decrease the number of samples demanded for observation in the subsequent search episodes.

Table 3-1 below presents a summary of characteristics that differentiate the reviewed search strategies. Fixed-sample size strategy generates large sample sizes from which all samples can be observed in a single period. Search costs are high, but the searcher has full recourse to all outcomes for the selection of the best available utility. Sequential sampling strategy generates small 'relevant' samples per period. Search continues to the next period if the best available utility (offer price) is lower than the expected utility (reservation price). Search costs are limited to the periodic sample size, but samples provide low information and search continues can continue indefinitely.

Optimal search strategy seeks the best of both worlds. An opportunity set large enough to provide exhaustive information is set. The searcher periodically demands sizeable observations to provide relatively sufficient information. Depending on the distribution of outcomes (offer prices) in the drawn samples, the searcher has the flexibility to increase, maintain or decrease the number of samples demanded for observation in the subsequent search episodes.

Table 3-1: Comparison of search models

Model	Sample distribution	Search problem	Sample rule	Search rule
Fixed-sample size sampling	Static	Optimal sample size, information	Price dispersion	Marginal savings = search cost
Sequential sampling	Adaptive	Optimal stopping policy: prevent infinite search	Sequential in unknown opportunity set	Best Available Utility ≥ reservation price
Optimal sampling	Static then adaptive	Optimal information rich sample size and cost-effective stopping policy: flexibility	Sequential in known opportunity set	Search cost > marginal utility

Source: Author 2015

In a nutshell, the search problem for each search strategy is to establish the optimal sample size, optimal stopping rule, or optimal cost-effective sample size. Terminal action is taken immediately, at any time to infinity, or at any point over a finite period respectively.

The characteristics of search strategies identified in the foregoing review motivate the approaches searchers adopt to perceive the likelihood that an observation would be sampled given that it was not previously sampled. The search problem determines the sample rule and expected distribution of search outcomes. Search models that assume formal search have been widely used in residential real estate liquidity research. Lippman and McCall (1986) and Chen et al. (2010), for instance, emphasise the role of optimal marketing policy in understanding liquidity. There is little evidence from existing literature of research which aims at how perceived search costs are associated with choices of search strategies, nor relating search strategies to search duration. The next section reviews how these characteristics are associated with search duration noting that duration as an indicator of search cost, which is core to real estate liquidity.

3.1 SEARCH IN REAL ESTATE RESEARCH

The three search models reviewed in 3.1 above demonstrate how a searcher would apply sample rules and stopping rules to acquire the best available utility in view of the search costs which are associated with search duration. Stigler's fixed-sample size search model yields rich information in a short duration, but search costs are high. Kohn and Shavell's sequential search model has low search cost but yields low information and search could be indefinite in the absence of an optimal search policy. The underscore for all search models is the comparison between prospects for higher utility and potential search costs. Though there does not seem to be a single definition of search costs, these models tend to imply that search costs related to the opportunity cost of mobilising information regarding the likely price distribution for an exchange opportunity.

Search cost may, therefore, be perceived an opportunity cost for postponing the acceptance of the discounted expected utility, hence associated with search duration. Maclennan and O'Sullivan (2012) bemoan that conventional search models de-emphasise the information acquisition and processing constraints and use simplified models focused on market level data such as price and time on market. This section reviews how search models have been applied in real estate research in relation to search duration (3.1.1) and search intensity (3.1.2).

3.1.1 SEARCH DURATION

Duration is a fundamental to search. Search costs and distribution of search outcome depend on duration. Defining duration requires establishing time origin [when it is optimal to search] such as sale announcement, time scale usually calendar time at the end of which an event should occur, and duration-ending event [when it is optimal to terminate search] (Kiefer, 1988, Cheng et al., 2010a). A sale transaction is a duration-ending event that indicates the resolution of a buyer's search strategy and seller's price-setting problem (Krainer, 2001). The event thus sets an asset's time on market. In real estate markets, asset's time origin on market is often not known. Usually, only sale date data is available.

Duration models have been applied in various spheres of research such as industrial sciences to estimate the useful life of machines (Pellegrini and Reader, 1996), in epidemiology to estimate the survival rate after treatment (Abbring and Van den Berg, 2003), in research and development to estimate survival of technology innovation (Squicciarini, 2009), in social sciences to estimate survival of social relations (Dietz, 2002, Box-Steffensmeier and Zorn, 2001), and in real estate (Kluger and Miller, 1990, Chernobai and Hossain, 2012) to estimate the time assets remain unsold. The premise of duration models is the conditional probability that an event such as a sale transaction occurs in a subsequent period given that it did not occur in the previous period. The period during, or at the end of which the event should occur is fixed, and so is the number of events per sub-period. Stated in another way, the conditional probability of sale is the same each day of the entire period the property remains on the market (Efron, 1977). Search friction can, however, change conditional probability if target assets are heterogeneous, there is coordination friction and reservation prices adjusted are dissimilar (Kiefer, 1988).

There has, unsurprisingly, been significant application of duration models in residential real estate research. The complexity of understanding real estate market behaviour in comparison to financial markets necessitates adopting time on market as an indicator of liquidity. Kluger and Miller (1990) describe time on market as a 'survival period' that a real estate asset [which is part of a risky set (Efron, 1977) of available assets] remains on the market until sold. Crosby and McAllister (2004) identify time on market as the duration an asset remains exposed to the market consisting of marketing, due diligence, and exchange to completion. In the owner-occupier

markets such as housing market, duration is an important reference point for tenure choice. It affects the likelihood to change tenure status between renting and owner-occupier, and /or adjusting housing consumption.

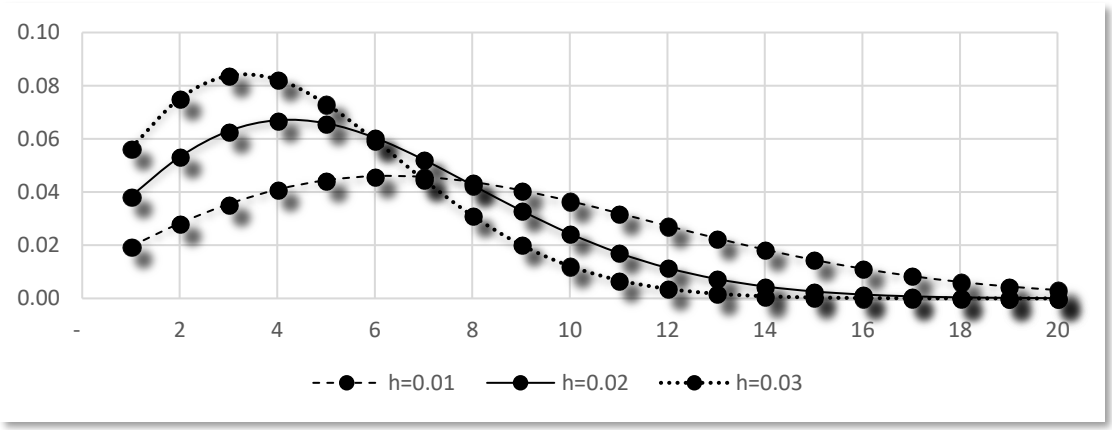
Hazard models have been applied to many liquidity studies in residential (Kluger and Miller, 1990, Krainer, 2001, Haurin, 1988, Collett et al., 2003) and commercial real estate markets (Johnson et al., 2007, Buckles, 2008) because they account for duration as well as censorship, that is, withdraw of a member from the risk-set for reasons other than the anticipated event, (Efron, 1977, Pryce and Gibb, 2006), which OLS regressions cannot handle. The search models' hazard functions are monotonic, implying that the arrival of offers is assumed to remain stable when an optimal marketing policy is followed. The hazard models used in these studies assume that the distribution of the conditional probability of sale transactions in a subsequent sub-period given that that one did not occur in the previous period. The transaction period is finite with either an exponential, a Weibull distribution or a log-logistic distribution.

a. Exponential distribution

The Cox model assumes that each subject of an opportunity set has survival (on-market) time (Efron, 1977). Since the hazard rate for each member of the opportunity set is constant (Efron, 1977, Kluger and Miller, 1990), survival time has an exponential distribution hence the Cox regression is a proportional hazard.

The Stigler (1961) minimum price distribution is now denoted as a density function. Assuming the arrival rate is a Poisson process, a drawn observation is a 'failure', and the likelihood that it remains undrawn is the survival function. Failure refers to terminal action before the end of a search period which in real estate would be say a sale. Figure 3-9 below demonstrates the effect of incidence (arrival) rate on the distribution of offers. High incidence rate (for example $h = 0.03$), has lower dispersion than low incidence ($h = 0.01$).

Figure 3-9: Density in exponential distribution



Source: Derived from Efron (1977)

A basic explanation of the distribution is that at say $h = 0.03\, per\ search$, it takes approximately 12 arrivals to accumulate a sample large enough to provide the least dispersion of offers to achieve the most favourable price whereas it would take 15 and 20 search episodes to achieve the same at 0.02 and 0.01 hazard rates respectively. At approximately the 12^{th} arrival, the likelihood of failure is almost as certain.

Since the samples are assumed to be observed at the end of the search episode, the likelihood of immediately acting on a drawn sample increases as the arrival of offers increases and shifts the distribution curve leftward. The incidence rate could be influenced by the listing price and/or search intensity. The pool of potential bidders could be increased by lowering a listing price or by intensify search through advertising.

Hui et al. (2012), Kluger and Miller (1990), Knight (2002), Collett et al. (2003) and Merlo and Ortalo-Magné (2004) use the Cox regression to estimate the likelihood of a sale transaction given a duration on the market, and assuming an asset sold at market value. Hui et al. (2012) using proportional hazard models find significant relations between time on market and above-market price, location, and survival dummies. Bond et al. (2007) find that Cox model better explains the distribution of time to sale of UK commercial real estate data (see also Lin and Vandell, 2007).

The Cox model is consistent with the Stigler fixed-sample size search strategy. The opportunity set is fixed and known. Larger offer arrivals shift the density function to the left in a similar manner as the larger numbers of search do for price dispersion in the Stigler model.

b. *Log-logistic distribution*

Log-logistic distributions model the distribution of survival time both within and between samples by setting one parameter of the distribution equal to a linear function of the covariates defining the sample, leading to a regression model (Bennett, 1983). Non-parametric estimates of the odds are made using the Kaplan Meier estimator and plotted against log time. The Kaplan – Meier estimator is a nonparametric that does not require assumption of distribution of survival time (Teoh, 2008). It is a step function with discontinuous search episodes assuming that a search-terminating event does not occur between observation times, but at the end of the search episode from a population that just survived the previous search episode (Efron, 1977).

Glower et al. (1998) use a hedonic model with a log-logistic distribution to investigate the influence of seller's motivation on house sale time and price. The log-logistic distribution in this instance is presumed to be consistent with the model assumptions to allow for censorship (withdrawal) and the likelihood of a sale to change over time.

If hazard is constant, time on market is not duration dependent. The implication on search is that the likelihood of a favourable outcome depends on the remaining available samples from a fixed sample size with a known distribution. A large number of offers are received in one period. If the search is based on a stopping rule of the best available utility with recall, the searcher continues to draw samples until the sample set is exhausted as in the Stigler (1961) model. The hazard has an exponential distribution discussed in a) above.

Consistently changing hazard indicates that time on market is duration dependent. A constant number of offers n_t arrive [or are withdrawn] per period. The posterior distribution of offers is established from ex-ante observations. The searcher's stopping rule depends on the expected change in posterior distribution of offers over the next search period with or without recall as in Morgan and Manning (1985) optimal search model. The hazard function has a Weibull distribution of upward or downward change, discussed in c) below.

When the hazard function inconsistently changes, time on market is duration dependent but unstable. The sample size is unknown, and the ex-ante distribution of offers is unstable. Search is sequential without recall. The stopping rule is governed by the match between expected utility and best available utility. The distribution of the hazard function is unknown.

Pryce and Gibb (2006) use a hazard function estimator which is not constrained to follow a specific distribution hence generates a genuine pattern of its movements. They investigate whether the behaviour of a hazard function over the time to sale duration is constant or changing over different time periods and submarkets. Time to sale is a duration variable subject to time dependence – the likelihood of sale contingent to length of stay on market, and censoring – withdrawal or sale of properties before the end of period. The expected outcomes are constant hazard, consistently changing hazard and inconsistently changing hazard. They analyse house sales in the Scottish "Offer over" selling system. Price is set through a sealed bid auction. Potential buyers are advised of the likely minimum selling price and typical distribution of offers from previous auctions in the area [reduces price dispersion between under- and well-informed bidders]. The authors find that the hazard function shifts and evolves over time in a non-proportional way. They argue that the phases of the housing cycle in which time on market is investigated have deep effects on the results since hazard functions can evolve during the cycle. The Scottish "Offers over" system in principle could be considered as more of a Morgan and Manning (1985) optimal search model with recall than a Stigler (1961) fixed sample size search model.

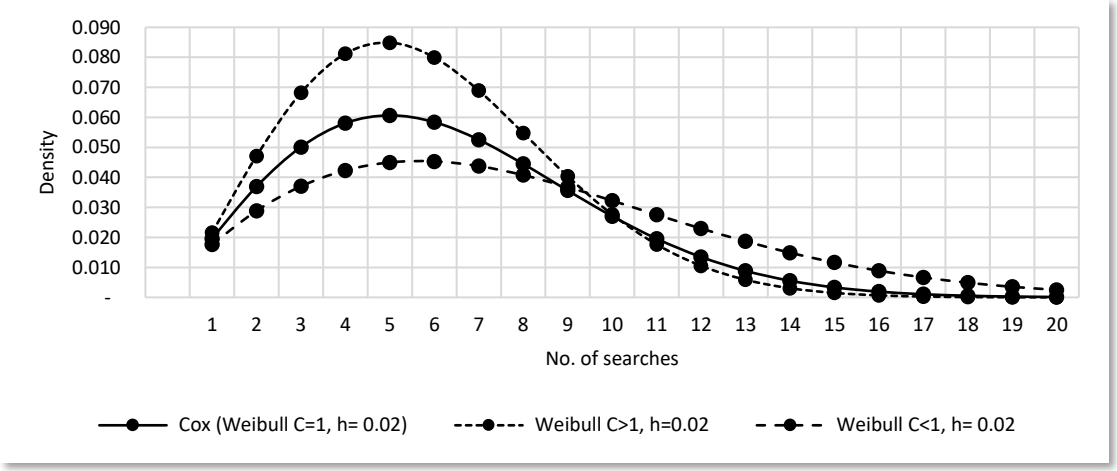
Lin and Vandell (2007) in examining the effects of marketing period and illiquidity bias risks on time to sale assume that sellers sequentially sample offers without recall. The termination action depends on the best available utility at the time the action is taken. Cheng et al. (2008) investigate

time on market and prices under sequential search with recall assuming listing price remains constant, and seller can recall the highest bidder from previous offers.

c. Weibull Distribution

The survival rate has a Weibull distribution when for the continuous variable *t* increasing from the left, the density function h_i may increase (Type I curve), remain constant (Type II) or decrease (Type III). When the shape parameter for change in arrival rates is 1 (c=1), the Weibull distribution assumes a Type II density function identical to an exponential distribution in a proportional hazard function. Figure 3-10 below shows the effect of a change in the arrival rate on the distribution of search outcomes. The ability of a Weibull distribution to change shape parameters of arrival rates is identical to that of changing in the size of the demanded set n_t in subsequent search episodes in Morgan and Manning (1985) optimal search model. The demanded set size could increase (Type I), be maintained (Type II), or decrease (Type III curve) at a constant rate in each search episode. Price dispersion in an exponential distribution, is reduced by increasing the arrival rate to a higher but constant rate within a search period.

Figure 3-10: Density in Weibull distribution



Source: Adopted from Henderson and Ioannides (1989)

A Weibull distribution allows for entry and withdrawal of members of a set during the observation period. It provides for a searcher using an optimal search strategy to demand for variable observations at a required incremental rate (shape parameter) and continue with search to the next period until it is optimal to stop.

Anglin et al. (2003), Rutherford et al. (2005) and Benefield and Hardin III (2013) use hazard models with a Weibull distribution in their analyses of sale time and price in residential market. Johnson et al. (2007) investigate the relationship between commercial real estate prices and

marketing time using a Weibull distribution as the selected hazard function. Johnson et al. (2008) also adopt a Weibull distribution in in their marketing time model to explore how intra-firm real estate brokerage compensation influence agent performance. These studies and many others have the Weibull distribution's ability to monotonically adjust the arrival rate, as well as intrinsically provide for an exponential distribution.

The criteria for identifying the appropriate distribution assumption are presented in summary in Table 3-2 below. Exponential distribution applies when the sample set and duration of sampling are fixed. Weibull distribution is appropriate for flexible but finite sample size and duration. Log-logistic distribution is suitable when neither the sample size nor duration are known.

Table 3-2: Summary of Criteria Search Strategy for Duration Analysis

	Fixed-sample size Sampling	**Sequential Sampling**	**Optimal Sampling**
Duration	Fixed	Infinite	Flexible
Determinants	Geographical size of market	Reservation price	Initial knowledge
	Number of buyers and sellers	Anticipated distribution	Available set
Sample	Fixed	Unknown sample	Flexible
Distribution	**Exponential**	**Log-logistic**	**Weibull**

Source: derived from Benefield and Hardin III (2013), Efron (1977), Klein and Moeschberger (1997)

Since these models are contingent on arrival rates, the next section which is on search intensity reviews how arrival rates are manipulated and constrained in real estate markets.

3.1.2 SEARCH INTENSITY

Yavas (1992) describes search intensity as "*the amount of advertising as in frequency and size of advertisements as well as number newspapers, the amount of neighbourhood searches, or the effort expended in spreading the word through friends or relatives*" pp. 535. Elder et al. (1999) in examining buyer search costs, describe search intensity as the number of visits (introductions) by a buyer searcher within a search duration, and it influences how quick a match is made. Search intensity is thus understood as an amount of information-seeking activity consequential of within-period psychic cost – the searcher's equivalent of his/her perception of or uncertainty about the demand to access information on potential exchange partners relative to the ability to sustain within-period search costs to achieve a match. Within-period psychic cost are ideally an actor's perceptions of social capital - the quality of opportunities created between people. Burt (2002, 2009) argue that people who do better have somewhat better social resources, which Lin et al. (1981) define as "*the wealth, status, power as well as social ties of those persons who are directly or indirectly linked to the individual*." As Acemoglu et al. (2014) state, accessing and disseminating information is costly because apart from direct cost of information processing, obtaining information from alters involves delays.

Studies on search duration tend to assume buyer arrival to be a natural Poisson process. Buyer arrival is taken to be natural and an exogenous constant process, which is plausible for modelling purposes. Yavas (1992) maintains that broker's search intensity is a function of efficiency – the likelihood of a match - and search costs. Waller et al. (2010) use a constant increasing (Type I) Weibull distribution to examine how search intensity is associated with the length of a listing contract. Richardson and Zumpano (2012) review the effect of internet use on search duration using a Weibull distribution. However, contingencies encountered by a searcher in identifying potential counterparty tend to be underplayed. Maclennan and O'Sullivan (2012) note that conventional search models use simplified models focused on market level data such as price and time on market and de-emphasise the information acquisition and processing constraints which affect search intensity and influence search choice. Notably, broker usage is associated with search intensity, but the effect of broker's incentives is perceived to present complexities on search outcomes (See 3.2 below). Elder et al. (1999) and Baryla et al. (2000) demonstrate how involving brokers increases search intensity and reduces search duration in residential transactions. They indicate that search intensity relates to access to information and varies inversely with broker's within-period [out-of-pocket] search costs.

Search intensity, therefore, is informed by the nature of information demand with respect to a searcher's perceived distribution of pay-off prospects and time-variant within-period search cost. Some considerations a searcher makes include the listing contract length if a broker is involved, as well as the current pool of known and unknown potential buyers or sellers (See Gardiner et al., 2007, Waller et al., 2010). As much as brokerage affects search duration, it is also associated with incentive to doing so. The role of brokerage in real estate transactions is explored below to establish attributes taken-for-granted in time on market models, but could influence search outcomes.

3.2 ROLE OF INTERMEDIARIES IN REAL ESTATE PROCESSES

Research on intermediaries in real estate markets is dominated by studies in residential markets particularly in the US. Zietz and Sirmans (2011) provide a comprehensive review of research on real estate brokerage. These studies provide useful conceptual understanding, but their application to global real estate market contexts should acknowledge potential structural dynamics underpinning local markets. The fundamental question is what necessitates intermediation. Intermediation is necessary in markets with friction, that is, markets with search and bargaining problems beyond the expertise of buyers or sellers (Wright and Wong, 2014, Devaney and Scofield, 2013) and bid-ask spreads capable of generating revenue to an intermediary (Gehrig, 1993). A seller with high search cost is, thus, likely to engage a broker with sufficiently low search cost and higher likelihood to achieve a match (Yavas, 1992). The

duty of agency protects a less-informed seller from potential opportunistic behaviour by a better-informed broker (Micelli et al., 2000).

In 2.3.ii, it is noted that in financial markets, market makers, also known as dealers provide immediacy services for quick transactions by acquiring and holding assets when natural sellers or buyers are not available. They intermediate markets by setting an asking price and bid price at which they buy and sell on their own behalf to compensate for order-processing costs and inventory holding risk (Affleck-Graves et al., 1994, Amihud et al., 2006, Lin et al., 1995).

Real estate market intermediaries are brokers and not dealers (Yavas, 1992). Brokers are matchmakers who do not buy and sell assets, but act on behalf of sellers or buyers to search markets (Wright and Wong, 2014, Gehrig, 1993). Elder et al. (1999) and Marsh and Zumpano, (1988) referring to residential markets maintain that the complexity of real estate markets necessitates institutionalised brokerage creating lower information and transaction costs through economies of scale to buyers and sellers with high opportunity costs and less information. A broker, being a matchmaker, does not assume an inventory-holding risk, that is, the risk of whether and/or when an asset would sell (See Yinger, 1981, Brinkmann, 2009). The primary role of broker is pooling and sharing information for better buyer-seller matching (Micelli et al., 2000).

A broker also provides advisory services on local market conditions (Benjamin et al., 2000, Garmaise and Moskowitz, 2004, Bernheim and Meer, 2013). Among the advisory services provided by a broker are providing information on prospective buyers and sellers (Micelli et al., 2000), providing familiarities with bargaining and special details of transaction process, conveyancing process (Marsh and Zumpano, 1988), mediating between principals, and providing guidance and information about settlement process (Mantrala and Zabel, 1995).

3.2.1 Broker-use and For-Sale-By-Owner (FSBO)

Much of research on real estate brokerage explores how search outcomes differ between transactions involving a broker with those completed by owners. Brokerage transfers search cost and information asymmetry risks from a principal to a better-informed agent who is expected to act in the best interest of the principal (Wiley and Zumpano, 2008). Yavas (1992) states that a seller or buyer is likely to appoint a broker if the broker's search costs are lower than the his/her search costs. Several questions that have been pursued such as whether involving a broker has a sale price or time advantage, or whether the brokerage costs are justifiable.

Studies have indicated that use of brokerage services does not to have significant price impact but is associated with reduced search duration. Salant (1991) examining whether engaging a broker affected the sale price find insignificant effect on price, but significant effect of time on market reduction. Elder et al. (2000) investigate the effect buyer broker representation on house

sale price and search duration. They find that search and information costs were critical to buyers deciding the use of a broker. Buyer brokers significantly reduced their clients search duration, but had no effect on sale price. Li and Yavas (2015) explore whether the decision of using a broker in different market conditions has the same impact on sale price and market duration, and whether market conditions influence the choice between using a broker or choose FSBO option. They find the use of brokers in a 'hot' market to be of less value than in 'cold' market. They, however, find that principals with high search costs where likely to engage a broker to save on costs. Furthermore, the effect of engaging a broker on transaction price decreased as the market became 'hotter,' but that on time to transaction was not significantly different between 'hot' and 'cold' markets.

Bernheim and Meer (2013) investigate the effect of a seller's decision to use a broker on listing and selling prices, as well as on search duration. They find using a broker to have a tentative effect of reducing listing prices and search duration. However, contrary to most studies, they find around 6% reduction in selling price when a broker was used. They could not associate the reduction in listing prices with unobserved attributes such as negotiations and preferences, hence pointed out a principal-agency problem.

Though brokerage benefits high-search cost principals through informational economies of scale, it could have potential for incentive misalignment arising from information asymmetry (Wiley et al., 2013). The next section reviews potential sources of conflict of interest in real estate intermediation which would compromise a broker from acting in the best interest of a principal.

3.2.2 Conflict of interest

Conflict of interest is a potential breach of loyalty in a principal-agency relationship which could result in misaligned incentives (Kadiyali et al., 2014). Intermediation creates an agency problem for it provides incentives for opportunistic behaviour. Broker incentives are mainly price incentive and search effort in view of a contract length. An intermediary could, through adverse selection and/or moral hazard, act in a manner that brings additional benefits to them and not in the interest of the principal (See Anglin and Arnott, 1991, and Gallimore et al., 2006, Brastow and Waller, 2013). Conflict of interest could occur at matching and bargaining stages (Micelli et al., 2000).

There are several ways through which conflict of interest could arise, among them, but not limiting, being terms of engagement, bundle of brokerage services and prior relations. The terms of engagement would compromise the fiduciary duty of an agent to act in the best interest of the principal (Micelli et al., 2000). An intermediary may provide brokerage services to both sides of differently-motivated transaction parties through dual agency (Marsh and Zumpano, 1988). Secondly, a principal seeking the service of a broker buys a bundle of services which could result

in a conflict of interests when price and selling effort could influence compensation (Bernheim and Meer, 2013, Geltner et al., 1991). Prior relationship a broker would have had with one party to a transaction before the contract to act on behalf of the other party as well as information asymmetry between principal and agent could also lead to conflict of interest due to misaligned incentives (Brastow and Waller, 2013).

McAllister et al. (2008) stress that agency problem is exacerbated by moral hazard which increases with more agent autonomy, information, and human specificity which the principal cannot monitor. The information advantage a broker has about seller and buyer preferences and reservation prices could produce transaction efficiency, but at the same time lead to biased buyer-seller matching – exposing internal buyers first to a subset of properties - or distorting bidding process – adjusting listing price - to the benefit of one party over the other or the agent

Some potential aspects of intermediation where conflict of interest arises, namely outcome-based remuneration, internal and external brokerage, and dual agency, are explored below. At these different levels of consideration, there are also varying incentives which could influence agent behaviour in performing brokerage roles.

Outcome-based remuneration

The use of a broker as noted creates a principal-agency problem of how much effort an agent puts to sell a client's asset and maximise pay-offs. Figure 3-6: Effect of reservation price on search cost and Figure 3-7: Effect of Search Intensity on search cost both show that a broker seeking to minimise search costs could either influence a seller to lower a listing price, or intensify search without altering the listing price. One way of reducing the problem of inducing a low sale price is by providing an 'incentive contract' to encourage intensive search to the benefit of both the principal and broker (Geltner et al., 1992, Fisher and Yavas, 2010, Brastow et al., 2012).

Levitt and Syverson (2008) argue that broker remunerations being a small portion of sale price expected to cover marketing and advisory costs create misalignment of incentives to delay sale or decline external client instructions. They find the price impact of delay only significant when agent is owner. Rutherford et al. (2005) also exploring whether the proportional remuneration structure creates an agency problem emphasise that broker incentive is to maximise expected commission revenue while minimise time on market. They find selling at a premium when agent-owned, but not any quicker than client-owned houses. Miceli et al. (2007) argue that conventional commission compensation models have not evolved to reflect contemporary legal agency problems and technology-driven information availability. They maintain that prior to the internet, real estate brokers were custodians of market information, but with the advent of the new-

information age, the effort to match buyers and sellers is not consistent with the percentage commissions charged for brokerage service.

Internal and external brokerage

Research on conflicts of interest where internal or external brokerage is used has been limited. Munneke et al. (2015) investigate the nature of agency problem arising from internal and external brokerage. They point out that the difference between internal broker with employment relationship and external broker with commission relationship creates an agency problem. They argue that external brokerage incentives lead to less sale effort than that exerted by internal brokerage. They posit that external agency on a commission relationship leads to less sales effort (intensity) than the efficient effort exerted by an internal agent on an employment relationship. The findings indicated that the use of internal brokerage does not significantly eliminate the agency problem attributed to external brokerage. However, external brokerage was more likely to outperformed internal brokerage. Internal brokerage tended to lead to significantly lower selling price but had insignificant effect on transaction time. Furthermore, the findings suggest that listed companies and high-volume developers tend to use external brokerage owing to its productivity environment.

Cross and dual agency

Cross agency intermediation refers to a transaction in which buyer and seller are represented by brokers from different brokerage firms (Johnson et al., 2015). In some transactions, especially in residential markets, brokerage firms provide 'one-stop' dual agency service. A single broker or two separate brokers from the same brokerage firm would represent both the seller and buyer (Brastow and Waller, 2013, Hollinger, 2016). For the same transaction, seller and buyer are motivated by different interests, which are best price and asset productivity, respectively. In the 'one master' agency theory, a listing broker is essentially employed by the seller to effectively market a property to achieve the best possible price and negotiate most favourable exchange terms.

In contrast, an introducing broker is engaged to advise on property suitability for the buyer's mobility needs, prepare exchange documents, and in some instances, help with arranging finance (Marsh and Zumpano, 1988, Brastow and Waller, 2013). Where separate brokers in the same brokerage firm are involved, a selling broker though perceived as a subagent of listing broker is expected to have the same fiduciary duty as the listing agent to the seller. Quite often, a cooperating yet selling broker is perceived by buyers to be protecting their best interests in the transaction (Micelli et al., 2000, Marsh and Zumpano, 1988). The broker or brokerage firm benefit from dual compensation for both listing and introducing (Wiley and Zumpano, 2008). Dual agency is argued to be attractive because of price incentives and transaction efficiency.

Price incentive: Dual agency may be incentivised to achieve higher prices hence larger commission and compensations from both listing and selling commissions. Johnson et al. (2015) investigate whether dual agency distorts residential real estate prices. They find negligible price impact when a seller was an individual or corporate organisation. Significant price impact of dual agency was observed where a house was agent-owned (+6.5%), government-owned (-25.1%) and bank-owned (-5.14%). Furthermore, discount price impact on government- and bank-owned houses declined in downtimes, but premium price impact on agent-owned houses strengthened.

Brastow and Waller (2013) posit that dual agency is likely to occur at the beginning or towards the end of a listing contract, and a broker has shorter marketing time. They find properties sold in first 30 days under dual agency transacted at 20 percent higher than those on non-dual agency, but price impact declined the longer with passage of time on market. The listing price effect depended on the distribution of internal buyers' offer prices. A higher willingness to pay would not conflict with the seller's interest. However, a broker aware of a low buyer price distribution may seek to influence a lower listing price which might not be in the best interest of the seller simply to facilitate a rapid sale (See also Kadiyali et al., 2014).

Ozhegov and Sidorovykh (2017) also find that brokers [in dual agency contracts] were more likely than private individuals (FSBO) to adjust listing price with passage of time on market to increase the likelihood of closing a transaction before the expiry of the listing contract. Gardiner et al. (2007) explore the price incentive for listing and selling brokerage pre- and post the 1987 disclosure legislation on dual agency relationship in Hawaii. They find that dual agency prior to legislation reduced both price and time on market which could be explained by brokers expending less effort by matching buyers and sellers at lower price and shorter time. However, dual agency impact post legislation was significant in reducing time on market and not selling price.

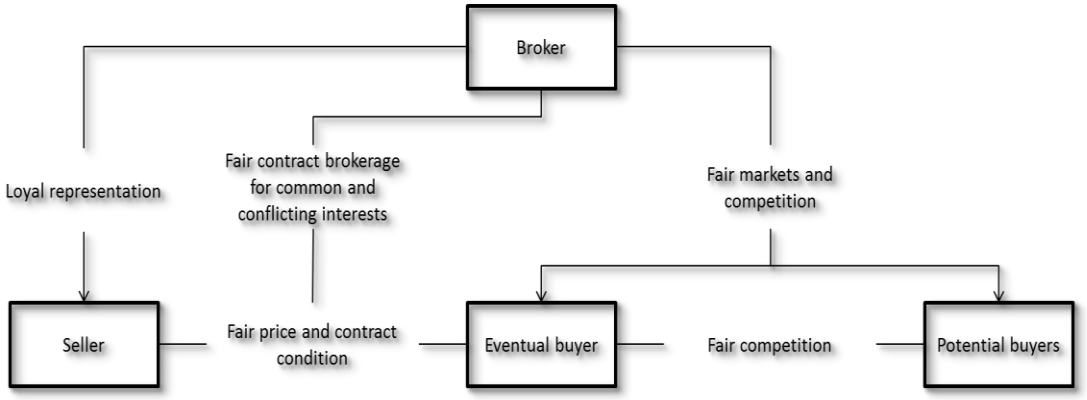
Transaction efficiency: Dual agency is argued to facilitate efficiency as it employs less marketing resources in buyer-seller matching, hence lower search costs compared to cross agency. Assets are exposed first to internal buyers with known preferences and reservation price (Brastow and Waller, 2013). A dual agent has an informational advantage of access to buyer requirements and seller expectations that makes it possible to find an acceptable transaction price quickly to the benefit of both parties. The sale price and marketing time could, however, be different if the transaction were handled through cross agency (Gardiner et al., 2007). Kadiyali et al. (2014) find no welfare gain or loss arising from transaction or informational efficiency resulting from dual agency impact on marketing time.

Dual agency may be associated with transaction efficiency with relatively insignificant price incentive, but conflict of interest arises when a broker influences client's actions by manipulating the search process to steer a seller towards internal buyers or vice versa (adverse selection) and

manipulating the negotiation process convincing a seller or buyer to accept the available offer (Kadiyali et al., 2014, Brastow and Waller, 2013).

Brinkmann (2009) indicates the potential conflicts of interests that arise from both matching and advisory service provision in dual agency as shown in Figure 3-11 below.

Figure 3-11: Broker's potential conflicts of interest



Source: Adopted from Brinkmann (2009)

The above review indicates that dual agency, that could lead to principal-agency incentive misalignment, does not seem to significantly affect sale price or time compared to cross-agency. Rather, it seems incentives are counteracted by prospects for reputational capital and long-term business relation (Kadiyali et al., 2014, Johnson et al., 2015).

3.2.3 Agency problem in commercial real estate markets

Research on broker use in commercial markets has been relatively scarce in comparison to that in residential markets. The fundamental purpose for brokerage identified in residential literature is to intermediate information asymmetry in a complex market with unsophisticated players. Commercial markets largely satisfy the market complexity conditions for intermediation as other real estate markets. However, unlike in residential markets, the players in commercial real estate markets are often sophisticated investors rather than consumers well-informed about market trends and frequent participate in the market (Hardin III et al., 2009, McAllister et al., 2008). A question Brastow and Waller (2013) raise about whether there is evidence that buyers and sellers are badly informed about potential incentive conflicts is particularly important to commercial real estate brokerage.

Gallimore et al. (2006) review how information variables are selected and applied in commercial real estate stock selection in the UK. They identify five roles of agents in acquisition process to include search, information, negotiation, evaluation and implementation. McAllister et al. (2008) subsequently review the involvement of external agents in asset acquisition by UK institutional investors provide incentives to investment agents to lead investors to over-bid or make poor stock

selection. Both papers use the agency theory to explore agent's incentive in stock selection and the operational controls. They highlight that in a competitive market introducing brokers provide both search and advisory services to investors. Introducing brokers potentially have a price-incentive when remunerations are tied to a portion of the transaction price. An investor could be advised to stake a higher bid amount seeming to secure a transaction, but to the benefit of an outcome-based remuneration.

The findings of the study indicated that outcome-based remuneration provided strong incentive for agents to generate transactions. However, agents also recognised the importance of building good long-term business relations with clients. Principals in commercial real estate markets were aware of broker incentives and well-informed about the market such that they could critically evaluate information provided by brokers. Misalignment of agents' and principals' goals was thus reduced as agents were unlikely to behave with opportunism when principals had access to relevant transaction information (See adverse information risk in 2.3.1iii above). Hence, opportunistic behaviour seemed to be restrained by prospect of long-term business and social relations demonstrating that investment agents were not entirely pursuing short-term fee-maximisation, but acted with integrity. The maintains that existing investment brokerage structures would have collapsed if there were substantial costs related to principal-agent problem.

Hardin III et al. (2009) note that exclusion of consumption from the acquisition decision equation and emphasis on returns optimisation in commercial investment real estate markets is crucial to understanding brokerage in this market. They study the effect of brokerage on the sale price of income-producing multifamily apartments in Phoenix and Atlanta, US on constraints of either or both buyer and sell used agency, as well as whether brokerage was cross or dual agency. They find the effect of brokerage on sale prices in all cases to be insignificant in transparent markets with few, but informed market participants known to each other. Their conclusion is that since commercial markets are efficient at pricing trading assets, brokerage functions in these markets should focus on facilitating transaction efficiency.

Devaney and Scofield (2013) explore the factors associated with the use and structure of brokerage in London and New York commercial real estate markets. They maintain that brokerage in commercial real estate markets facilitates liquidity albeit at a cost to manage communication, introduce asset specific knowledge and address transaction-related risks. They find that UK transactions to be highly likely to involve buyer-side brokerage (63%) compared to New York (9%). Investor types rather than asset attributes tended to be associated with brokerage usage in London. In New York, though investor type was still important, asset attributes had critical influence on brokerage use. Unlike London, New York institutional investors were less likely to be associated with double broker representation. Investors seemed more likely to employ

a system of intermediation which provided a service they considered more valuable than the cost of intermediation. Devaney and Scofield (2013) maintain that though double brokerage could have been associated with higher transaction costs, it provided a network structure for information exchange which reduced opportunism.

Devaney et al. (2016) review among others the institutional structures associated with real estate liquidity. They explore brokerage models, services and fees across global markets. It appeared that globally sellers were more likely than buyers to appoint brokers. Though there seemed not be a global pattern of representation, there seemed to be more markets in which transactions had only a seller broker than with double, dual, mixed or no brokerage. Brokerage services on both seller and buyer-side involved search and advisory services. Seller brokerage included advice on listing price, marketing method and strategy, asset marketing, negotiation, due diligence and sales agreement negotiations. Services provided by a typical buyer broker would include asset sourcing, market information, asset valuation, finance sourcing advice, bid preparation, price negotiation, due diligence and purchase agreement negotiation. Seller broker fees were predominantly outcome-based averaging between 0.5% and 1.5% of the transaction price. Though buyer broker fees would more likely to be outcome-based at similar rates as seller-fees, the likelihood of fixed-fee or a combination of the two was much higher than in seller brokerage fees. This seems to suggest that agent price incentives would be anticipated more on seller than buyer brokerage.

Findings on the potential effect of brokerage in both residential and commercial real estate markets suggest that the arising agency problem does not present significant effect on achieved prices, but has benefits of reduced marketing time, hence lower search costs. Contrary to the expectation that brokerage creates a possibility of incentive misalignment through adverse selection and moral hazards, broker short-term opportunistic behaviour is inhibited by prospects for long-term business and social relations as well as information availability (particularly for commercial markets). However, the fiduciary duty of acting in the best interest of the principal could still be compromised, hence some proposed remedies are presented.

3.2.4 Remedies to conflicts of interest

Conflict of interest has profound implications about potential opportunistic behaviour by a broker in principal-agent relations with incentives. As monitoring agent behaviour in transactions is quite difficult (See Geltner et al., 1992), some remedies have been proposed in various articles.

i. *Disclosure and clarification of broker role to parties*: considering the agency problem in principal-agent relations, disclosure of broker role is critical as it outlines the specific functions a broker performs on behalf of the principal. is particularly essential in dual agency where a cooperating broker whose is a selling broker and sub-agent of a listing

broker could be misunderstood by buyers as a broker representing their best interests (Gardiner et al., 2007). In the UK, for instance, the Royal Institute of Chartered Surveyors (RICS) advises that any conflict of interest should be promptly disclosed in writing (RICS UK, 2016). Dual agency in commercial investment agency is deemed to be generally unacceptable hence it is recommended that it should be undertaken at all (See 2.3 in RICS UK, 2017).

ii. *Information disclosure through due diligence*: Difficulty of monitoring mandatory disclosure could be overcome by regulatory body-led policies, broker education, written contracts and adoption of standardised disclosure forms (Wiley and Zumpano, 2008). RICS UK (2016), for instance, provides guidelines appropriate selling and buying representation disclosures.

iii. *Restriction of internal information exchange between listing and selling brokers*: dual agency has informational advantage of seller's expectations and buyer requirements which could be exploited by separate listing and cooperating seller brokers in the same brokerage firm. Micelli et al. (2000) highlight a conflict of interest where the brokerage plays both information sourcing and advisory service provider. The RICS in UK requires investment agents to place information barriers between an agent with instructions and another providing incremental advice (See 4.2 in RICS UK, 2017)

Agency problem and the resulting conflict of interest highlight the likelihood of an agent acting in a manner that would not be serving the best interest of a principal. Studies have attempted to establish the effect of agency problem on two fundamental interests to a principal, namely, price and search time. Findings suggest that agency problem does not significantly transaction prices. The impact on sale price or time on market is too benign to call for banning or legislating dual agency practices (Kadiyali et al., 2014). Secondly, the reduction in search time is associated with efficiency of brokerage rather than the incentive to minimise search costs (See for instance McAllister et al., 2008, Johnson et al., 2015). The prospects for long-term business and social relations also seem to be possible restraints for opportunistic behaviour (McAllister et al., 2008). Some researchers have thus argued that agency problem is an ethics issue to fiduciary duty rather than economic welfare (Brinkmann, 2009, Micelli et al. 2000, Hollinger, 2016).

3.3 SUMMARY

The purpose of this chapter was to establish how search costs are associated with search strategies in real estate markets and the implications for the operation and liquidity of commercial markets which, as explained in Chapter 2, are the dominant markets for investors. Search cost refers to the opportunity cost of finding a buyer or an asset for acquisition. In real estate markets search cost is observed as the duration of search. The chapter reviewed three search models, namely fixed-sample size sampling, sequential sampling and optimal sampling, to understand conditions

associated with search strategies. The review established that search approaches could be distinguished by their search problem – expected outcome, sampling rule – how to observe, and search rules – how to terminate searching. The chapter further reviewed three duration concepts which included exponential, Log-logistic and Weibull distributions analysis. The review of duration concepts was conducted to better understand how duration analysis which has been widely applied in real estate market research is associated with search models. Duration analysis hinges on the size of an opportunity set and constant incidence rates. In real estate markets incidence rate would be offer arrivals in a search episode. Opportunity sets are hardly known because of the markets complexities such as asset heterogeneity and spatially decentralised markets hence creating market information asymmetry and high search costs. These market conditions necessitate intermediation through brokerage created through a principal-agent relationship to provide search and advisory services. Conversional search models de-emphasise the processes constraints of information acquisitions and dissemination. The role of the broker as the searcher on behalf of the investor is an important factor in the operation of real estate markets. Inevitably, brokerage has an inherent agency problem of incentive misalignment at search or negotiation processes. The chapter further explored how some potential conflicts of interest such as broker-use, internal and external agency as well as dual agency in both residential and commercial transactions influenced the principals' interests of sale price and marketing time. It was established that brokerage generally did not have a significant impact on price and significantly reduced marketing time. The main concern about brokerage seemed to be about upholding the fiduciary duty of acting in the best interest of the principal. In commercial real estate market information is relatively available and principals are aware of broker incentives. It is contended that brokers have acted with integrity rather than opportunism to secure long-term business and social relationships. Some markets have, however, introduced disclosure legislation or entirely banned brokerage deemed to be unacceptable. It is argued in some studies that an agency problem is an ethics rather than a welfare problem, and that its impact on principals' interests is too benign to warrant legislating disclosure or totally banning agency models deemed to present unacceptable conflicts of interest. The next chapter reviews how social approaches address relationship building and deter opportunism in search markets. Gaps in understanding the role of social processes in commercial transactions and potential similarities and differences in mature and developing local market contexts, are identified.

CHAPTER 4: SOCIAL NETWORK CONCEPTS FOR SEARCH IN REAL ESTATE MARKETS

4 INTRODUCTION

Chapter 3 highlighted how searchers conceive search problems and search strategies to enhance the likelihood of drawing a utility-satisfying outcome within a search period. The chapter reviewed how searchers use different search approaches to address information asymmetry in view of price and time constraints. Involving a broker in searching reduced search duration and yet did not significantly affect the transaction price. Informational advantage and incentive contracts could encourage opportunistic behaviour to influence price or search duration in favour of a broker. Some markets have since introduced legislation or regulations to curb potential conflicts of interest which would perpetrate opportunism. Studies on conflicts of interest find that regulations are necessary for addressing ethics issues of broker intermediation with respect to serving in the best interest of a client. Contrary to conventional expectation, brokers are aware of the negative consequences of pursuing short-term gains and trade them off with seeking long term business and social relations.

Smith et al. (2006) argue for the need to emphasise the role of legal, financial and information intermediaries in shaping the local culture of property exchange and how markets are made rather than how they are modelled. They maintain that neo-classical economics objectifies markets as though they are external entities independent of actors. However, intermediaries cannot remain detached from the multiplexity of economic theory, legislative facts and emotions in which market practice is entangled. To this extent, markets perform economically but are socially formatted. David and Halbert (2014) in analysing the 'selective spatialities' of business property in globalising cities, also argue that locational sensitivity to central and peripheral property markets goes beyond financial capital allocation techniques to institutional arrangements defining political-economic fragmentation in specific economic centres. The transformation of the built environment can be managed and controlled by a complex and stable governing coalitions.

The question addressed in this Chapter 4 is how social relations contribute to resolving information asymmetry and opportunism in real estate sale transactions. The chapter reviews the nature of networks, when networks matter, and how social network approaches resolve market uncertainty. It also reviews empirical studies on social networks, and discusses real estate characteristics that make social network approaches relevant to real estate markets. The anticipated outcome is an outline of components that could contribute to understanding the association of social networks with search in commercial real estate markets.

4.1 GENERAL NATURE OF SOCIAL NETWORKS

Intermediation in real estate transactions by and large involves human interaction between principals and agents and where applicable between selling and buying agents. As highlighted in Chapter 3, real estate intermediaries need to understand the interests of the principals on whose behalf they are acting. Concurrently, intermediaries are aware of the potential and consequences of opportunistic behaviour. Social networks are not only used to exchange information on requirements and opportunities, but also to curb opportunistic behaviour. This section, therefore, sets the context of the nature of social networks.

Campbell et al. (1986) describe networks as resources that provide access to diverse and instrumentally useful information, as well as means by which actors gain access to potentially influential [members]. Podolny (2001) maintains that economic sociologists and organisational scholars have conventionally regarded networks as *'[bridging ties] of the market'* through which market information about exchange opportunities, and transaction of goods and services flow between actors. Chinowsky et al. (2008) further highlight that networks are guided by a set of principles about information exchange, responsibilities and outcomes between members through developed interconnections (ties).

Social networks are patterns of social relations and interactions between individuals or organisations referred to as social actors (Borgatti et al., 2009, Haythornthwaite, 1996, Marin and Wellman, 2011). BarNir and Smith (2002) describe social networks as relations and contacts that provide means for identifying opportunities, obtaining access to, or facilitating utilisation of resources or emotional support. Social resources as defined by Lin et al. (1981) are the wealth, status, power and social ties of persons who are directly or indirectly linked to an individual. Social network analysis therefore examines the structure of social relationships in a group to reveal informal connections between people, availability and the likelihood that an actor may be exposed to and can act on the resources (Rosa and Spanjol, 2005). The basic pillars of social network analysis are resource direction, information content and strength of ties (Haythornthwaite, 1996). These pillars form the characteristic components of social network analysis which contribute to the classification of social networks.

4.1.1 Components of social network analysis

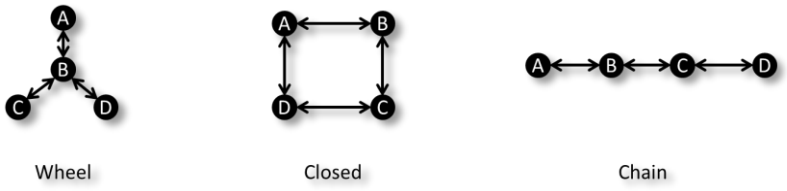
A network is identified by its nodes – a set of actors - and ties that directly or indirectly connect them. The pattern of ties and positions that nodes occupy generates a specific structure (Borgatti and Halgin, 2011). Ties not only convey resources between actors. Their presence or absence also conveys information cues on which inferences about the quality of actors and the ease with which information flows between them.

Social ties reduce information asymmetry between exchange partners prior to a transaction, and discourage opportunism after a transaction by imposing social obligations and effective sanctions on the seller (Baker and Faulkner, 2004). Exchange partners become homogeneous through the adaptation mechanism of social networks because of experiencing and adapting to similar conditions (Borgatti et al., 2009). These attributes of social networks of how actors use social networks to access prior information, curb opportunism and develop homogeneity are relevant to the role and behaviour of intermediaries in real estate transactions.

Network analysis identifies characteristics of network structures and positions that nodes occupy. It further explores how these structures and positions relate to group outcomes which could be pursuing success like performance or behavioural choices as in conformity to network norms (Borgatti and Halgin, 2011). This characterisation of networks is consistent with the [interacting] components of social network analysis that Davern (1997) identifies as structure, resource, and normative components. These three components are explored below.

Structure components are geometric patterns which indicate configuration and connectedness (cohesion) as well as positions of identical roles between social actors (structural equivalence) (Reagans and McEvily, 2003). These components identify routes through which resources flow, intermediary actors, and actors who occupy information roles yet to be identified (Haythornthwaite, 1996). Typical patterns of network structures are shown in Figure 4-1 below.

Figure 4-1: Types of Network Structures



Source: Borgatti et al. (2009)

Wheel networks have centralised information flow. Closed circle networks are decentralised, and chain networks which are linear (Borgatti et al., 2009). These network patterns influence how information flows among members which Ahuja (2000) refers to as redundancy of ties. Ties are redundant if they lead to the same actors.

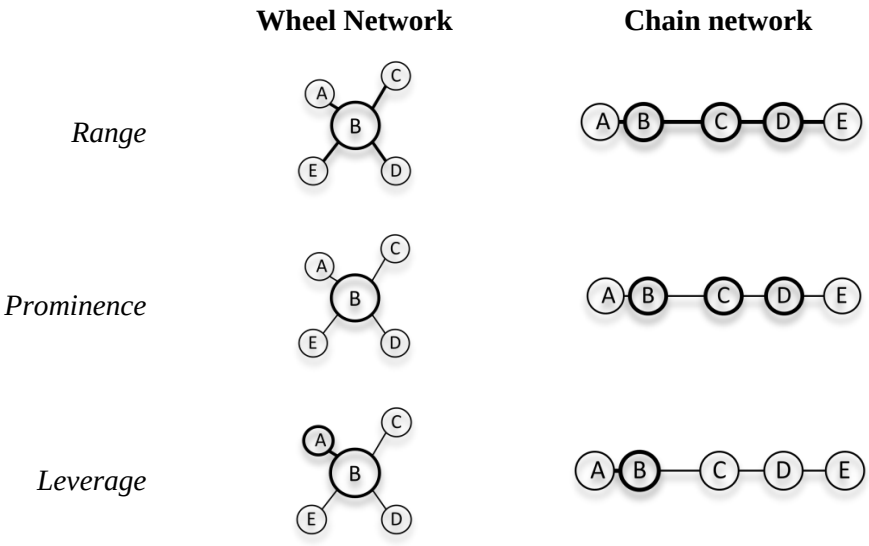
Resource components indicate an actor's position, access to, and, control of resources in a network. These components shape a network's social capital which Lin et al. (1981) describes as the quality of opportunities created between people as opposed to human capital which is the quality or abilities of individuals. Burt (2002, 2009) asserts that people who do better are somewhat better connected.

Haythornthwaite (1996) identifies three fundamental attributes of network resource component as range, prominence and leverage. Range shows the scope of resources – wealth, status, power and social ties – at an actor's disposal capable of facilitating access to other network resources. Prominence indicates the influence a social actor exerts in a network. A network star has greater dissemination and filtering role than an isolate on the receive-only end (Adamic and Adar, 2005). Finally, leverage refers to the '*proximity'* of an actor who plays a significant information role to the network to an alter by filling untapped information intermediation opportunities (Otte and Rousseau, 2002). Broekel (2015) maintains that proximities are essential to knowledge exchange. Apart from geographical proximities which have for some time have been considered as fundamental to the establishment of knowledge exchange relations, there are other types of proximities that have been identified to contribute to knowledge synergies. Among them are cognitive proximity which refers to the degree of overlap between actors. Larger overlaps increase the amount of redundant information and reduce the instrumentality of proximities. Organisational proximity refers to relations shared in an intra or inter organisational arrangement. They are expressed by the logic of belonging to the same organisation or the logic of similarity in value beliefs respectively. Social proximity indicates the social embeddedness of friendships, kinships and experiences in knowledge exchange.

These proximities can simultaneously exist in a network in static or dynamic forms. Fligstein and Dauter (2007) note that the choice of friends according to how and when they are useful reflects on the dynamic nature of social relations which are temporal arrangements for accessing information because the same position can hardly be reproduced. Such understanding market dynamics contrasts a calculative perspective where the actor's goal is to sustain power and dominance in the market to preserve the order by which 'equilibrium' is sustained (See 2.1 above). An actor may, therefore, not have many ties but can use proximities to control information exchange. Figure 4-2 below illustrates resource components in a wheel and chain networks.

In a wheel network, for instance, Actor B has a range of four isolate alters (ties) - A, C, D and E - connected to his/her network, and is the only one with an intermediary role hence is prominent in the network. Actor B also has leverage on alter A, which could emanate from close interaction. In a chain network, A and E are isolates, whereas B, C and D are intermediaries. Each intermediary has a maximum range of two connections. Prominence in a chain network is contingent on intermediaries between an actor and the sought isolate. A closed network accords all actors equal position, and access to information and network resources which are social capital. The wheel network would typify dual agency intermediation involving a single broker in real estate transaction. Dual agency with listing and selling brokers in the same brokerage, and cross agency involving separate seller and buyer brokers are chain networks.

Figure 4-2: Resource Components of Social Networks



Source: Author's illustration 2014

Resource components with respect to this research are helpful with establishing underlying influences which could contribute to efficiency of information exchange as well as exploiting or addressing conflicts of interest.

Normative components are norms, regulatory rules and tacit sanctions such as reciprocity and trust that govern the behaviour of actors within a network (Bonchi et al., 2011, Mizruchi, 1994). Trust enables 'efficient' functioning of the market without significant scrutiny of network members, and were it is not strong, there can be a high transaction cost. Walker et al. (1997) maintain that with respect to social capital, enforcing norms and penalties to network members facilitates rapid information flow that enables behaviour to be predictable and opportunism reduced. Figure 4-3 below illustrates a simple form of how resources are exchanged between actors. Resource exchange is unidirectional from A to B and from B to C. Resource exchange is reciprocal between B and D, and B and E (wheel network) or C and D, and D and E (Chain network).

Figure 4-3: Normative Components of Social Networks

Source: Author's illustration 2014

Reciprocity of resource exchange can arise from trust between parties about competence to execute a task, or obligation to maintain control of how resources flow within a network. In

Chapter 3 above, it was established that brokers traded off opportunistic behaviour for short-term gains with display of acceptable behaviour to enhance prospects of long-term business and social relations. Research in real estate transactions has not explored norms, tacit rules and/or penalties which govern the behaviour of intermediaries even in the absence of binding legislation or regulations.

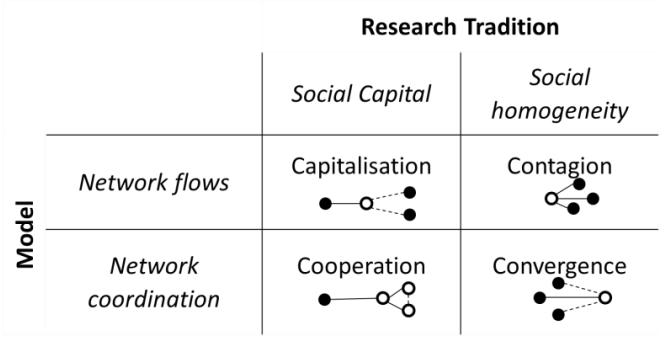
In short, social network show how information is shared (Rosa and Spanjol, 2005). Structural component highlights the pattern of connections, resource component shows influential positions and qualities of ties, while normative component shows the behaviour among ties. The importance of social networks lies in their relevance for developing and maintaining information, support, credibility and governance. Networks generate social capital by linking actors with diverse capabilities of influence to overcome barriers to social resources.

4.1.2 Classification of Social Networks

Network components are dynamic and generate innumerable social network types that can describe temporal and permanent human interaction. An exhaustive list of social network types is beyond the scope of this study. Plickert et al. (2007), however, identify three principle types of social network which provide a general description sufficient for delineating this study. These are emotional networks such as religious and support groups, companionship networks of peers or social media, and economic networks that involve information and/or material exchange. This study focuses on economic networks hence the description of social network as bridging ties through which market information about exchange opportunities flows among actors (See Podolny, 2001) is central to the understanding of the nature of social networks under consideration.

Borgatti and Halgin (2011) identify the function of social networks in terms of network models and research traditions. Network models comprise network flows in which ties demonstrate channels of information *flow* (Podolny, 2001), and network coordination in which ties are identified as *bonds* between information sources (Burt, 1992). Research traditions are social capital focused on *success*, and social homogeneity emphasising *choices*. Social networks are temporarily or permanently shaped by how actors use flow or bond ties to pursue success and/or engender behaviour. The resultant social network classifications are capitalisation, contagions, cooperation, and convergence networks. Figure 4-4 below demonstrates how network models research traditions map on each other to generate various social network classifications.

Figure 4-4: Classification of social network functions



Source: Adapted from Borgatti and Halgin (2011)

Social capital research tradition explores how network resource flow, and coordination relate to group or individual performance and rewards. Capitalisation represents achievement through flow-based networks where position in a network provides channels to access resources. Cooperation demonstrates bond-based achievement where actor connections results into exclusive units. Divisions among the units are exploited to the benefit of member and detriment of non-members.

Social homogeneity research tradition establishes how network resource flow or coordination influence choices of trait of behaviour, attitudes, beliefs or internal structural characteristics. Contagion is a flow-based explanation of choices in which actors are conceptualised as influencing each other in diffusing or adopting traits. Convergence is a bond-based explanation of similarity of choices resulting from actors with similar structural environment adapting to their environment.

The nature of social networks can hence be summarised as constituting structural, resource and normative components which are associated with information flow and actor behaviour. The role of social networks can be understood to be one for enhancing performance or demonstrating conformity through network flows and bonds.

4.2 WHEN SOCIAL NETWORKS MATTER

Research on the role of social networks in economic exchange emanates from the economic sociology school which argues for the recognition of the embeddedness of social framings in economic action. Scholars in these fields of the sociology of markets argue that atomised price-takers with symmetrical information underpinning neo-classical economics simply do not exit. Fligstein and Dauter (2007) identify three theory groups of the sociology of markets. the first focuses on relational ties between actors by such network scholars as Granovetter (2005). Institutionalists like Powell and DiMaggio (2012) emphasise on how cognitions and actions are shaped by market rules, power and norms. Performativity (See Muniesa et al., 2007) views

economic action as a calculative process involving strategic technologies and artefacts which actors employ. These approaches tend to overlap and complement each other. Social relations could explain the functioning of markets by identifying how economic action is associated with relations, institutions and calculative agencies. Notwithstanding the role of institutions and calculative agencies to economic action, this study leans towards the relations approach to understanding the sociology of real estate markets.

Granovetter (1985) argues that economic activity should not be analysed without considering the social context in which it occurs. Economic institutions are socially construed and are affected by the characteristics and motives of those that construe and run them. Actors do not behave in isolation of a social context nor do they strictly adhere to prescribed interaction of social categories they occupy, but their purposeful actions are embedded in the system of social relations. BarNir and Smith (2002) also argue that analysis of economic activities should incorporate the context in which the activities are embedded. Social interaction in an economic institution is fundamental to the achievement of its goals. Bonchi et al. (2011) show increasing business application of social network analysis in operating and management processes.

Social relations have also been observed to influence investment decision even in financial markets. Preda (2007), for instance, reviews developments in the sociology of financial markets. Among the highlights was the finding that contrary to conventional expectation that larger market participation reduces information asymmetry, price volatility tends to decrease with network density, increases in small trading firms and increases in large networks owing to uncertainty inherent in the search and processing of information. The search of financial information is partly driven by games that securities traders play among each other to produce hierarchies which would lead to accumulation of wealth.

While there seems to be a convincing case for social relations in economic action, the question that arises is when they are necessary.

Baker and Faulkner (2004) state that social networks are likely to be used in economic transactions that involve high risk and uncertainty. DiMaggio and Louch (1998) describe risk in economic action as the likelihood that the outcome of an exchange transaction will be inferior to the expectation of the exchange partner arising from information asymmetry between potential exchange partners, and potential for opportunistic behaviour. Uncertainty, identified in 2.3.1iii above as adverse information risk, arises when a trader anticipates a counterparty to be withholding important information regarding the market for the goods or service from the other (Yinger, 1981).

Uncertainty is subject to asset specificity, that is, whether specialised investments are required to produce measurable service, which in this study relates to the intermediation of a real estate

transaction. Specialised investments imply production of specific services which cannot be easily adapted to produce other services (Malone et al., 1987). These can be best understood by explaining the distinct types of asset specificity, namely, site, physical and human specificities. Site specificity refers to the use of specific location only movable at a great cost (Brown and Potoski, 2003). It is also an expression of the proximity of successive stations to economise on inventory and transportation expenses. Physical specificity is the use of highly specialised tools or complex system designed for a single purpose fundamental to deciding efficient boundaries (Williamson, 1981). Human specificity is the use of high specialised skills that cannot be deployed to other services (Brown and Potoski, 2003, Williamson, 1981). Of these attributes of asset specificity, human specificity is relevant to the study context. It relates to broker specialised skills to search and process market information, as well as providing advisory services to principals. The fundamental concern, however, is the replaceability rather than redeployment costs of their specialised services.

Service measurability refers to the difficult of identifying and measuring the outcome of contracting service providers, and/or monitoring activities required to deliver the service, which is typical of search in real estate markets. As measurement becomes more difficult, the contracting organisation is increasingly exposed to the risk of vendor opportunism. Asset specificity generates bilateral dependency and opportunism among actors (Menard, 1996), the uncertainties in economic action described by Yinger (1981) and DiMaggio and Louch (1998), and which Baker and Faulkner (2004) argue that can be reduced by using nonmarket relations through social networks. Incentive contracts though widely used have been questioned regarding the measurability of brokerage services to justify the proportional remuneration.

Relating to social networks and real estate transaction, asset specificity can be understood in terms how proximity of interacting actors, complexity of system of interaction, and sophistication of interacting human capital influence information exchange opportunities. Specialised investment, in this respect, relates to creating techniques of acquiring localised private information that is not easily transferable between markets or actors.

Human specificity is attributed to DiMaggio and Louch (1998)'s finding of different levels of broker usage in high value but low volume consumer transaction such as real estate tending to require brokers with specialised knowledge compared to high volume low value transactions like car sales. The search process can have a complex structure of roles played by vendors, buyers and their brokers. In private markets with differentiated assets and low transaction activity such as commercial real estate markets, buyers and vendors actively search for each other (Williams, 1995, Forgey et al., 1996). The vendor's broker markets opportunities to buyer agent seeking

introductions to potential investors (McAllister et al., 2008) with efficiency which principals may not be able to achieve without incurring substantial transaction costs.

Though economic sociology maintains that all economic activity is socially-embedded, and its analysis should include analysing underlying social networks, some scholars like Rangan (2000) and DiMaggio and Louch (1998) contend that the significance of social networks in explaining economic action and outcomes lies in spheres of economic activity where establishing the identity and quality of potential exchange partners and exchange assets are important, but problematic. As Preda (2007) maintains, trust in the quality of the transaction partner would lead to trust in the transacted object.

Podolny (2001) identifies two types of information sets which tend to be sought in an exchange transaction to resolve market uncertainty. There is information a vendor needs to ascertain the marketability of an asset (see also Yinger, 1981), and information a purchaser requires to ascertain its utility. These information sets highlight fundamental real estate market characteristics. They are reviewed below in depth as identity and quality of product and potential exchange partner drawing on Rangan (2000) and Podolny (2001). The simplification for this study is that vendor-side ensures asset identity, while buyer-side verifies the quality of the opportunity.

4.2.1 Identity of asset and potential exchange partners

Stigler (1961)'s seminal paper on Economic Information was based on a context that sellers had fixed locations. A buyer bore the burden to search for a seller that offered the most favourable price. The vendor's concern was to ensure a product was visible to potential buyers searching for favourably priced assets. Similarly, Podolny (2001) maintains that the vendor's role in an economic transaction is focused on the product's marketability.

Rangan (2000) describes search in an economic exchange as acts involved in identifying potential exchange partners when opportunities for exchange are perceived to lie beyond known potential exchange partners. Search theory, as indicated in Chapter 3 above, explains decision making in searching for the best utility under uncertainty. A decision to continue or terminate search is associated with search cost, which relates to the time cost needed to make necessary computations and arrangement to complete a match of exchange partners (Yinger, 1981).

The key contribution that Rangan (2000) makes to the search problem is that of establishing when social networks are relevant to address uncertainties about the quality of assets and exchange partner. A vendor seeks a cost-effective approach to resolve a search problem when confronted with uncertainty about market perception of the vendor and asset. The search problem, as stated in Chapter 3 above, could be to cost-effectively search for a favourable price through fixed-sample size sampling (Stigler, 1961), to achieve an optimal sale price using optimal search

(Morgan and Manning, 1985), or to seek the maximum price by sequentially searching (Kohn and Shavell, 1974).

Vendor uncertainty about market opportunities is referred to as egocentric uncertainty (Podolny, 2001). An ego in a social network is an actor (node) be it an individual, a firm, group or whole society (Hanneman and Riddle, 2005) which is focal in the interaction. An ego actor initiates network interaction such as a vendor who presents an exchange opportunity, or buyer who solicits for an acquisition from an asset owner. For the simplification in this study, the focal actor is a vendor or his/her broker since vendor-side actively search for potential buyers in commercial real estate transactions.

Yinger (1981) emphasises that analysing how brokers respond to trading asset and exchange partner, as well as asset-buyer matching uncertainties in markets with imperfect information is crucial to understanding how brokers search. Formal search is possible in asset markets where there are organised and centralised institutions which provide high volumes of current transaction information on often homogeneous product and on market participants such as financial markets. High margins or volumes make formal search cost-effective. Informal (network-based) search does not matter even in the presence of spatially dispersed markets like mergers and acquisitions or in commodity markets. However, as noted in Chapter 2, this is not the case especially in commercial real estate markets. These markets are characterised by heterogenous, and high value assets with low transaction volumes in decentralised locations, hence informal search may matter.

Rangan (2000) states that search tends to be costly in the absence of high margins or high volumes, and in the presence of spatial dispersion. Actors cannot cost-effectively use public or independent mechanisms to send or receive market signals to or from potential exchange partners. Information on transactions is privately and disproportionately held among buyers, sellers and brokers, hence exchange opportunities are not responded to with the same speed (Genesove and Han, 2012). Informal search is relevant in such markets where search is problematic and information on the product and, identity of potential transaction partners is important. Hence, social networks matter in such markets.

4.2.2 Quality of asset and potential exchange partner

The uncertainty a potential exchange partner has about the quality of the product and behaviour of the vendor is referred to as altercentric uncertainty (Podolny, 2001). An ‘alter’ is a connection to the focal (ego) actor (Carrington et al., 2005), who in this simplification is the potential buyer. Potential buyers in markets with low transaction volumes and where search is vendor-driven are cautious about the quality of opportunities presented by vendors. Uncertainty about quality in a transaction arises from concerns over the expected utility of the asset, and potential opportunism owing to its specificity. Kollock (1994) identifies these two types of uncertainty as product and

performance uncertainties. Product uncertainty refers to uncertainty about the quality of goods or services, while performance uncertainty relates to uncertainty about the quality of vendor's future behaviour. Performance uncertainty is consistent with Slater (2002)'s emphasis of the embeddedness of social obligation beyond immediate transactions in alienating property rights (See 2.1 above). DiMaggio and Louch (1998) assert that uncertainty over transaction quality is critical in service-related transactions like legal advisory or real estate brokerage. Service relationships often entail significant human specificity – expertise and relations - which is not easily replaceable without significant costs.

Rangan (2000) uses the term 'deliberation' to refer to the process of acquiring information centred on evaluating a potential, but unfamiliar exchange partner with whom an attractive exchange is contemplated. It is required when i) the less informed exchange partner (often the buyer) is uncertain about the quality of the exchange product, and intentions of the potential exchange partner in the discharge of mutual obligation, and ii) the potential downside effect of the transaction will be large and costly to reverse. A study by Röper et al. (2009) on the likelihood to use social networks in searching for a home, presented later, finds that the tendency of buyers to seek more detailed information through diverse social networks than renters do is influenced by the potential downside cost of making a bad transaction decision.

Deliberation can be accomplished through non-social solutions provided the transactions are insurable, deterrable, predictable, or internalisable (Rangan, 2000). Baker and Faulkner (2004) refer to the type of asocial or impersonal means of acquiring information about an attractive transaction with an unfamiliar exchange partner as 'due diligence'.

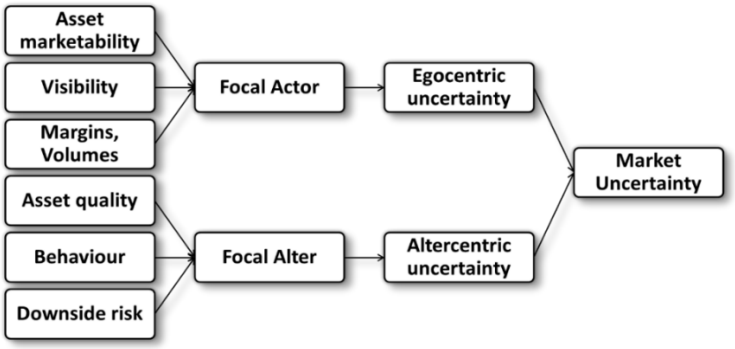
Insurance is an asocial deliberation innovation which is used to cover some types of risks which can be hedged using some futures market (Eckwert and Zilcha, 2003). The second type of asocial deliberation is hostage deterrability. The focal actor has leverage or switching-ability over quality and reliability of products valued by unfamiliar potential exchange partner. Agglomerations of businesses can be used to control vendor-side hostage in transactions with high asset specificity. Predictability is the third asocial solution. Warrants and guarantee schemes provide quality assurance and indicate the predictability of honest behaviour in future. Rating agencies also provide past information about exchange which helps to predict parties' behaviour on the market. The fourth asocial deliberation approach is transaction internalisation to retain internal control of strategic activities, which Broekel (2015) describes as organisational proximity.

Where such innovations and/or institutions can be applied to address uncertainty such as in financial markets or consumer business environment, deliberation is not problematic. Social networks may not be necessary.

Social networks are relevant in markets where these innovations and institutions are weak or do not exist, and deliberation can be problematic. Real estate sales transactions are not easily insurable. Sale transactions cannot be franchised or internalised. Rating information is not readily available. Social solutions to uncertainty are, therefore, trust through licencing for 'insurance', voluntary associations such as membership to professional bodies for governance of behaviour to assure quality, and status such as roles or positions in public activity for quality assurance and internalisation. BarNir and Smith (2002) show how social networks enhance vendor identity hence predictability. Baker and Faulkner (2004) demonstrate how combining social and asocial deliberation reduces risk of capital loss indicative of insurance.

Market uncertainty is, therefore, understood to comprise egocentric and altercentric uncertainty. Egocentric uncertainty is information asymmetry generated by a focal actor – the vendor – with respect to the identity of the trading asset and themselves in a potential exchange opportunity. Altercentric uncertainty relates to potential exchange partner's perception of the utility of an exchange opportunity and potential opportunistic behaviour of a better-informed vendor. Social networks tend to be relevant in the absence of asocial innovations or cost-effective market mechanism to deal with market uncertainty in exchange transactions and the identity and verification of quality for both the products and exchange partners (See Figure 4-5 below) is problematic.

Figure 4-5: Sources of market uncertainty



Source: Derived from Kollock (1994), Rangan (2000) and Podolny (2001)

4.2.3 Empirical studies on social deliberation for resolving uncertainty

Two studies Baker and Faulkner (2004) and DiMaggio and Louch (1998) are reviewed to understand how social deliberation resolves uncertainty in economic transactions.

DiMaggio and Louch (1998) show how social networks are used to reduce information asymmetry and opportunism. They maintain that social organisation of consumer markets has been largely ignored. Their study aims at understanding conditions under which non-market

relations link consumers to engage in transactions. They identify search embeddedness and within-network types of social relations that could influence consumer transactions.

In search embeddedness, consumers rely on social relations to identify and access the reliability of potential exchange partners with whom they do not have direct or close social ties. They create social relations to reduce information asymmetry about the product or service to be exchanged, the identity of the potential exchange partner, and prior performance of each.

Within-network exchange actors use pre-existing social relations to select exchange partners – relationship maintenance. Social relations reduce opportunism by imposing social obligations and effective sanctions on the seller. The expectation is that consumers are likely to rely on social relations when they transact in assets that rarely transact, and less standardised. Within-network exchange is more likely in transactions where exchange partners are not concerned about reputation, particularly common in non-broker led exchanges. Buyers are more likely to rely on within-network exchange and sellers on search embeddedness.

Baker and Faulkner (2004) use the DiMaggio and Louch (1998) framework to examine how social networks influenced investors' exposure to opportunism. They argue that social ties also increase opportunities for deceit, deviance, and misconduct. The likelihood of capital loss hence depends on due diligence and the type of social ties. The case study was an oil and gas venture that operated as a legitimate business but also committed financial fraud. The venture sought capital in the informal market, ran for 3 years and went bankrupt following financial problems caused by both underproduction and embezzlement of funds. The study was undertaken to establish the role of networks in decisions to invest, including social ties to the venture executives, sales representatives, other employees, and investor to investor referrals. The research issue was to find out the reasons for using or not using social networks in deciding to invest in the venture, and whether an investor made or lost money.

Fifty percent of the sample relied on social networks to make their decision to invest in the venture. Of these, 21% relied on within-network exchange, and 29% used search embeddedness comprising 19% that relied on pre-existing social ties with a prior investor and 10% on a compound social tie with a friend of a prior investor. Of the fifty percent that relied on impersonal sources of information, 38% used information from telemarketing, 6% from direct mail and 7% from advertisements (1% overlap). The relevancy of this sample structure was the demonstration of how formal and informal sources of information were associated with loss control. The probability of loss of capital depended on whether investors conducted due diligence and which type of social ties, if any, they used. 67% of investors lost money. The odds of capital loss were estimated under four categories of investors, as summarised in Table 4-1 below.

Table 4-1: Capital loss odds

		Due diligence			
		Done	**Probability of capital loss**	**Not done**	**Probability of capital loss**
Social ties	**Used**	Due diligence & within-network exchange	14%	Within-network exchange	39%
	Not used	Due diligence	49%	Baseline	79%

Source: Baker and Faulkner (2004)

Investors who used social ties had lower probability of capital loss than those that did not. Those who used social ties and conducted due diligence were least exposed to capital loss (14%). Social networks seemed to have provided non-market information which was not captured by impersonal sources in this case due diligence. These finding are crucial particularly to commercial real estate transactions on how social relations supplement due diligence to resolves market uncertainty. In place of capital loss, which is still a potential large downside risk, studies could focus on search cost – the effort to establish fundamental information.

Though all economic action is socially embedded in social context of the actors (Granovetter, 1985), the necessity to use social networks to overcome market uncertainty depends on whether the identity or quality of the product or exchange partners is problematic. Table 4-2 below presents examples of where market uncertainty may or may not be problematic.

Table 4-2: Examples of Market Types and Market Uncertainty

		Altercentric uncertainty	
		Problematic	*Not Problematic*
Egocentric uncertainty	*Problematic*	Private Real Asset Markets **Real estate** *(Social networks)*	Private Financial Asset Market **Private Equity/Debt** *(Branding)*
	Not Problematic	Public Real Asset Market **Commodities** *(Insurance, Warrants)*	Public Financial Asset Market **Public Equity/Debt** *(Rating Agency)*

Sources: Williams (1995), Rangan (2000), Geltner (2001), Podolny (2001) and Eisfeldt (2004)
Table read in rows: Asset market type, **Tradeable asset**, (*market uncertainty solution)*

In markets where egocentric and/or altercentric uncertainty is not problematic and asocial innovations to resolve market uncertainty are available, social networks are not necessary. Social networks are relevant in private real asset transactions such as real estate in which both egocentric uncertainty (identity of asset and vendor) and altercentric uncertainty (quality of asset and behaviour of vendor) are problematic. The next section thus explores how social network approaches, when necessary, can resolve market uncertainty.

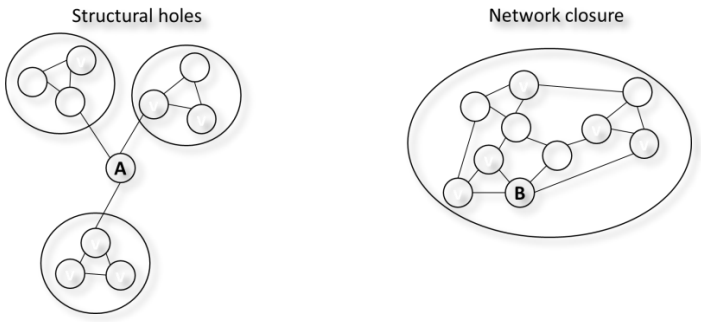
4.3 SOCIAL NETWORK APPROACH TO RESOLVING MARKET UNCERTAINTY

Podolny (2001) describes networks not only as channels for information flow and resource exchange, but also as prisms that distinguish actors based on positions in the network. The focal actor (ego)'s position in a network depends on the composition of the network in terms number, diversity and competence domains of actors, and its history indicated by the strength and content of ties (Borgatti and Everett, 1992). Network position also affects opportunities and constraints the focal actor encounters, which is the foundation of social capital concept that an actor's activation of individual skills and knowledge (performance) is determined by their network location (Borgatti et al., 2009). Network actors resolve their uncertainty through either structural holes or status in the network. Distribution of information on market opportunities among alters of a focal actor influences how a focal actor 'cultivates' his/her network. Hence, network actors use structural holes or network closure to resolve uncertainty.

4.3.1 Structural holes

A structural hole is the absence of ties among a pair of nodes (people, firms, or organisations) in an ego network (Borgatti et al., 2009). It indicates that actors on each side of the hole have access to different information flows. Structural holes can be viewed as gaps in information flows between alters linked to the same ego but not linked to each other (Ahuja, 2000). Figure 4-6 below depicts A's network as richer in structural holes than B's network from which the ego focal actor can exploit exchange opportunities.

Figure 4-6: Illustration of Structural Holes and network closure



Source: Borgatti and Halgin (2011)

The logic of structural holes drives actors to extend network boundaries beyond their existing set of ties. A focal actor with more structural holes has an information advantage of access, timing, and referral in the network (Burt, 2009). This concept, which is derived from the binding mechanism (synergies) of nodes in a network, (Borgatti et al., 2009) underlays the explanation of performance related to presence or absence of structural holes. More structural holes in the focal actor's ego network provide additive rather than overlapping information about a wider

range of market opportunities because the segments of the network on each sides of the structural hole differ regarding the underlying knowledge and information (Fritsch and Kauffeld-Monz 2010, Podolny 2001). Exploiting structural holes is essentially using what DiMaggio and Louch (1998) and Baker and Faulkner (2004) refer to as *search embeddedness* which is searching among alters that the focal actor has no direct or indirect social ties to reduce information asymmetry. Burt (2001) highlights that structural holes are opportunities to brokers for the flow of information and control of activities which bring together people from opposite sides of the holes. A network spanning structural holes gives an actor broad, early access to and entrepreneurial control over information. Scofield (2011), discussed in detail later in 4.5 below, uses this concept to study knowledge brokerage as transaction costs in commercial markets.

4.3.2 Network closure

Burt (2001) describes a network with closure as one in which everyone is connected such that no one can escape the notice of others (See Figure 4-6 above). It affects access to quality information from direct connections and facilitates norms as well as trustworthiness that make it less risky for people in a network to trust each other. Coleman (1988) underscores the role of closure as follows:

> *"A social scientist who is interested in being up-to-date on research in related fields can make use of everyday interaction with colleagues to do, but only in a university in which most colleagues keep up-to-date." pS104*

An actor's social position determines his/her perception about structured systems within which struggles take place over resources, stakes, and access, and the stance they take to maintain or transform the system (Battilana, 2006). Social status may be described as socioeconomic position attained by a social entity through mobilising and investing social resources accessible through its direct or indirect ties (Lin, 1999, Lin et al., 1981).

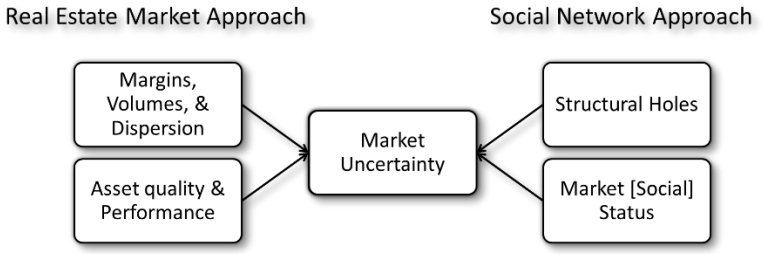
Friedkin and Johnsen (1997) identify two basic types of social positions, namely, endogenous and exogenous positions. Endogenous social positions occur in a network of interpersonal influences. Social positions are based on endogenous equivalences of direct or total interpersonal influences. Exogenous social position is based on the similarity of actors in attributes, roles, authority influences on their opinions (Nahapiet and Ghoshal, 1998). Social position is determined by a subset of exogenous determinants of the opinion of actors such as individual attributes like gender, age, social economic status, common roles as parenthood, physician, local status like gang or community leaders or location in other social networks like friendship networks or authority structures. An actor's social influence in a network thus demonstrates the combination of endogenous influences and the initial opinions shaped by exogenous influences (Borgatti and Everett, 1992, Battilana, 2006).

The advantage of network status to the focal actor depends on how it indicates product quality to his/her alters. Alters' opinion about the quality of products, the vendor and his/her competitors' offers on the market affect the vendor's value of status in a market. When high status indicates high quality of product and/or performance, a vendor with high market status has choice over exchange partners, and greater advantage in bidding for opportunities among alters compared to one with lower status. High status alters, on the other hand, are cautious of whom they should use their status to attract opportunities (Podolny, 2001). A focal actor with high-status network is one with highly connected high status alters. A high-status actor is ideally an 'insider' and a low status is an 'outsider'. Battilana (2006) argues that high status actors tend to mobilise resources in a manner that protects the status quo. Lower status actors, on the other hand, who are less well-embedded in the dominant institutional arrangements, and have little to lose from social deviance, are more likely to be willing to transform the existing institutional arrangements than high status actors.

4.3.3 Conceptualisation of social network function in real estate markets

Podolny (2001) states that even though egocentric (focal actor) and altercentric (connections) uncertainties vary rather independently, high egocentric uncertainty characterised by a network rich in structural holes renders a focal actor's status to be of little value to the alters. This claim, which is consistent with Yinger (1981), suggests that the need for analysis of structural holes and network closure in listing brokers' networks provides sufficient ground to understand the influence of social networks on commercial real estate transactions. Figure 4-7 below illustrates how social network could resolve real estate market uncertainty.

Figure 4-7: Resolving Real Estate Market Uncertainty through Social Networks



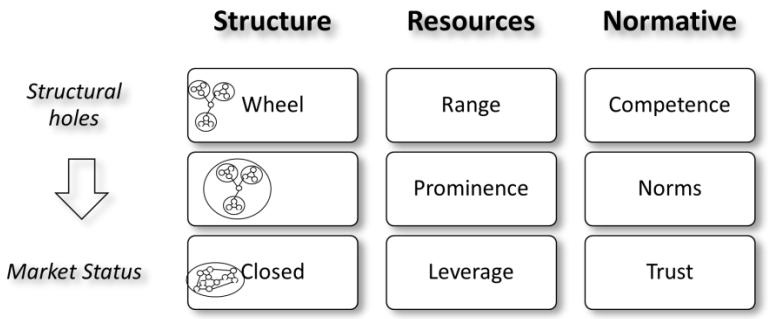
Sources: Derived from Kollock (1994), Podolny (2001) and Rangan (2000)

In 2.3.1i above, inventory risk of trading with an exchange partner with better information on order flows is identified as typical in private real asset markets. Financial markets resolve inventory risk by trading portions of a security at a time so that the market corrects asset mispricing as more information becomes publicly available through subsequent transactions. Real estate assets trade as whole units and information is privately held hence inventory risk cannot be traded-off using market mechanisms. Transaction price is negotiated when factual

issues about the asset and vendor are exhausted. It is when establishing these factual issues that Podolny (2001) claims social networks are relevant in resolving market uncertainty.

Exploiting structural holes potentially resolves a focal actor's uncertainty about the identity of a traded asset and her as a vendor. Availability of this information is constrained by low transaction volumes in highly spatially dispersed markets. Transaction information is by and large privately held by brokers, vendors and buyers who may not have ties with the focal actor. The focal actor could access the information through search embeddedness or flow networks by building relations with the alters. This activity is referred to as exploiting structural holes when there are no social ties among alters. Where alters have social ties among each other, the focal actor can access transaction information through within-network search or bond networks, but must earn status by interacting with network members with equivalent social position or demonstrate trustworthiness through individual attributes, roles, or authority outside the network. Figure 4-8 below shows indicators of network components when social network solutions to resolving market uncertainty evolve from structural holes to market status.

Figure 4-8: Network components and resolving market uncertainty



Source: Author 2015

The above figure can be read vertically to understand the indicators of each network component at play in social network approaches to resolving market uncertainty as the network structure evolves from one rich in structural holes to one characterised by network closure. A focal actor with a network that is rich in structural holes tends to have a wheel type network structure. He/she relies on range to access non-redundant information. His/her interaction focuses on demonstrating competence. A high market status actor is likely to be a member of a closed network who uses leverage to access quality information and is a symbol of trust.

4.4 SOCIAL NETWORKS IN ECONOMIC EXCHANGE

There are various notions about the role of networks in economic exchange. Granovetter (1985) argues that analysis of economic action should consider the social context in exchange occurs. He argues that the level of embeddedness of social interaction in economic action is more

substantial than that allowed for by (neo-) classical economists. In a competitive market, actors apparently pursue self-interests in a rational manner that excludes force or fraud. Classical economists treat social relations as a frictional drag that impedes competitive markets, or intrinsically followed processes irrespective of actors' rational choices. Malm et al. (2015) and Baker and Faulkner (2004) demonstrate how social interaction can be a 'short-cut' that defies rational economic reasoning, and instead perpetrates 'contiguous diffusion' of fraudulent investment activity. Granovetter (1985, 2005) maintains that what is deemed non-rational by classical economists may be sensible when situational constraints such as information quality, reward and trust are appreciated. Rangan (2000) acknowledges that there are situations when social interaction and market economy are relevant for efficient exchange.

The influence of real estate market characteristics on liquidity has been extensively discussed by several researchers such as Bond and Chang (2012), Clayton et al. (2008), IPF (2004), Jud et al. (1995) and Kluger and Miller (1990). In a nutshell, transaction prices do not reflect market values of other assets on the market at the time transactions are observed. Delay in market information signals is attributed to the operational nature of the market particularly that assets are heterogeneous, thinly traded and located in spatially dispersed markets. Low transaction activity constrains the availability of sufficient market information to correct short-run asset mispricing. Market knowledge is highly localised and privately held by brokers. Consequently, real estate markets are typified by adverse information asymmetry, hence access to private information matters whether through structural holes or network closure.

Search in real estate markets is associated with time on market. Conventional real estate liquidity studies such as Anglin (1997), Baryla and Zumpano (1995), Cheng et al. (2008), Genesove and Han (2012) and Turnbull and Sirmans (1993) have explored the effect of asset characteristics and market conditions on search and liquidity in real estate markets. Jud et al. (1996), Salant (1991), Scofield and Devaney (2013), and Yang and Yavas (1995) investigate the influence of brokers on real estate transaction prices and time on market. These studies compare the effect of engaging brokers on transaction price and time on market achieved. They find that engaging brokers does not significantly influence the achieved transaction price, but significantly reduces the time on market. These studies have, however, not addressed how broker usage explains private information flows.

The next sub-sections explore broader studies on social networks in business environment, built environments and finally in real estate environment. Case studies have been presented using network models approach (see Figure 4-4 in 4.1.2 above) the Borgatti and Halgin (2011) framework of network functions. The purpose of reviewing network flow functions and collaborative networks is to better understand how information channels and network bonds

contribute to actor performance and behaviour. This conceptualisation helps to unveil how brokers relying of private information enhance performance by reducing search time, as well as how they make behavioural choices which deter opportunism even in the absence of formal legislation or regulations. Fligstein and Dauter (2007) reiterate that social networks in economic exchange explain the connectedness of economic actions and not a theory of underlying relationships in data or mechanisms they represent.

4.4.1 Flow networks

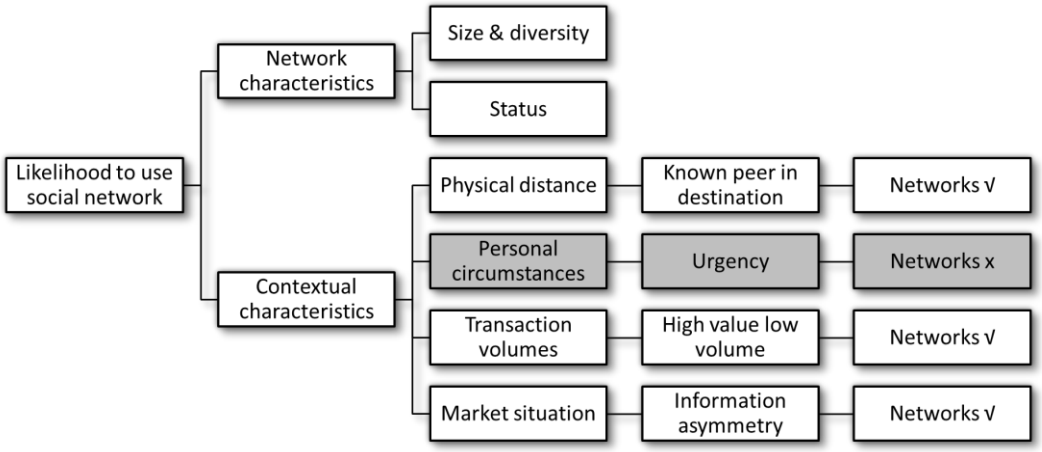
Flow networks are channels of economic exchange networks formed to enhance performance by accessing group resources to complete tasks which would otherwise be less efficient if an actor relied on individual skills only (Borgatti and Halgin, 2011, Podolny, 2001)

In real estate studies, albeit largely focused on residential markets, social networks are explored as alternatives to conventional ways by which buyers find houses like using brokers and classified advertisements. A distinguishing feature of residential markets is that buyers typically search for properties (See Stigler, 1961, Anglin, 1997, DiMaggio and Louch, 1998, and Benefield et al., 2011). Residential markets have large transaction volumes and buyers such that vendor uncertainty is relatively low. Vendor quality is secondary to the quality of the property which is contingent of individual housing consumption needs (See Ioannides 1987, Henderson and Ioannides 1989, and Van der Vlist et al., 2002). Studies presented below demonstrate the use of social relations in real estate markets.

Röper et al. (2009) investigate cases where individuals use social networks to find houses for purchase or rent and if social networks enhance satisfaction of houses. They examine network characteristics and circumstances which induce people to rely on informal channels of finding a home at the time they move. Individuals search for information if the expected benefits exceed the search cost, and adopt a search strategy with the highest net benefit (Stigler, 1961 also alludes to this perception). In markets characterised with information asymmetry, demand- and supply-side information holding often differs to some extent. Seekers, that is, potential buyers and renters, may not know if the information that they have access to is complete and relevant for decision-making. Informal channels often provide information with the right timing. House purchases or renting are infrequent transactions and are unlikely to involve the same trading partners in subsequent transactions. Extensive search provides information on available opportunities, while intensive search focuses on establishing trust on a few lucrative offers. The likelihood of using network to find a home is contingent on the potential of networks in providing non-redundant information, and situational characteristics that drive the need to move.

Figure 4-9 below illustrates the network and contextual characteristics which affect the likelihood of using social networks to find a house.

Figure 4-9: Factors influencing likelihood to use social network in finding a home



Source: Röper et al. (2009)

The following are expectations with respect to contextual characteristics. Firstly, since physical distance between origin and destination affects social ties which exist prior to moving, and area to move to is chosen before search begins, people who know someone living in a destination area are expected to find a home through social networks.

Secondly, personal circumstances such as vacating current premises, taking new job, investing available funds, or liquidating financial obligations, may change someone's search preferences relative to the time frame required to access information necessary for decision making. People who are subject to an urgent need to move are less likely to find a home through social networks. Chernobai and Hossain (2012) also establish that optimal search duration is contingent on the urgency to transact (short-term) and the need for an ideal future home type and location (long-term) if for investment purposes, or on consumption incentives for primary and secondary buyers.

Thirdly, transaction volumes influence the amount of market information that can be accessed immediately to make an informed investment decision. When transaction value is high and transaction volume is low, the downside risk of making a bad investment decision is huge and costly to reverse. Seekers are therefore more inclined to use social networks in a high value and low volume house purchase than in a low value and high-volume renting transaction.

Lastly, informal channels do not provide information to everyone at the same time. The advantage of having information early in a market characterised with scarcity enhances the attractiveness of finding a home through social networks. The possibility of missing opportunities because of relying on informal channels could discourage the use of social networks in scarce markets. The spread of house prices in the destination area will influence the likelihood of searching through social networks.

The Röper et al. (2009) study finds contextual characteristics to have been more influential than network characteristics in buyers using social networks instead of brokers or advertisements to find a house. Buyers, because of the downside risk in the purchase transaction, were more likely to find a house through informal channels than renters. The influence of market scarcity on the likelihood of using informal channels was not reported. DiMaggio and Louch (1998) also find home purchases that did not involve brokers to be more search embedded than those concluded using brokers. They also find that home purchases through brokers are more search embedded than car purchases through dealers partly due to frequency of transactions and amount involved. This finding is consistent with Yinger (1981) that house buyers tend to search more carefully and are willing to visit more houses before making an acquisition decision though involving unfamiliar intermediaries. Such search is attributable to the choice of addressing information asymmetry risk through 'trusted' informal sources being considered to have less opportunity cost than engaging a broker or relying on advertisements.

These studies conclude that contextual characteristics tend to be more influential than network characteristics, but raise important issues about the relevance of social networks in exchange transactions. Social relations do not replace, but complement economic reasoning as Rangan (2000), Baker and Faulkner (2004) and Fligstein and Dauter (2007) indicate. Secondly, the potential downside risk from transaction volumes, margins and spatial dispersion influence how actors tend to rely on network characteristics to resolve uncertainty. The larger the downside risk, the more the likelihood of using social networks in search (See DiMaggio and Louch, 1998). It may be important to investigate whether changes in market conditions affect the dynamics between egocentric and altercentric uncertainties such that shifting in dominant roles between vendors and buyers are accompanied with social networks dominated by actor relying on structural holes or status in market. Thirdly, it is of interest to establish whether regional variations in asset values lead to secondary markets characterised with actors who are rich in structural holes, and core markets with high-status actors. Though the study places the need to search on the buyer, its concept could be extended to understanding how mobility drivers and network characteristics are associated with brokers choices to use social networks in searching.

The cases discussed above reveal some consistencies with the claims about the role of social networks in economic transactions. The general outcome is that there is evidence that social networks can reduce vendor uncertainty through enhanced network size. Diverse social networks can also reduce buyer uncertainty over product quality and exchange partner's behaviour. It has also been established that vendors tend to use social relations to transact with exchange partners with whom they do not have prior relations. Buyers tend use social relations with actors they have had prior interaction with to select potential exchange partners.

Crowston et al. (2015) present an analysis of social (informal) networks and the success of intermediaries in the US housing market. They seek to establish which of the broker ties with buyers, sellers or other professionals are important to intermediation performance (social capital). They posit that i) brokers with better direct or indirect ties with potential buyers and seller would be more successful owing to the importance of non-redundant ties, and ii) brokers with better ties with other real estate professionals would be more successful due to the importance of business networks in facilitating transactions through establishing trustworthiness and reciprocity prospects. They do not find significant association between broker ties with potential buyers or sellers and successful transaction completion. Rather they find association between broker ties with other professionals in the industry and success in transaction closing suggesting that informal search is instrumental to information gathering rather than buyer-seller matching. Consequently, they postulate that the network of professionals around a broker forms a 'quasi-firm' which becomes a hub of activities providing a bundle of services coordinated by the broker. These findings are critical to understanding the nature of broker interaction viz-à-viz whether the identity of the trading asset, the vendor and the potential buyer is problematic and/or important.

The association between relationships and completion of transaction processes in non-housing real estate markets, where repeat transactions are likely, has not been extensively explored. This nature of formal and informal search roles in markets where players have different levels of sophistication stimulates research interest in understanding intermediation in real estate markets. In view of the complexity of search in real estate markets, it is important to initially understand the objectives of various search model before exploring how intermediaries employ these models to achieve intended search purposes.

4.4.2 Collaborative networks

The cooperation function of social networks is to enhance performance of network actors, whether individuals, firms, or organisations, by combining units to form 'entities' that exclude others from accessing mobilised resources and exploit the divisions through coordination to direct the flow of these resources (Borgatti and Halgin, 2011). These networks referred to as collaborative networks are associated with network closure (See Figure 4-6 above). Shuman and Twombly (2010) describe collaborative networks as collections of businesses, individuals, or other organisational entities possessing capabilities and resources needed to achieve specific tasks. Governance structures – normative component – determine how individuals join and operate in the network especially with respect to information privacy. Collaborative networks show how social networks can be used to ensure reliability and predictability by internalising strategic processes that enhance credibility and reduce opportunism.

BarNir and Smith (2002) explore whether social networks of firms can be leveraged to facilitate the establishment of inter-firm alliances in view of the increasing importance of strategic alliances in shaping competition. The study demonstrates how manufacturing and technology firms use social networks to enhance their identity and indication of quality to the market. The competitive arena is seen to be made up of networks of firms linked by strategic alliances which are shaped by behaviour of all firms (values of social system) and capabilities (endogenous and exogenous influences) of each firm to successfully establish its position in the network – social homogeneity and social capita respectively. Benefits of being a partner (member of social group) in an alliance were perceived to be particularly important to small business (low status, weak ties) that have limited resources and market presence.

The study focuses on senior executives as the focal actors that could facilitate the establishment of the alliances. High status membership indicates subscription to a governance mechanism that renders member behaviour to be reliable and predictable. Hence, association with high status members enhances credibility. They investigate four social network properties that are likely to determine the focal actor's (senior executive) networks. The properties are propensity to network, network scope, strength of ties, and network prestige.

Propensity to network refers to a focal actor's inclination to create and maintain contacts. In Carrasco and Miller (2006), propensity is associated with personal attributes, social network attributes, and social episode. It reflects personal traits, locus of control or need for affiliation (exogenous influences of social position). In this study by BarNir and Smith (2002), propensity to network is measured by the number of voluntary, trade or professional organisations with which a focal actor was a member or had regular contact. Participation in organisations is deemed to provide access to information, resources, and governance mechanisms mould collective behaviour. A social groups' membership contributes to an actor's position in a recognised area of social life (Battilana, 2006).

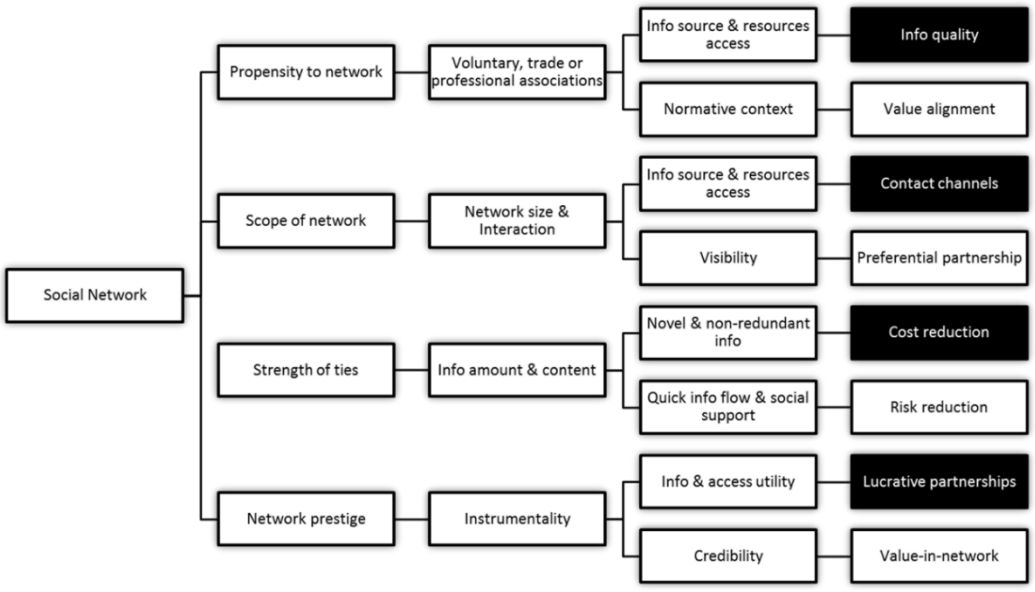
Network scope reflects the focal actor's social capital - an estimate of resources available or accessible to the focal actor. It is measured by the number of people with whom the executives discussed business with, and the time spent to create and maintain the contacts. Network size, frequency of interaction and duration of activity tends to reflect a focal actor's ability to mobilise information and access resources. Focal actors known to have large and diverse social networks are sought after by potential exchange partners seeking access to network resources. A network with members in the same endogenous social position is redundant (Ahuja, 2000).

Strength of ties refers to the nature of contact between focal actors and focal alters. Granovetter (1973) defines strength of ties as a combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterise the tie. It

indicates the amount and content of information associated with the contact. Weak ties are loose networks linking actors to unfamiliar alters. They provide novel and differentiated non-redundant information access. Strong ties are intense and reciprocal relations that require time and energy to create and maintain. They are measured as a product of the duration an actor would have known a contact and frequency of discussing business. Strong ties provide a quick and reliable flow of information and social support which is especially important in reducing the cost of downward risk associated with cooperation when confronted with uncertainty.

Network prestige related to the status of a focal actor's alters to the overall instrumentality of the social capital in a network. Network prestige is estimated as the number of times network members are identified as serving such positions of authority outside network as board members or trustees of firms, non-profit organisation, trade associations or held high positions in lobbyist organisations. Status of members in a focal actor's network increases a network's usefulness with respect to informational and access utility. High status members are seen to be better and effective means of obtaining credible (reliable and predictable) information on lucrative exchange opportunities. Figure 4-10 below condenses the social networks attributes in the study. The extreme right column indicates resources (in black cells) and reciprocity (in clear cells) at the four levels of social interaction.

Figure 4-10: Social Network Attributes that influence inter-firm alliance



Source: BarNir and Smith (2002)

The overall results indicate that an actor's propensity to network appeared to affect the scope of network activity at firm level. An executive's firm was more likely to establish inter-firm alliance as the strength of ties with five alters increased. Executives with strong ties to friends, colleagues or business professionals appeared to have an exceptional advantage that facilitated lucrative

partnerships. Executives were also more willing to commit to create and maintain alliances when resources and overall wealth of high status alliances are available to them. Apart from sharing resources, support alliances involved information risk that information could be accessed by actors before they were supposed to (See also Broekel, 2015 organisational proximity).

Network scope was found to be negatively associated with support alliances, contrary to the expectation that increasing scope of network activity would increase partnership opportunities. The finding was interpreted to be a possible indication that in increasing partnership network quality, that is, content of a network and nature of contacts, was more important that its quantity (scope). Battilana (2006) also reports similar findings on individual and organisational status.

There are a number of studies that have investigated the role of social networks in commercial real estate market activities. Scofield (2011), for instance, explores the cost of intermediation in commercial real estate investment process. He investigates how utilising either market-based or firm-based actors for knowledge acquisition [which he refers to as 'information broking'] relates to cost of intermediation hence liquidity in real estate investment. He adopts institutional and performative theories of economic sociology (See Fligstein and Dauter, 2007) which explore governance and predictability of economic action. His approach to addressing behaviour and social relations in these markets is slightly different from that of relations pursed in this study. The principal focus of the study was how calculative agencies in external brokerage contribute to high transaction costs associated with commercial real estate investments. The study is set on Menger (1871) seminal work emphasising the importance of time and scarcity in the subjectivity of utility and subsequent works highlighting individual human action as the operational centre of market processes. On this premise, Scofield argues that an actor's interest and knowledge of facts and circumstances that contribute to satisfying the interest depend on that specific objective and underlying process. Scofield also refers to Mises (1949) a scholar of the Austrian School of Economics, as maintaining that efficient allocation of scarce resources was only possible through markets in which value and price could be achieved through processes predicted by human action (See also Muniesa et al., 2007 on market devices).

Like Preda (2007), Scofield argues that neo-classical economic premises contain assumptions that do not provide full understanding of investment actions. To address this gap, he reviews behaviour and social relations in commercial real estate markets. He maintains that market structures are determined by a process of capital calculation that employs knowledge gained through human networks. Quantitative models used by real estate investors rely on subjectively selected inputs derived from human action yet have an inherent weakness of modelling it, signifying the challenge in capturing rationalism.

Scofield (2011) extends the argument of human action in economic process to new institutional economics. The structures and processes involved commercial real estate investment generate transaction costs. The systems of exchanging commercial real estate often employ intermediaries with market knowledge which helps offset inherent risks (information asymmetry and opportunism). However, the market comprises brokerage of relations between buyers and sellers which generates high transaction costs related to the high cost of knowledge due to human specificity of brokerage services. The study interprets the explicit costs of intermediation as key to liquidity, and relates them to the price of knowledge procured through individual social networks necessitating the inclusion of third party intermediation on behalf of investors. The cost of securing knowledge, whether through firm- or market-based actors (intra- and inter-organisational proximities in Broekel, 2015), reflects the cost of human actions necessary to acquire "*what they want, when they want* …" citing Key et al. (1998). Using market-based actors incurs observable costs, but firm-based brokerage process could be consistent with social capital network attributes. Scofield highlights that human actors adapt to market realities and variable knowledge costs, which is reflected in individual social capital networks. The study, however, does not extend to how network flows or bonds explain actors' adaption to market realities to sustain performance and behaviour.

Social network analysis has also been employed in investigating global capital flows in business properties. David and Halbert (2014) discuss how investment managers must negotiate integration of new business properties in their portfolios alongside pre-existing actor-networks whose power and autonomy differs across investment destinations in Mexico City. In view of the uncertainty associated with the production of business property, they question whether city-development should be considered as an out-of-place 'global' process driven purely by capital allocation techniques or if globalising financial networks display territorial dimensions when confronted by institutional arrangements and power relations which already exist. They maintain that capital investment techniques (See Keogh and D'Arcy, 1994, Roberts and Henneberry, 2007, and Falkenbach, 2009) should not be considered as the sole force shaping business investment spatialities. Rather, investment managers are confronted with calculative devices that could significantly influence their investment location. These calculative agencies are shaped by increased task divisions among strategic investment actors and non-human decision criteria such as returns and risk targets. However, pre-existing calculative agencies could enable or prevent the development of actor networks in the local or regional market. Transformation of the built environment can therefore be managed and controlled by some form of complex and stable governing coalition which may support calculative agencies. David and Halbert (2014) find clear bias in investment mapping towards peripheral location with less structured political-economic systems compared to central business districts with strong coalitions with high degree of

calculative agencies and autonomy. The abilities of transnational financial investors to maintain their calculative agencies lies in both their careful selection of development projects and their participation in urban coalitions which do not need international capital to support the development agenda of the central business district.

Halbert and Rouanet (2014) use the case of Bangalore, India to explore how transcalar territorial networks (TTN) explain the process that leads to 'fixing' foreign financial capital into business properties which involves filtering away risks which foreign investors associate with local-regional property market complexity. Though foreign capital is seen to contribute to urban infrastructure development, its 'landing' in the local built environment is not smooth. TTN apparently explains how resources from a plot of land to capital allocation in distant investment allocation boardrooms in a given business property are mobilised from multiple sources such as diaspora investments and international financial institutions. It internalises (perceived) risks which foreign investors are incapable or reluctant to hedge and associate with local-regional specificities of property markets. TTN methodology opens the 'black box' of the investment process and enables tracing the money until it is temporarily 'fixed' in a building. The production of commercial property by the territorial network involves not only the material transformation of the built environment, but a negotiation of risks associated with local-regional institutional framings of the real estate industry. Intermediary organisations rooted in local-regional land markets and often external to the investor are therefore necessary to acquire familiarity and penetrate a property project.

Henneberry and Mouzakis (2014) argue that the London commercial property market is dominated by a marked organisation and concentration of institutional investors served by a small number of service providers (See also 5.3.1 on page 124 below). Investment decisions are made by a network of often eight to ten closely connected portfolio managers and investment agents with long established relations (See also Scofield, 2011). Lizieri and Pain (2014) also maintain that real estate markets in global and world cities including London are shaped by concentrations of globally connected international finance centres. Though these networks may have limited geographical reach, the dominate local investment activities and concentrate them among familiar organisations and intermediaries.

These studies by David and Halbert (2014) and Halbert and Rouanet (2014) demonstrate how networks could aggravate as well as how intermediaries mitigate risks associated with local market complexities. Their studies, however, lean towards institutional and performative theories of economic sociology. Though the studies do not explain the nature of relations underpinning actions by various investment process stakeholders, they provide insight to how intermediaries with informal connections ensure the achievement of economic goals.

4.5 COMMERCIAL REAL ESTATE MARKET CHARACTERISTICS WHICH RENDER SOCIAL NETWORKS RELEVANT

Real estate markets are characterised as spatially dispersed markets comprising thinly traded heterogenous assets bearing large and costly downside risk associated with asset and exchange partner uncertainty. Furthermore, the privacy of market information resulting from the absence of centralised trading renders the necessity of intermediaries in real estate markets to broker risk associated with information asymmetry. As Yinger (1981) states, real estate brokers are uncertain about the market size a listing would attract in each marketing period. Brokers are also uncertain of finding matching buyers because of the many distinguishing attributes of assets and potential buyers. These real estate markets characteristics justify consideration for the application of social networks approaches to resolve uncertainty. The exploration of social relations in commercial real estate transactions is motivated by the potential of social interaction to reduce information asymmetry and opportunism.

Gotham (2006) points out that creating liquidity out of spatially fixity with varying specific market knowledge and familiarity is a problem of creating shared agreements and social relations that allow economic exchange. Hence, understanding the processes which create global capital flows and networks of activity is fundamental to explaining the processes through which market actors comprehend value and risk, interpret the behaviour of buyers and sellers and act to control situations thereby creating liquidity in real estate markets. The study, however, directs attention to how legal and institutional frameworks shape engender liquidity. McAllister et al. (2008) stress the potential opportunistic behaviour when agents develop personal relations and trust to generate repeat business or maintain reputation with a less informed client.

Fixed-sample size sampling tends to be used when the search problem is to establish the optimal amount of search when search costs equated to marginal savings in a search period. Search costs would be determined by the cost per search and the proportion of sellers in a [geographically-defined] population. Sample size matters for this search hence the expectation is that a searcher (vendor) is likely to be inclined to cultivating structural holes. Fixed-sample size sampling tends to be the default search strategy in residential markets, typified by low unit asset values and large unknown potential buyers compared to other real estate markets. Though fixed-sample size sampling tends to emphasise sample size, its relevancy to social network approach is the unconnectedness of the sample. The effect of sample size on reducing price dispersion is synonymous to the range effect on reducing information asymmetry in social network approaches by cultivating structural holes symbolic of search embeddedness and a flow network model.

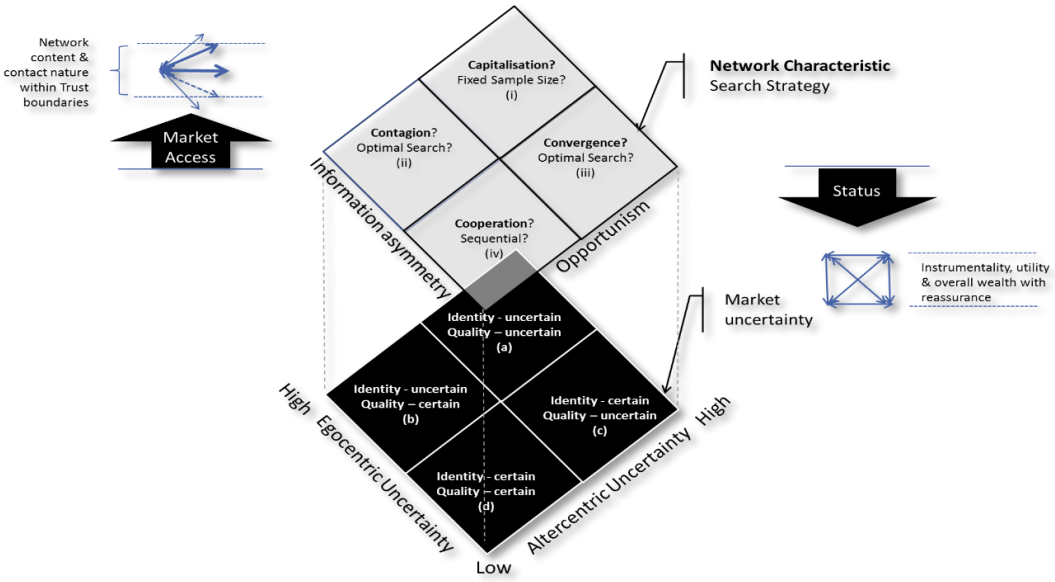
Sequential sampling tends to be applied when a searcher expects to draw a utility maximising samples from an unknown distribution of likely outcomes. In principle, sequential sampling is

random, and the distribution is adaptive, but search can be perpetual. When applied to social networks, sequential sampling is non-random and relies on strength of ties for non-perpetual observations that would reduce search costs. Using strength of ties – leverage – to access information requires an actor to demonstrate conformity to expected network behaviour. Hence, sequential sampling is relevant to high-status networks where reliability and predictability is ensured by internalisation, indicative of within-network search and a collaborative network model. It tends to be appropriate for prime real estate markets.

Optimal sampling applies both search embeddedness and within-network search hence combines both flow and collaborative network models. It aims at reducing search costs by using search embeddedness to reduce information asymmetry and within-network search to prevent perpetual search by ensuring predictability of potential buyers. A searcher therefore interacts to gain inside information from wider network clusters by enhancing prominence and demonstrate behaviour.

Drawing from the reviewed literature, the understanding of how social relations probably resolve uncertainty in commercial real estate transaction is presented in Figure 4-11 below. This conceptual perspective on the place of social networks in commercial real estate transactions helps to focus the analysis of data and develop the relevant vocabulary for inference of emerging findings (See Gopaldas, 2016).

Figure 4-11: Social network solvents in commercial real estate markets



Source: Author illustration, 2015

The base layer outlines market uncertainty describing how the combination levels of egocentric and altercentric uncertainty represents uncertainty regarding identity and quality. The top layer indicates network characteristics and associated search strategies. The actor social relations are indicated in **bold**, and potential search strategies are shown in regular font. The top layer indicates

how levels of information asymmetry and possible opportunism are associated with search strategies. The emerging network quadrants are explained below.

Quadrant (i) Capitalisation networks

This quadrant represents a sphere of high egocentric and altercentric actors seeking to enhance performance by cultivating structural holes. Ego and alter actors are highly unconnected hence likely to provide non-redundant market information. However, the identity and quality of traded asset and focal actor are uncertain. The focal actor is aims at ensuring transaction success, but is confronted with high information asymmetry, and focal alters' perception of opportunism is high (a). The preferred search strategy is to exploit structural holes through fixed-sample size sampling (i) such as multiple listing services or on-site advertising. The search strategy reduces market uncertainty by minimising information dispersion through large-size sampling, but it is associated with high search costs. Capitalisation networks can typically be identified with residential markets (See Allen et al., 2015) and peripheral commercial markets (See David and Halbert, 2014)

Quadrant (ii) Contagion networks

The purpose of contagion networks is to use focal actor's affiliations to indicate potential behaviour. This network type is characterised by high egocentric uncertainty and low altercentric uncertainty. The identities of the trading asset and focal actor are uncertain, but quality is certain. Focal actor's information asymmetry is high, but focal alters' opportunism perception is low. Focal actor's purpose for networking is to demonstrate competence though affiliation to professional bodies with prescribed codes of conduct which would lead to visibility for preferential treatment. Affiliation to regulated professional bodies symbolises an actor's assurance of proper conduct and behaviour in the provision of services. Membership, for instance to the RICS, indicates an actor's adherence to practices that adequately minimise conflict of interest and ensure providing intermediation and advisory services in the best interest of the client (RICS UK, 2017). Focal actor's search strategy is optimal search through endogenous social equivalents. David and Halbert (2014) state that transnational financial investors associated with existing professional bodies and participated in business property focused meetings to succeed in incorporating new buildings in those locations into their portfolios. Crowston et al. (2015) also find association between broker ties with other professionals in the industry and success in transaction closing.

Quadrant (c) Convergence networks

Convergent networks tend to be driven by informed clients. As McAllister et al. (2008) state, informed clients reduce the potential for opportunism. Convergence networks are associated with

low egocentric uncertainty, but high altercentric uncertainty. Clients have high uncertainty about the behaviour of the focal actor (vendor or his/her broker), though the identity of asset and focal actor is certain. The focal actor's information asymmetry is low, but focal alters' perception of opportunism is high. The purpose of the network is to access novel and non-redundant information to reduce costs and facilitate quick information flow for risk reduction. Hence, the focal actor exploits exogenous social position which demonstrate observation of tacit norms and use optimal search to avail exchange opportunities to clients for whom their requirements would have been established through novel channels. Halbert and Rouanet (2014) and David and Halbert (2014) show how local-regional coalitions control access to information and participation in urban built environment investments in locations with strong political-economic coalitions.

Quadrant (d) Cooperation networks

Cooperation networks have low egocentric and altercentric uncertainty because of the bond-effect on information access and exchange. Identity and quality of asset and focal actor are certain. Both focal actor's information asymmetry and focal alters' opportunism perception are low. Focal actor's network purpose is to be instrumental by contributing strategic information for lucrative partnership and earn credibility of adding value to the network. Focal actor's search strategy sequential search influenced by market status. David and Halbert (2014) maintain that the stronger the governing coalitions, the higher the degree of calculative power and autonomy hence the less relevant 'external' capital becomes.

4.6 SUMMARY

This chapter explored how networks could be associated with search strategy choices to better understand how private information exchange could be associated with search duration. The chapter reviewed the nature of networks, when networks mattered, and how social network approaches resolved market uncertainty. Empirical studies on social networks were reviewed, and real estate characteristics that made social network approaches relevant to real estate markets were highlighted. The review indicated that though numerous in types, networks could be identified in categories of companionship, emotional and economic exchange. The latter was relevant to this study. Networks could also be identified by network model – network flows as channels, and network coordination as prisms. They could also be identified by research tradition – social capital relating to performance, and social homogeneity relating to behaviour. The chapter further established that social networks were relevant in economic exchange where information was important but problematic such as in real estate markets. Further review of social networks in economic exchange like business alliances and real estate markets identified propensity to network, network scope, strength of ties and network prestige as crucial attributes of addressing information asymmetry and potential opportunism. The chapter ended with

presenting a conceptual understanding of how social networks through network flows or collaboration resolved uncertainty regarding information asymmetry and opportunism demonstrated by shifts between propensity to network and attaining network prestige. This understanding seems to reveal potential contingencies to searching that could explain the effort required to acquire information, which is search intensity. This framework provides sufficient ground for research design aimed at understanding the contingencies to a search process in commercial real estate markets.

CHAPTER 5: RESEARCH DESIGN

5. INTRODUCTION

The previous chapters developed a conceptual framework for understanding the operational nature of real estate markets. Chapter 2 established that unique real estate market characteristics constrained efficient information flow, and that the information approach to understanding real estate market liquidity failed to capture the operational nature of the market. Hence, research on real estate liquidity has focused on time-based liquidity. Chapter 3 explored search concepts to understand how search is conducted since it contributes to time on market. It identified three search approaches, fixed-sample size, sequential and optimal sampling which were recognised by their search problems, sampling rules and searching (stopping) rules. Real estate studies on time on market, however, inclined towards analysing the output rather than the process. These studies, nevertheless, highlight that engaging brokers significantly reduced search duration and it did not so much affect the achieved price.

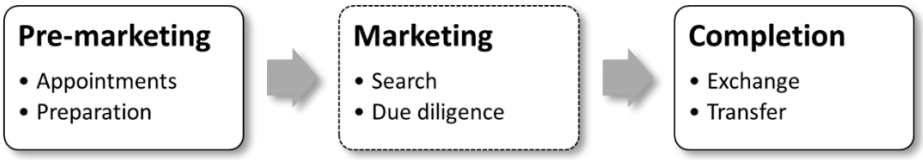
Chapter 4 was then directed at social network approaches to establish a possible explanation of the association between broker interaction and the private nature of real estate information. It was established that social networks were relevant in transactions where information on the identity and quality of trading assets and transaction partners was important, but problematic. Social networks were relied upon in the absence of market mechanisms to resolve information asymmetry and address opportunism. Networks provided differentiated access to information shaping performance and behaviour which could be associated with search choices. Building on this foundation, this chapter develops a research framework for exploring the ebbs and flows of private information in the search process of commercial office sale transactions to understand the operational nature of real estate markets. The chapter comprises nine sections including a recital of research goals, concept development, research design, data collection, data preparation, data analysis, validity threats, reflexivity, and research ethics.

5.1 RESEARCH GOAL

This research investigates how social interaction is associated with search strategies in commercial real estate sale transactions and hence liquidity in the Johannesburg and London office markets. Drawing on Chapter 2 (See 2.2.2i above), a typical commercial real estate sale transaction process comprises three main phases shown in Figure 5-1. The phase of interest to this research is the marketing stage where sellers engage in search for buyers to dispose of assets. The impact of brokers in this stage is of particular interest. Involving brokers in sale transactions increases search intensity as brokers are assumed to have better access to market information and exposure to potential counterparties. Brokers influence search duration by altering offer arrivals,

search costs, and price dispersion, but their performance would be influenced by social network factors.

Figure 5-1: Typical Commercial Real Estate Transaction Process



Source: McNamara (1998), Crosby and McAllister (2004)

CONCEPT DEVELOPMENT

Babbie (2013) citing Kaplan (1964) identifies three things that researchers measure as constructs (things that cannot be observed directly or indirectly) like vision or sexuality, indirect observables (variables) such as colour or gender, and direct observables (attributes) such as red or female. Cameron (1963), is notably quoted for the stating that, "*not everything that can be counted counts; not everything that counts can be counted.*" Constructs are [individual] creations of mental images (perceptions) from observations that cannot be communicated directly. They are not real in form of direct or indirect observables, but in usefulness in organising, communicating and understanding things that are observable. Concepts are constructs mutually agreed to have specific meaning of observations.

There are two fundamental concepts to this research, namely real estate market liquidity, and social network. Real estate market liquidity is a concept insofar as its meaning is mutually agreed to be that of the ease with which real estate assets can be exchanged for a consideration. It does not exist in direct observable form, but there are indicators that are mutually agreed to point at the various dimensions through which it is understood. The dimension of real estate liquidity investigated in this research is time on market indicated by duration an asset remains on the market before it is sold. Across-search cost is the duration of search required to achieve an optimal sample that minimises the dispersion of offer prices.

Intermediaries are used in commercial real estate sale transactions because of their low information and search costs in buyer-seller matching (Micelli et al., 2000). The fiduciary duty of an intermediary is to act in the best interest of the principal. However, engaging intermediaries creates an agency problem of the misaligning of broker incentives to minimise search costs and/or maximise remuneration through adverse selection and/or moral hazard (Gallimore et al., 2006, Brastow and Waller, 2013). However, brokers seem to be restrained from opportunistic behaviour by prospects for long-term business and social relations (McAllister et al. 2008). Therefore, search is underlain by psychic costs, which are perceptions of the comparison of the informational demands to the searcher and the ability to cope with the demands. Psychic cost,

also referred to as a within-search cost, is the searcher's equivalent of the stress involved in searching for a counterparty. Elder et al. (1999)'s reference of within-search cost to be out-of-pocket cost implicitly suggests it to be the searcher's monetary-equivalent of the effort to overcome information asymmetry. There is no established evidence of whether out-of-pocket costs are accurately equivalent in monetary terms to Morgan and Manning (1985) psychic cost which is the searcher's equivalent of stress, but an understanding that they both represent the effort to identify a potential counterparty is plausible. Cox and Mackay (1976) define [sociological] stress as a perceptual phenomenon arising from a comparison between the demand on the person and his ability to cope. Crane (2009) describes perception as selective judgment of objects, properties or events shaped by "*a set of ways of filling out the space around the perceiver consistent with the correctness of the experience*" pp 465, 468. Aneshensel (1992) claims that stress emanates from discrepancies between conditions and characteristics of an individual in terms of needs, values, perceptions, resources and skills. Using Cox and Mackay (1976)'s demand-ability balance perception as informing stress, we can relate Morgan and Manning (1985) psychic cost to Elder et al. (1999)'s within-search cost to understand how brokers perceive search costs with respect to information asymmetry and potential opportunistic behaviour.

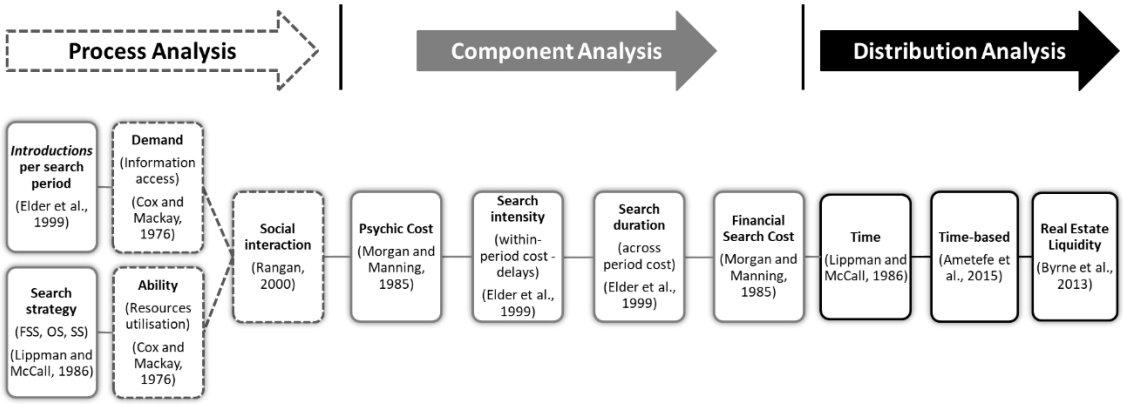
Social networks, according to Rangan (2000) and Podolny (2001), are relevant to resolve uncertainty when information is problematic, but important. Search in real estate markets requires access to privately-held scarce information on heterogeneous assets in spatially dispersed markets. A searcher is likely to have two key concerns: the distribution of current and potential contacts for each transaction opportunity, and secondly, the likely duration of search to find a potential transaction partner. In the absence of publicly information, a searcher's perception of the balance between the demands of accessing privately-held market information and his/her ability to execute the instructions within the minimum expected turnaround time could then be explained by the nature of his/her social network proximities with respect to the transaction. This perception of the demands of the task and abilities required has a real effect on how an actor adopts a search strategy that he/she believes to be an optimal policy in the interest of the client.

5.1.1 Conceptualisation

Concepts, as stated before, are mutually agreed meanings assigned to terms or phenomena. Conceptualisation is the process of clarifying and specifying what a concept means and how it is measured for the purpose of the research. It outlines definition, indicators and dimensions by which mutually agreement of mental images is achieved. Conceptualisation links constructs to indirect and/or direct observables of phenomena ensuring that measurements of concepts are valid or are as close as possible to the real world (Babbie, 2013).

Studies on real estate market liquidity, as discussed in earlier chapters, have concentrated for the most part on distribution analysis of time on market and much of this work has been for residential rather than commercial real estate markets. A number of studies have extended to investigating the components of real estate market liquidity. The area that has not been well researched is on how social interaction is associated with observed search intensity. Real estate market liquidity is conceptualised for this research as shown in Figure 5-2 below.

Figure 5-2: Conceptualisation of time-based real estate market liquidity



Source: Author 2015

Search duration is the period of marketing an opportunity. It spans between instruction to sell and the identification of a counterparty with whom heads of terms will be negotiated (Baryla and Zumpano, 1995, Ametefe et al., 2015). The duration is affected by search intensity, and search intensity is influenced by within-search costs, that is, the time-cost of delays in obtaining information. A searcher's perception of within-search costs is likely to influence how he/she shapes the search problem for a given assignment. In turn, the way the search problem is shaped informs choices of search strategy believed to achieve an expected incidence rate – the number of introductions per search period likely to result in a sale.

Time-based real estate market liquidity is perceived to take account of the operational nature of market (Byrne et al., 2013, Keogh and D'Arcy, 1999). The vendor is assumed to follow an optimal marketing policy, which minimises search costs (Lippman and McCall, 1986). The identified search strategies (optimal search policies) are fixed-sample (Stigler, 1961), sequential search (Kohn and Shavell, 1974) and optimal search (Morgan and Manning, 1985). Market liquidity is thus indicated by the distribution of search durations assuming search follows an optimal marketing policy.

Search duration and search intensity (Morgan and Manning, 1985, Elder et al., 1999) are two dimensions of search cost. Though search cost is essentially an aspect of transaction costs, its components are fundamental to time-based real estate market liquidity. Search duration has a

start and end points, time scale (days, weeks or months), and definition of an event ending a duration. Search intensity is the rate of offer arrivals per search period (Kiefer, 1988). It is linked to perception of potential delays in acquiring information necessary to identify a counterparty (Elder et al., 1999, Morgan and Manning, 1985, Lin and Vandell, 2007). These indicators of both search duration and search intensity explain outputs of search processes. This identification of components of time on market does not explain how the outputs came about, despite the claim that it takes account of the operational nature of real estate markets. Outputs, though indicating durations resolving market uncertainty, do not show the 'channels and prisms' associated with search friction associated with the duration.

Social networks for economic exchange support temporal and dynamic social interactions between actors exchanging information about transaction opportunities for economic goods or services (Plickert et al., 2007). A social network is identified by the proximities (Broekel, 2015) between potential counterparties and a searcher, and between each other. Structural holes describe how potential counterparties connected to a searcher are themselves unconnected (Ahuja, 2000, Borgatti et al., 2009). Structural holes are relevant when a searcher has high within-search costs, and the search problem is to reduce information asymmetry. Proximity to counterparties is associated with quality and propinquity of information exchange. Though highly uncertain of search duration, a searcher with low within-search cost could use their network status to sequentially search until a maximum offer is achieved. A searcher using an optimal search strategy blends benefits of information diversity and proximity to information sources to achieve a market value with less uncertainty about time required.

Social networks being channels and constraints of information exchange are claimed to resolve such uncertainties through 'cultivating' structural holes or using social position in a network (Rangan, 2000). The perceived imbalance between demand and ability could shape a searcher's uncertainty about exchange opportunities (egocentric uncertainty), and influence choices of search strategies to enhances transaction likelihood. Table 5-1 below outlines a simplified form of how social networks could influence real estate market liquidity.

Table 5-1: Conceptualisation of a social networks approach to real estate liquidity

Concept	Dimension	Sub-dimensions	Output Indicator	Process Indicators
Real estate liquidity	Time on market	Search duration	Days of searching	Demand perception
		Search intensity	Introductions per search period	Ability perception
Social network	Economic exchange	Network flows	Social capital	Structural holes Value alignment
		Network collaboration	Social homogeneity	Market status Behaviour predictability

Source: Author 2015

Since information in real estate markets tends to be privately held, a real estate sales transaction is explained by its actors' network properties comprising egocentric and altercentric uncertainty, viz-à-viz information asymmetry and potential opportunism.

5.1.2 Research Question

Given the premise that engaging brokers reduces search duration, the research question is generated around the broker role in the search process and stated as follows:

> *How is egocentric uncertainty associated with search in commercial investment real estate markets of Johannesburg, South Africa and London, UK*?

Sub-questions

- *How do commercial real estate brokers perceive uncertainty in transaction opportunities?*
- *How do commercial real estate brokers resolve uncertainty in transaction opportunities?*
- *How are uncertainties to transactions associated with the way brokers search in investment office sales markets?*

5.1.3 Operationalisation

This study assesses actor perceptions of the demands of a search task and their ability to execute the task in commercial office sales transactions to establish how close the conceptualisation in 5.1.1 above on page 106 holds about the reality of real estate market liquidity to counterparties. Corbin and Strauss (1990) stress the importance of building in change of conditions by integrating process as a component in a method of investigating phenomena that involve interaction and practical actions. The perceptions sought are how actors' views of the array of and proximity to counterparties affect their uncertainty about the required time to conclude a transaction. This operationalisation is expected to explain how indicators of social network in economic exchange (See Table 5-1 above) are associated with anticipated within-search cost. This research concentrates on demand and ability perception attributes associated with a searcher's perception of market information asymmetry and potential opportunism in the process of executing a sale transaction. These perception attributes seem to be the link between social network dynamics and real estate market liquidity which could explain the operational nature of real estate markets.

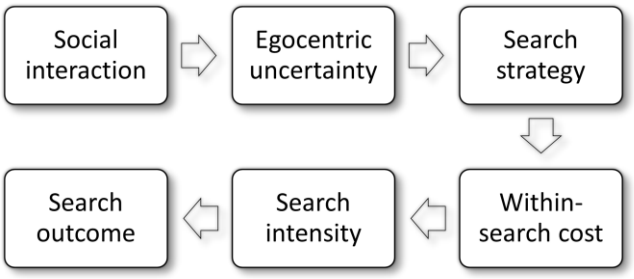
5.2 RESEARCH DESIGN

The research design is driven by the nature of the investigated issue. Neither quantitative nor qualitative approaches exhaustively explain the nature of reality. Each approach addresses different aspects of reality and has its own strengths and weaknesses. Quantitative approaches are relevant to understanding natural reality which is static and deterministic. Qualitative approaches best capture social reality, which is contextual to individuals' lived worlds. Maxwell

(2012) emphasises that research design should be guided by whether the research issue is to understand variation or processes in what is going on.

Thus, this research explores how searchers perceive information demands and ability to undertake sale instructions, make sense of market information asymmetry and potential opportunism, and take practical actions to identity a potential exchange opportunity in order to logically explain how search for commercial real estate assets on the market is conducted as shown in Figure 5-3 below.

Figure 5-3: Potential link of social interaction to search duration



Source: Author 2015

5.2.1 Research Orientation

The research question guides the approach by which we can explore how a searcher would choose a search strategy in view of a perceived context of expectation and ability to identify a potential counterparty with whom heads of terms to an exchange opportunity could be negotiated. This study adopts a qualitative approach. A qualitative approach is relevant to studies of social relations when a researcher must explore the defining process or develop sufficient appreciation of the process to understand behaviour (Maxwell, 2012) hence appropriate for this research. Berg and Berg (2001) state that qualitative research is appropriate when researcher explores in detail the social contours (definitions and meanings) and processes people use to structure and give meaning to their daily lives (see also Denzin and Lincoln, 2011). Flick (2014) also maintains that qualitative research is appropriate when we need to sensitise concepts for exploring and understanding this life-world and the individual biographical processes that have led to the current situation of the participant.

Qualitative research is driven by process theory to understand the process by which events and actions take place (Maxwell, 2012) with elements of social life such as practices, episodes, encounters, roles, relationships, groups, organisations, settlements, social worlds, lifestyles or subcultures (Lofland and Lofland, 2006). Corbin and Strauss (1990) emphasise two principles about qualitative research, which are upholding change, and rejecting determinism. Phenomena are continuously changing in response to prevailing condition. Actors are seen to have means of controlling their destinies by their responses to changing conditions. The purpose of seeking to

understand these processes is to integrate the broader conditions of change into theory. The research orientation suitable for this study is therefore proscribed induction. The theoretical frameworks that inform the research include search theory and social network concepts. Both focus on processes through which individuals make sense of dynamic task demands and abilities situated in specific transaction contexts.

5.2.2 Research Paradigm

Researchers make claims about what knowledge is, how we [can] know it, values that go in it, how we write about it, and the process for studying it (Creswell 1994, 2003). Research paradigms are a set of a researcher's beliefs about ontology, epistemology, and methodology (Denzin and Lincoln, 2011, Guba and Lincoln, 1994). They are, "*a loose collection of logically held together assumptions, concepts, and propositions that orientates thinking and research*" (Krauss, 2005). The choice of research paradigm is guided by basic assumptions a researcher holds about reality and how we can understand the things we study (Maxwell, 2012). Guba and Lincoln (1994) suggest that when considering a research design, a researcher needs to address three core questions: what the knowledge claim is, strategies of inquiry, and methods of data collection and analysis.

i. Ontological question

The ontological questions address the nature of reality of what is to be understood. Ontology is the study of the nature of existence and what constitutes reality. Natural life and social life are different and require different approaches to understanding reality about them (Gray, 2013). Natural reality is understanding reality as a given that is knowable (realism). Social reality takes reality as contextual to an individual's lived world (normative). Morgan and Smircich (1980) identify three broad categories of each.

Within it the natural reality sphere, reality can be understood as a concrete structure with determinate relationships between components, an evolving process with determinate casual relationships between constituents, or a field of ever-changing form and activity based on transmission of information. Social reality can be understood as projection of individual creative imagination, a continuous process of changing social interaction, or symbolic discourse in which relationships and meanings are sustained through human action and interaction. The choice of what may be perceived as an optimal marketing search strategy which minimises search costs is not deterministic. Rather, it is an outcome of changing social interaction in which interaction to exploit opportunities for asset acquisition, disposal and intermediation services searchers is shaped by perceived information disparities and searcher proximities to information sources.

The ontology that appears most appropriate for the research question is one where reality is understood as a social construction. Guba and Lincoln (1994) provide an elaborate explanation

of the nature of reality that best captures actor perception. Social reality is a social construct in which the social world is a continuous process created afresh in each encounter. It is a symbolic construction which individuals impose on their world to establish mutual agreement of meaning through labels, actions and routine that may result in shared but multiple realities confined only to those moments in which they are actively constructed and sustained.

ii. Epistemological question

Gray (2013) broadly defines epistemology as, "*a branch of philosophy that considers the criteria for determining what constitutes and what does not constitute valid knowledge*." Trochim (2000) describes it as a philosophy of knowledge, that is, how we come to know. Maynard (1994) emphasises that epistemology provides a philosophical foundation for deciding the possible kinds of knowledge and how we can ensure they are both adequate and legitimate. Epistemology is a researcher's critical attitude of how realty is known. It may at this point be important to talk a bit about 'philosophy' to establish the choice freedom on research approaches. Priest (2006) mentions that philosophy does not have a definition as attempting to do so is persuading other researchers to believe in some language game or rules of writing style. Rather, philosophy is creating a system of thought about being sensibly critical and challenging taken-for-granted norms. Criticism is sensible when a researcher can isolate contradictions in a logical theory or paraconsistent logic to points of singularity and possibly develop an alternative view. Priest argues that there is no way one can isolate philosophy as occupying a distinctive place in culture or being concerned with a distinctive subject or proceeding by some distinctive methods. He warns that:

> "*The philosophers' own scholastic little definitions of 'philosophy' are mere polemical devices—intended to exclude from the field of honour those whose pedigrees are unfamiliar*" pp. 198

This statement underscores the importance of basing the choice of epistemology on the nature of reality and not on the researcher's preferred ontological belief. Since reality is understood to be socially constructed by the perceiver, the fitting epistemology is constructivism. Assumptions are that human beings create realities to make the world intelligible to themselves and to others. Individuals may work together to create a shared reality which is a subjective construction typically created through interaction, but capable of disappearing as soon as its members cease to sustain it as such (Morgan and Smircich, 1980). They (individuals) can construct meaning of a situation by interacting with others. The researcher interprets the '*processes'* of interaction among individuals to generate or develop theory (Creswell, 2003, Maxwell, 2012). Hence, the theoretical perspective adopted is interpretivism. Interpretivism argues that the researcher needs to understand the differences between human beings in our roles as social agents which we

interpret according to the meaning we give to these roles and interpret the roles of others according to our set of meanings (Saunders et al., 2009).

iii. Methodological question

Ontological and epistemological questions are philosophical questions about the researcher's belief of the nature of reality of what is going on and how it can be known. Methodological question is about how a researcher answers the research question. It is a strategy or plan of action that shapes the choice and use of particular method and link them to outcomes (Creswell, 2003, Crotty, 1998). Methodology provides theory and analysis of the research process (Maynard, 1994) guided by the adopted epistemology and ontology (Gray, 2013).

Morgan and Smircich (1980) identify ethnomethodology (EM) as an appropriate strategy for investigating socially constructed processes. The researcher's interest is in the methods used by individuals in everyday life to create subjectively an agreed or negotiated social order. de Montigny (2007) citing Lemert (2002) expresses ethnomethodology as a methodology that:

> *"... imposes the obligation to study the utterly practical methods notorious ordinary people compose the rational grounds of their social order ... What matters is what 'ordinary people' do as co-ordinated sequence of action for producing sensible and accountable everyday realities*" pp. 97

Lynch (2001) simply condenses ethnomethodology as a study of practical action and practical reasoning.

Background of ethnomethodology

Ethnomethodology has its roots in phenomenology and ethnography. In phenomenology, the researcher explains social reality based on description by subjects of their lived experiences but does not extend to establish how the description makes sense to the subjects. It is an exploration of prevailing cultural understanding through human experiences uninfluenced by the researcher's preconceptions. Ethnography focuses on discovering the relationship between culture and behaviour. Ethnomethodology is a research tradition that argues that people continually redefine themselves through their interactions with others. It interrogates how realities in everyday life are accomplished. By carefully observing and analysing processes used in actor's actions, researchers could uncover the processes by which these actors constantly interpret social reality (Gray, 2013). Order – which ideally refers to '*meaning'* – of such social activity is largely temporal (Rawls, 2008).

EM was developed by Harold Garfinkel through his publications between 1940 and 1967 (Rawls, 2008, Atkinson, 1988). Garfinkel devised the term '*ethnomethodology'* while writing up jury material and working on the Yale Human Relations files, an ethnographic database, when he came across terms like ethnobotany, ethnophysiology and ethnophysics. He had been involved

in analysing tape recordings and interviewing jurors from the American Juror Project. He noted that jurors were making inferences about who did what, when, and to whom, and who was at fault thereby deciding guilt and innocence or rendering other consequential verdicts. That was it! "*Ethnomethodology*" was to be the term applied to jury members' folk [*ethno*] ways of addressing methodological matters [*methodology*] for deciding, in a given legal case, between fact and fancy, what actually happened and what appeared to have occurred, lies and truth, credible and not credible statements and stories, and the like (see Silverman, 1993). In his early studies that he referred to as 'breaching experiments', Garfinkel reversed sociological preoccupations [which could be phenomenological or ethnographic] with factors that contributed to social stability [sustenance of interaction]. He demonstrated that disruptive events were themselves revelatory of ordinary practices through which social stability was achieved (Maynard, 2012).

Garfinkel extended ethnomethodology beyond breach experiments to studies of workplace. His view was that work was like other social processes. The methods essential to work would be found in details of attention to properties of work, and not in abstract formulation of work (Rawls, 2008). He introduced radical approach to studies of work activities that incorporated content of work practices and not just aspects of work processes (steps, stages, phases) – he called *Lebenswelt Pairs* (Life world pairs – Google Translate). He used a video recording of a student typing while sustaining a running commentary as she typed. The video showed mistakes, erasures and changes in direction of ongoing passages. Relating the lived world pair to the video, he identified the components of the pair as the formal document (typed script), and the lived work of the unfolding composition actions documented on the video. He argued that the components of the pair were 'asymmetrical alternatives'

> "*One could derive from the video how the final text was composed in a continuous unfolding series of actions, but one could not read the final script in isolation and recover the lived world except through the partial and fallible inferential process of reading the signs on the page*." Lynch (2012) pp. 116

Garfinkel felt there was always 'something more' to methodological practices than could be provided by highly detailed instructions, formal guidelines or accounts of inquiry. The 'something more' would include routine practices in a situated work action (Maynard, 2012). Ethnomethodology does not claim to be an alternative to formal analysis. It is grounded practice that makes it possible to investigate how members of any grouping achieve, as practical, concerted behaviours, the sense of formal truth and objectivity as in this sense is necessarily embedded in their everyday casual and work lives (Ten Have and Psathas, 1995). Its interest is to penetrate normal situation and uncover how taken-for-granted rules that can be challenged by disruption of a person's conception of normal, or real (lived or work) life (Denzin, 1969, 2005)

Contemporary ethnomethodology

Contemporary ethnomethodology (CEM) is re-orienting the understanding of 'sequential order' from '*meaning of moment-by-moment action or interaction*' to '*activity'*. Atkinson (1988) asserts that findings of ethnomethodology have contributed directly to our understanding of organisations, diagnoses and assessments, social production of 'facts' and the construction of written and spoken accounts. Sequential order properties can be studied in their detail as order that workers have to go on and not as generalised routines, or habits. Individuals working together to create a shared reality (outcome) are seen as capable of deploying just the right routine at just the right time and they know when and what is not challenging. CEM preserves the contingencies of the local production of routines by treating these contingencies as essential and not merely the routines and habits an observer might see 'residuals' from routines workers go through doing their work.

As noted earlier, the assumption about human nature in social constructivism is that humans create their realities in the most fundamental way in attempting to make the world intelligible to themselves and others through interaction (Morgan and Smircich, 1980). Interaction is sustainable viz-à-viz the concept of mutual intelligibility when action and actors are 'situated'. Situated actors constitute a group only when, and for as long as, the sequential character of the interaction they are currently engaged in requires of them a collective mutual commitment to the constitutive properties of the situation (See also Atkinson, 1988). A group is sustained – for the moment – by the commitment of its members to the same constitutive expectation – at the moment. Participants may later join other situations and the sequential order they build together with which to mutually orient objects will be different.

Ethnomethodology has been applied in various fields of research involves interaction within ordered process such as education (Davidson, 2012), management (Plane, 2000), and health studies (Bowers, 1992) to mention some. Maynard and Clayman (1991) sum the diversity of ethnomethodology domain as areas of research 'where remedies to the troubles of peoples' experiences may be sought or offered'. These fields, as it may be noted, tend to have bounded processes for achieving tasks. Within these processes, there are actors '*with*' competences required to accomplish tasks. Researchers use ethnomethodology as a strategy to learn how actors identify their own competences and challenges, deploy resources and sustain action groups to accomplish everyday activities.

Commercial real estate sale transaction is a temporal activity. Transactions are situated in the moment where the composition of buyer-seller-broker team and trading asset is temporal. Interaction is necessary just to get the work done and achieve a temporal mutual goal of exchanging the traded asset. This is what Plickert et al. (2007) refer to as social interaction for

economic exchange. It begins with a shared reality that counterparties have capacity to transact in the exchange opportunity. This is followed by coherence of action to agree to negotiate heads of terms, and thereafter fulfil statutory requirements for exchange of the trading asset. Interaction is sustained for as long as the constitutive expectancies used to make it are maintained. Once the moneys are exchanged and assets transferred to the new owner, the team disbands. Sequential order properties of real estate sale transactions are pre-marketing, marketing, due-diligence, exchange, and closing. Marketing, which is the subject of this research, is the phase in which vendors or their brokers, presumably following an optimal search policy, seek to be preferred (identified actors) by potential buyers to negotiate a transaction opportunity on a traded asset (mutual object). Vendor-side actors could have an array of strategies anything from professional membership to closed members' clubs to be identified with the values that such membership demonstrate trustworthiness.

Duration of marketing (search duration) contributes to the asset's time on market, and overall perception of market liquidity. However, there are practicalities which influence how vendors secure potential counterparties cannot be captured in the observed search duration except through an inferential process of reading the 'signs' of disruptions to the search process.

Ethnomethodology has not been applied in mainstream real estate studies, but it is a plausible methodology to capture the operational nature of real estate markets and so better understand time-based real estate market liquidity. Table 5-2 below is a simplified demonstration of how the concept of social interaction approach to real estate liquidity is integrated with ethnomethodology.

Table 5-2: Integrating social interaction approach to real estate market liquidity with ethnomethodology

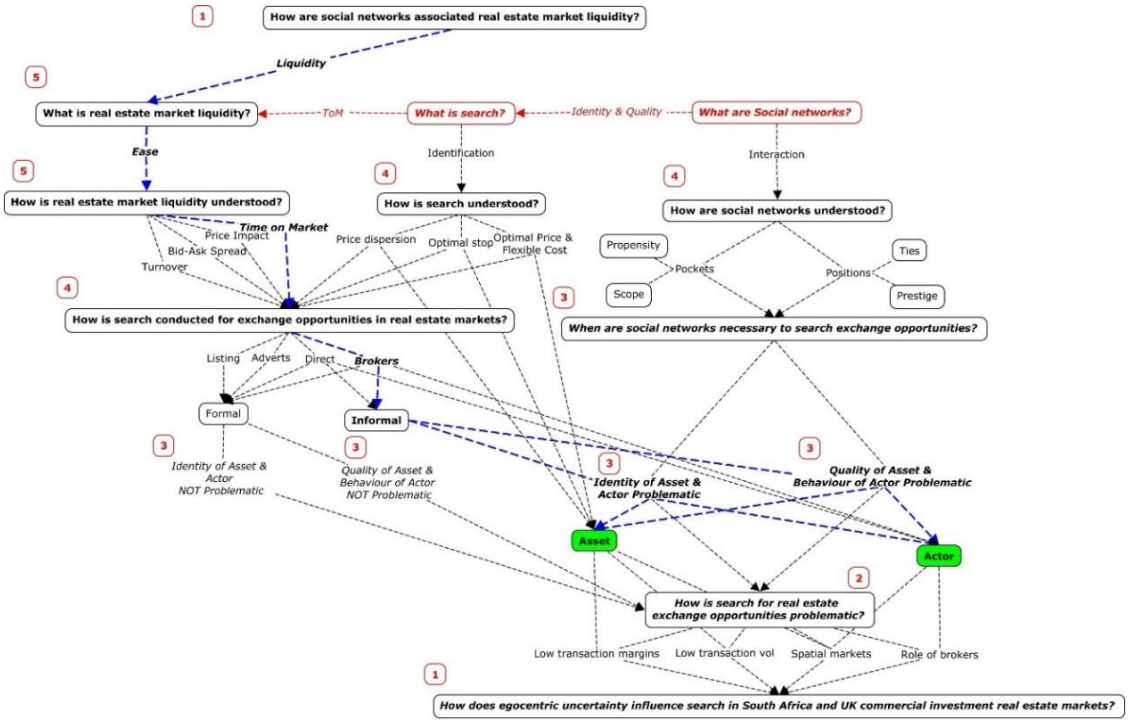
<table>
<tr><td rowspan="2">Concepts</td><td>Time on Market</td><td>Pre-market</td><td colspan="2">Marketing</td><td>Post-market</td></tr>
<tr><td>Social networks approach</td><td>Uncertainty</td><td>Actor</td><td>Asset</td><td>Resolution</td></tr>
<tr><td>Constitutive expectancy</td><td>Ethnomethodology</td><td>Shared reality</td><td>Identified actor</td><td>Mutual object</td><td rowspan="2">Group cessation</td></tr>
<tr><td colspan="2">Coherence of actions</td></tr>
</table>

Source: Author 2015

To address the research question, which is, *how egocentric uncertainty is associated with the search in the commercial investment real estate markets in Johannesburg, South Africa and London, UK*, the research collects and analyses data on how actors know when a transaction is (not) problematic, and how they deploy just the right routine at just the right time. Figure 5-4 below shows how thematic questions are generated from the conceptualisation expected to indicate how a vendor/broker makes sense of transaction situations and deploys, at the right time,

the right resources to secure a potential buyer. These thematic areas are perception (1), market information (2), search conditions (3), search strategy (4), and search duration (5).

Figure 5-4: Thematic areas of inquiry



Source: Author 2015

These thematic areas correspond to the properties, dimensions, conditions, actions/interactions and consequences criteria in ethnomethodolgy outlined by Maynard (2012) and discussed under Specification in 5.2.3iv on page 121 below. Similarly, Charmaz and Smith (2003) maintain that a researcher [in grounded theory] establishes theoretical connections not only through thick description, but also by asking analytical questions about a [situated action] as a process to understand the properties, conditions, comparable processes, influence, and actions.

5.2.3 Research Method

Crotty (1998) defines research methods as, "*the techniques or procedures used to gather and analyse data related to some research question or hypothesis*." Garfinkel used interviews (primary data) and tape recordings of processes (secondary data) to analyse unfolding interactive process to establish the constituent expectations of order properties.

Interview methods are favourable methods of collecting primary data when, among other reasons, the research goal is to understand, attitudes, experiences, opinions, processes, and values, and where opportunities for prompting are required (Gray, 2013). They focus on the informant's understanding rather than the accuracy of the interviewer's account (Arksey and Knight, 1999). Interviews can also capture non-verbal communication about deeper shared meaning through the

awareness of the contextual nature of voice. Four basic modes of non-verbal communication are i) proxemics - use of interpersonal space to communicate, ii) chronemics – use of pacing of speech and length of silence in conversations, iii) kinetic – body movements or posture, and iv) paralinguistic – variations in volume, pitch, and quality of voice (Onwuegbuzie et al., 2010).

Qu and Dumay (2011) provide a detailed review of three interview types which are structured, unstructured and semi-structured interviews. Of these, semi-structured interviews are appropriate for this research. They involve prepared questioning guided by identified themes in a consistent and systematic manner interposed with probes designed to elicit more elaborate responses. The interviewer or interviewee may diverge to pursue an idea or response in detail (Gill et al., 2008). Semi-structured interviews are used to take advantage of the flexibility to modify the style, pace, or sequence of questions to induce deep response from the interviewee on information that may not have been previously considered as important by the researcher.

Aspects of data sought from interviews included the coherence of action, mutual orientation to the object of transaction, and the identities of situated actors participating in a transaction. Face-to-face interviews were adopted for this research. Data on coherence of action could have been obtained by observing audio-video recordings of an interviewee's everyday activity. However, there were practical challenges to obtaining this form of data since day-to-day transaction-related activities were hardly recorded. Alternatively, problem-centred interviews were employed. The aim of problem-centred interviews was to gather objective evidence on respondents' behaviour, and subjective perceptions and ways of processing social reality (See Witzel, 2000). The researcher generated questions from formerly objective conditions of observed orientation and presented a disruptive context in a potential transaction to understand the respondent's explanation of actions.

i. Research setting and participant selection

The foundation of this research was the premise that economic actions are social constructs of how vendors, buyers and brokers resolve market uncertainty through social interaction to exchange resources. This research was interested in understanding how brokers create and manage everyday social reality in office sale transaction activities. It was concerned about how client and actor networks were formed, sustained, and disbanded. The temporality of mutual orientation to the object of interaction in sale transaction was observed cross-sectionally. Data was collected over a 6-week period in each setting. South Africa interviews were conducted from early October 2015 to mid-November 2015. UK interviews were undertaken from early January 2016 to mid- February 2016 as well as between May and June 2017. Interviews were conducted at the interviewee's work premises during normal working hours, a natural setting for the interviewee's everyday activity.

Delimitations

The study limited its scope to commercial real estate sale transactions in South Africa and UK only, focusing on Johannesburg and London. The two markets were purposefully selected to investigate search processes in global cities with different levels of real estate investment market maturity. Keogh and D'Arcy (1994) describe real estate market maturity to be a demonstration of:

1) diverse investment culture and business environment accommodating a full range of corporate and investment objectives,
2) flexible market adjustments to shocks and regulatory constraints,
3) existence of sophisticated property profession with its associated institutions and networks,
4) extensive information flow and research activity,
5) market openness with respect to spatial, functional and sectoral activities, and
6) standardisation of property right and market practices.

Johannesburg is an emerging real estate market, with a developing market information system. Major players in the global real estate market have presence in Johannesburg. South African real estate investors are involved not only in the local market, but have expanded into niche markets on African continent. In contrast, London is a mature global real estate market, with a well-developed market information system. Major market players in the London market also invest in mature markets in Europe, Asia and America. These two markets were expected to provide insight to the processes which facilitate private information exchange and create liquidity. The study did not cover other geographic markets, sectors, nor lease transactions in the sector.

ii. Units of investigation

Competence to perform intelligibly is necessary before an actor can make claims to be an identified actor to a particular situation. Both human and social capital contribute to an individual's competence. In social network analysis, social capital – access to and ability to utilise information resources – matters more than human capital – individual skills, and knowledge. Firms have capacity, though at different levels, to provide access to and facilitate the utilisation of information resources. The units of investigation were investment firms and/or property companies involved in brokerage. The units of analysis were transaction managers and brokers involved in sale transactions of commercial real estate investment assets.

iii. Sampling procedure

Since the purpose of interviews was to establish how the interviewee understood the issue under investigation, and not necessarily the accuracy of information, sampling focused on exhausting possible themes as opposed to frequency of returns. Qualitative samples were to be large enough to ensure that most of the perceptions that might be important would be uncovered. Sampling

stopped when data became repetitive and no new themes were uncovered. Determining the number of participants in a study to reach saturation would depend on among other things the quality of data, scope of study, nature of topic, amount of useful information collected from each participant, number of interviews per participant, use of shadowed data, the qualitative method and research design used (Morse, 2000). There was no clear guidance from existing literature on sample size likely to generate saturation in research using ethnomethodology strategy. Table 5-3 below outlines suggested sample sizes for typical research methodologies.

Table 5-3: Sample Sizes for Qualitative Research

Methodology	Authority	Sample Size
Grounded theory	Creswell (2012)	20 - 30
	Morse (1994)	30 - 50
Ethnography	Morse (1995)	30 - 50
	Bernard (2000)	30 - 60
Phenomenology	Creswell (2012)	5 - 25
	Morse (1994)	6 -
All Qualitative	Bertaux (1981)	15 -

Source: Adapted from Mason (2010), Guest et al. (2006)

Curtis et al. (2000) suggest that a researcher's sampling strategy should be relevant to the conceptual framework and research question, generate rich information, be 'generalisable' (replicable), plausible, feasible, and ethical. At least 15 participants were targeted guided by Bertaux (1981). With this indication of the sample size, the next aspect to be considered was the sampling method. Coyne (1997) identifies 'selective', 'purposeful', and 'theoretical' sampling as the broad sampling techniques in qualitative research. Selective sampling is described as one involving a sampling a particular locale according to a preconceived, but reasonable initial set of dimensions such as time, space, identity, or power which are decided in advance. Theoretical sampling is a technique where a researcher simultaneously collects, codes, and analyses data in order to decide what data to collect next. The researcher may have some idea of where to sample, but not what to sample for or where it would lead. The study begins with a small sample and data collection continues until no new codes can be generated, at which point the sample would have reached theoretical saturation. Theoretical sampling is suitable for research in novel areas where grounded theory methodology would be appropriate. This research used purposeful sampling.

Marshall (1996) describes purposeful sampling as a technique where a researcher actively selects the most productive sample to answer the research question. It involves identifying and selecting individuals or groups of individuals that are knowledgeable about or experienced with the research issue. An additional importance of purposeful sampling is ensuring availability and willingness to participate in the research (Palinkas et al., 2013). Participants in this research were

expected to be knowledgeable about or have experience in commercial real estate sale transactions in their local markets. They were anticipated to be accessible and be willing to participate by volunteering and not being directed. Participants were identified and invited through the researcher's personal contacts and referrals.

iv. Specification

Babbie (2013) describes specification as a process through which a concept is made more specific to provide standards, consistency and commonality of the meaning terms used for the purpose of the research. Garfinkel's argument that it is not adequate to read a final script in isolation of the signs of mistakes, erasures and cancellations on the scripts is consistent with Gotham (2006) contest that it is insufficient to conceptualise real estate market liquidity in isolation of the operational characteristics embedded in real estate transactions. Therefore, in an ethnomethodology typology, the sequential order properties of a real estate transaction process constitute the time on market phases. This research extended the argument to state that even though time on market had been adopted to reflect the operational nature of real estate transactions, research has largely focused on the examining variabilities in the stage durations rather than the processes creating liquidity in the markets.

To the extents that the sequential order properties of real estate transaction were accomplished through the interaction of 'folks', then understanding liquidity in commercial real estate markets should involve methodologies which elicit the way actors make sense of their contingencies in accomplishing sale transaction tasks including search, negotiation, closing, and transfer. The search period is the stage in which the relations (See Fligstein and Dauter, 2007 on aspect of economic sociology) seem to contribute to processes which create liquidity in commercial real estate market, and for this reason, this research focuses on the search stage.

Albrecht (2011), Kiefer (1988) and Stigler (1961) stress that intensifying search increases the likelihood of finding transaction counterparty, but its effectiveness depends on the visibility of the vendor to the demand-side. Economic exchange is a social interaction (see Granovetter, 1985 and Fligstein and Dauter, 2007) in which individuals sustain mutual orientation towards an exchange opportunity of a trading asset for the period it remains necessary. Competence to perform intelligibly is an important aspect an individual should possess to become an identified actor in the transaction. In a commercial real estate transaction, 'competence to perform' indicates the quality of the vendor's behaviour. An 'identifiable actor' is a competent vendor that is 'visible' to potential buyers. Vendor search consequently is an action/interaction a vendor takes to be an identified actor with whom a potential purchaser mutually oriented to the trading asset can engage in exchange negotiations.

Figure 5-5 below outlines the conceptual framework of how social networks could contribute to commercial real estate market liquidity. This is how the regions in the conceptual framework are explained:

Region 1: Vendor's perception about market opportunities, and their reputation in the market as properties of contingencies

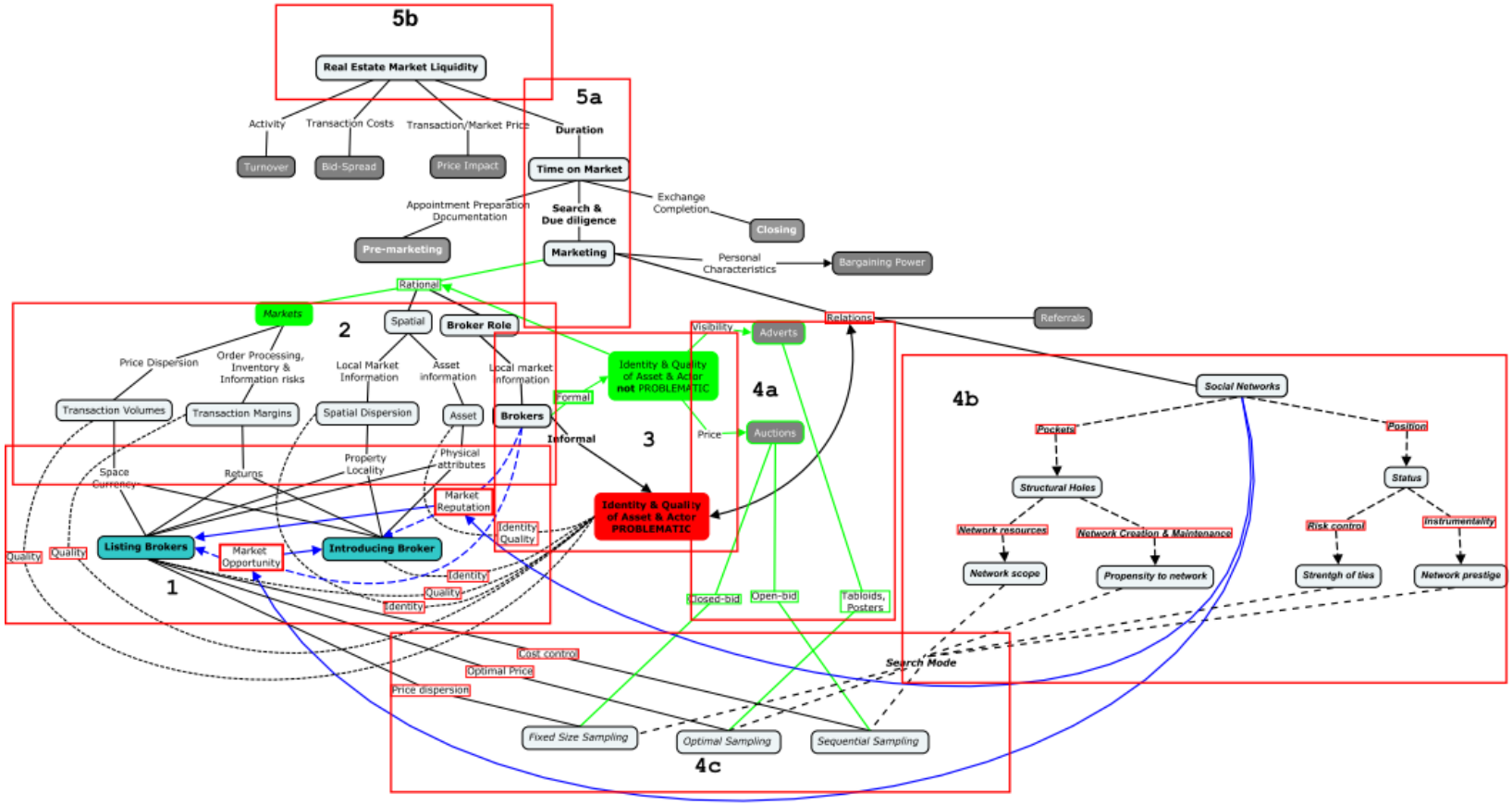
Region 2: Vendor's information set about real estate market behaviour as dimensions of contingencies

Region 3: Vendor's perception of information availability on identity of trading asset and self to potential buyers and of buyers' perception of asset quality and vendor's behaviour as conditions of contingencies

Region 4: Vendor's formal (4a) and informal (4b) search methods, and search strategies (4c) as actions/interactions to intensify search

Region 5: Time on market being a consequence of vendor's search strategy to be an identified actor

Figure 5-5: Research Conceptual Model of Social Networks and Commercial Real Estate Market Liquidity



Source: Author 2015

5.3 DATA COLLECTION

This section describes in detail the study area, sample and how data was collected.

5.3.1 Description of study area

This study was undertaken in two global markets, Johannesburg in South Africa, and London in the United Kingdom. Friedman's hierarchy of world cities identifies London as a Core Primary city and Johannesburg as a Core Secondary city (Lizieri, 2009). The GaWC (2017) ranked Johannesburg as an Alpha city and 20th in global network connectivity, and London as an Alpha++ city and first in global network connect (See Appendix 11).

Johannesburg and London as Global Cities

Office investments shape cities, direct firms to specific locations and create path dependencies of urban agglomerations. There is evidence of international financial activity concentration in world cities largely taking place through a network of high-order offices services (See for instance Coakley 1994, Halbert et al. 2014 and Guironnet et al., 2016). These interconnected global cities host international business houses and provide built physical infrastructures which allow international capital flows to occur (Lizieri and Pain, 2014). Despite global connectivity of cities and significant digitisation of financial transactions, there are significant geographical factors to trading which necessitate development of corporate and investment business properties in local markets. Pain (2008) maintains that global cities are spatial articulations of networks of human capital, social capital and power which form economic entities.

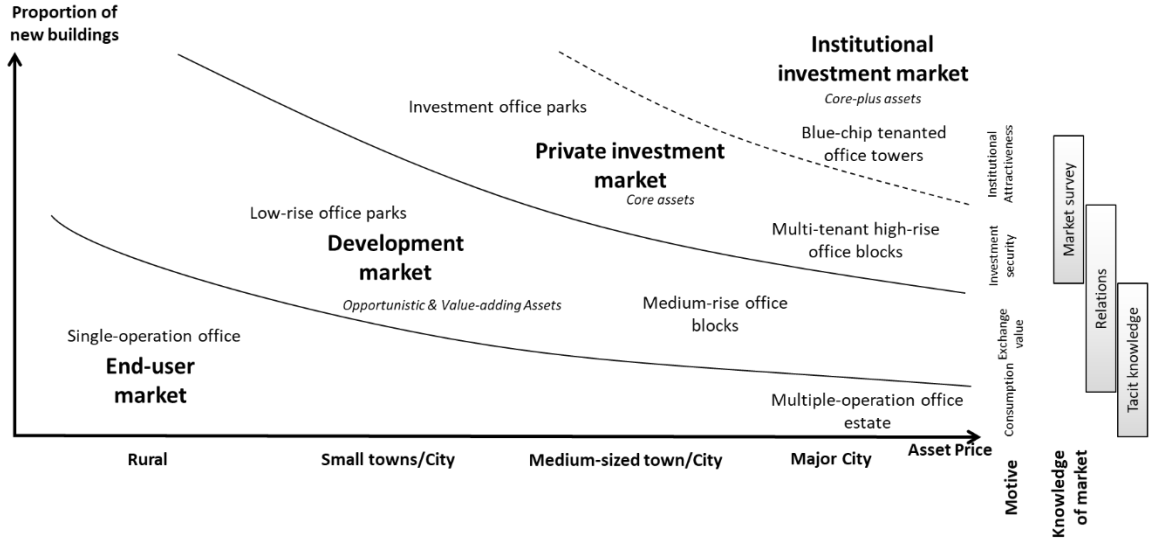
Real estate contributes a significant proportion of investment portfolios for domestic and global investors. Falkenbach (2009) finds liquidity alongside market size was considered a threshold factor for international market selection. Expected returns, economic growth, and property rights were also critical criteria for market attractiveness. Among the challenges real estate as an investment asset poses to investors are the lack of transparency in market information, formal entry barriers such as legal restrictions, capital control and tax, and informal cultural barriers (Baum and Hartzell, 2012). Innovations in investment have, however, made it easier to mobilise multi-sourced capital and acquire global real estate assets (Lizieri 2012, Lizieri and Pain 2014). Knowledge of local culture has also been recognised as crucial to relationship building and securing transactions. David and Halbert (2014) find that strong local coalitions direct local-regional urban development and could be autonomous from calculative agencies of transnational business property investors. Lizieri and Mekic (2015) thus maintain that liquidity in global city office markets is a product of the behaviour and tacit knowledge as well as complex relations of various actors including service suppliers, office occupiers, investors and intermediaries. Halbert and Rouanet (2014) also argue that it is important to understand the nature of local-regional social capital and power networks which govern property rights alienation, and the behaviour of local

intermediaries essential to penetrating local market opportunities. The review of Johannesburg and London office markets provides insight to how actors in two global real estate markets with different levels of maturity and governed by locally framed networks of social capital and power, address information asymmetry and behaviour.

Halbert and Attuyer (2016) note that there is no universal logic to characterise urban real estate markets, but urban production in each market is shaped by situated processes of interaction between actors. Theurillat et al. (2015) developed a real estate market model from Braudel's (1985) concept of three stages of economic life identified as self-production/consumption, market and capitalisation to deconstruct the parties, processes and institutions in Swiss residential markets. '*Self-production*' refers to economic activity where consumers produce what they need for own consumption. In '*market*', producers seek to enhance exchange value to maximise margins between sale and production costs. However, producers have minimal influence on input costs and sale price, hence production efficiency matters. These markets are characterised by technical and social divisions which lead to the emergence of various professional services in local and regional markets. Though driven by total returns, '*Capitalisation*' involves control and power of exchange. Producers have significant control of resources, individually or collectively, and influence prices as well as the institutional framework which determines participation. Capitalisation manifests itself in the form of both real (direct) property and financialisaton (indirect) of property.

The three identifiable stages of economic life with respect to office markets are end-user, development and investment (private and institutional) markets. 'End-user' market consists of owner-occupied assets acquired to provide space to produce corporate services. Such assets range from single-operation office buildings in rural towns for small business firms to corporate office campuses in fringes of major cities. 'Development' markets largely comprise property developers seeking to maximise short-term margins in opportunistic or value-adding developments. Investment flows depend on either developers pursing strategic land development for end-users, the production of 'quasi-financial assets aimed at private investors, or the production of space skewed towards institutional investors' standards (Guironnet and Halbert, 2014). Development activity depends on real estate market cycles with acquisitions in downtime markets and sales in upturns. Finally, 'investment' markets pursue security of income and capital to maximise total returns through direct real estate investments targeting core assets in medium-sized to major cities or through securitisation of core-plus assets attractive to blue-chip global clients in major cities. Figure 5-6 below is a model of office property market business adapted from Theurillat et al. (2015) on residential markets in Switzerland. The model provides a useful guide for understanding the intricacies which shape markets at various stages of city development.

Figure 5-6: Model of Office Market Business



Adopted from Theurillat et al. (2015)

As the location status shifts from 'rural town' to 'major city', the complexity of real estate markets also transforms from a fundamentally end-user market relying largely on tacit knowledge of the local market to a financialised real estate markets dominated by calculative institutional investors who depend on strategic investment information models for market knowledge and tend to be focused on major cities destinations. In between are two markets, namely the development and private (direct) investment markets, with presence in medium-sized and major cities. What seems to differentiate these markets from end-user and financialisation markets is the role of interpersonal relations in seeking deeper market insight. The development market relies on tacit knowledge as well as interpersonal relations to gain local market knowledge on decoupling production of space from its consumption and earn short-term margins. The private investment market employs market surveys and interpersonal relations to gain market insight of investment opportunities with potential for optimisation in the medium term and potentially attract long-term institutional buyers (See David and Halbert, 2014). These distinctions of acquisition motives, locations, market players, and knowledge of market raise cardinal interest on the dynamic complexities of sale approaches between end-user and securitised office markets. As the research findings indicate, relations are critical to both private and institutional investors to access tacit information about client requirements for asset acquisitions or disposals.

Functional specialisation of cities has influenced the shape of space ownership. Cities which predominantly provide financial services have exhibited a growing concentration of office ownership by international financial firms (Lizieri, 2009 pp. 14, Lizieri and Pain, 2014). The complex interaction between global real estate developer and investors providing physical infrastructure, and international financiers who are often the key occupiers has resulted in a blurred distinction of the roles of market players putting the Braudel (1985) framework to test.

The office market business model described above is used to understand the nature of the Johannesburg and London office markets, the two global cities under study. The following descriptions of the Johannesburg and London economies and real estate markets highlight the fundamentals which shape real estate activities in these two international financial centres. The information presented reflects the economic and market conditions at the time when field work was undertaken: 2015/16 in Johannesburg and 2016/17 in London.

Johannesburg market, South Africa

The Global and World Cities (GaWC, 2017) ranks Johannesburg as an Alpha city – the only African city in the Alpha ranking – and 20th in General Network Connectivity. Therefore, Johannesburg's position in the global market makes it a plausible city for research to understand the nature of commercial markets in an emerging market.

i. Economic integration and Long-term fundamentals

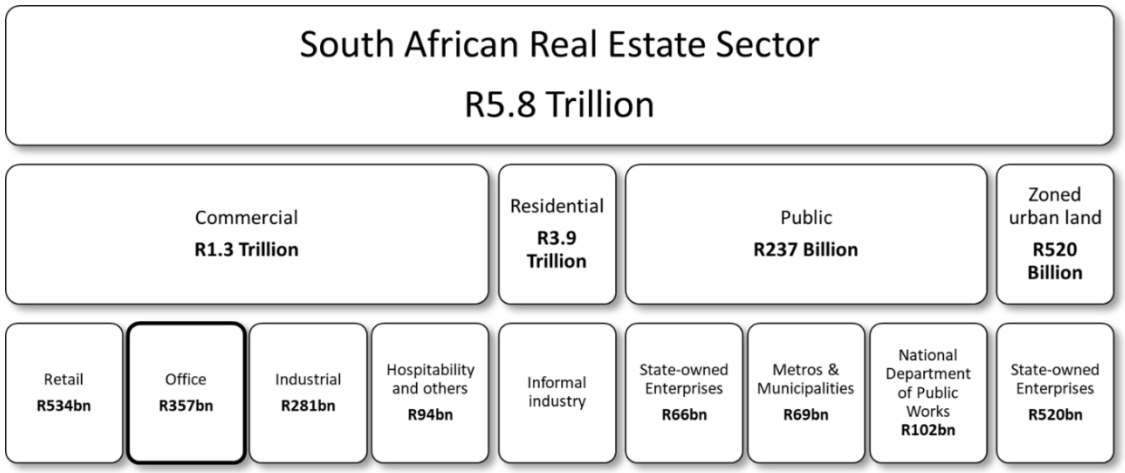
Johannesburg was purposefully selected because of the strong fundamentals for real estate investment. South Africa is a member of BRICS, an economic organisation for strong emerging markets of Brazil, Russia, India, China and South Africa. It is also a member of regional economic bodies on the African continent including the Southern African Customs Union (SACU), Southern African Development Community (SADC), and the Common Market for East and Southern Africa (COMESA). These regional bodies comprise economies that consistently posted above 5% GDP growth between 2010 and 2015 (African Economic Outlook, 2016). Prior to the fieldwork, South Africa's GDP had been estimated at US$341.2bn in 2014, ranking the nation as the second largest economy in Africa after Nigeria (Knight Frank, 2015a). National economic growth was less than the average sub-Saharan growth at 1.4% compared to above 5% for Sub-Saharan Africa in 2014 (African Economic Outlook, 2016).

Gauteng Province, where Johannesburg is located, is the hub of both South Africa and African economic activity. Around the time that the fieldwork was conducted, it had a population of 4.4 million people (8%) of the 54 million national population. With a GDP estimated at R811 billion (US$112 billion), the province generated an average 34% of the national GDP and 10% of continental GDP. It also generated 47.7% of employee remuneration and 50.4% of company turnover (Republic of South Africa, 2014). GDP growth for Gauteng in 2014 was estimated at 2.5% compared to 1.4% nationally. The Financial, Insurance and Real Estate (FIRE) sector contributed the most to GDP growth both at national (18.8%) and provincial levels (22.3%). The sector GDP growth for 2015 was estimated to be 4.2% compared to 3.16% national growth for the sector (SARB, 2016a).

ii. Real Estate Investment market

The South African real estate sector in 2015 was estimated to have been worth R5.8 trillion. The commercial sector ranked second at R1.3 Trillion (22%) of which the office market accounted for R357 Billion (27.5%) (See Figure 5-7 below).

Figure 5-7: South Africa Property Sector Size



Source: Property Sector Charter Council (2017)

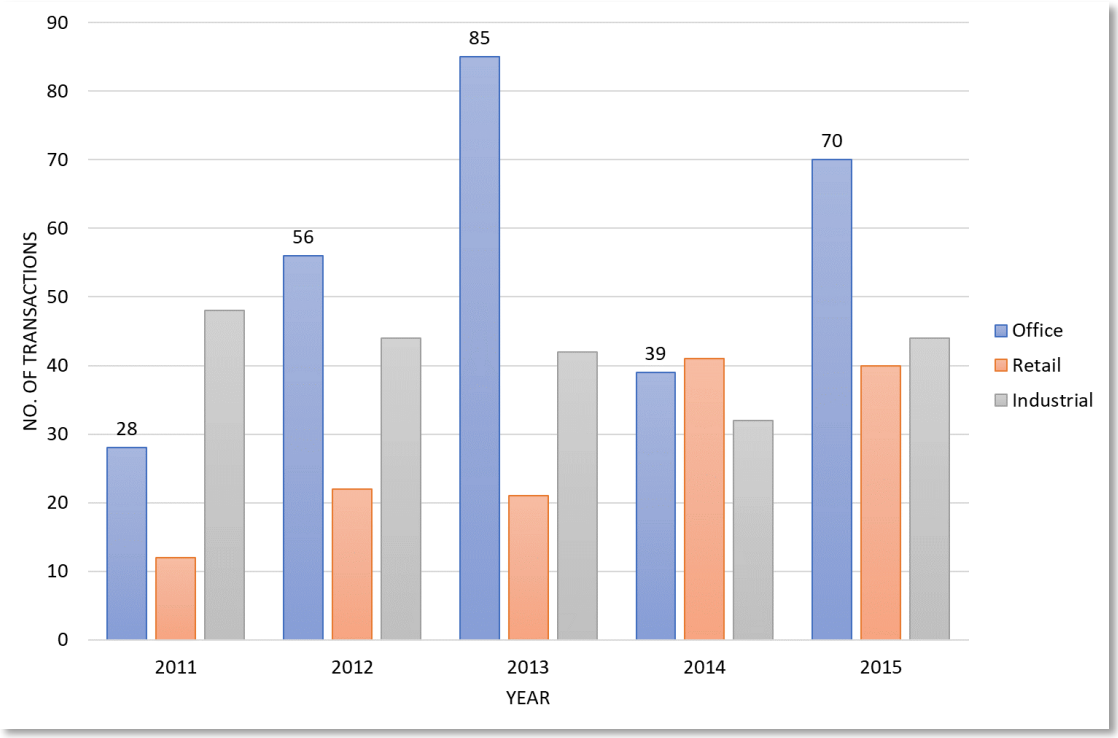
In terms of real estate market structure and performance, Gauteng office market in 2015 comprised approximately 12% prime and A-Grade asset, 7% C-Grade and 81% B-Grade assets. Take-up was 270,000m^2 of which 207,000 m^2 (76%) was new added space and 63,000m^2 (23%) was lateral movement. Prime rental rates were around US$22/m^2/month (US$264/m^2/year) generating average [initial] yields (capitalisation rates) of 8.5%. 2015 rental growth in the sector ranged between 3.7% (A-Grade) and 5.7% (Prime-Grade). However, vacancy rates were higher than the national average at 11% compared to 5%. There was positive sentiment for office sector growth particularly for Prime Grade investment. The development pipeline was estimated at 400,000m^2 by 2017 (SAPOA, 2015, JLL, 2015c). Relating to the office business model (Figure 5-6 above), the Johannesburg office market seemed to fit the description of a major city with a dominant private investment market. It had a significantly large stock of value-adding assets and a relatively thin stock of institutional grade assets.

Transactions

The number of transactions in the Johannesburg office market considerably declined from 85 in 2013 to 39 in 2014, but recovered to 70 in 2015 (See Figure 5-8 below). R18.5 billion was invested in 2015 in various commercial real estate, notably through portfolio transactions at national level. Office transactions accounted for nearly R7.6 billion (41%) through 70 transactions of which R4.4 billion (58%) was generated by office transactions in Gauteng. Office

real estate transactions were largely dominated by inter-fund asset sales and portfolio acquisitions (RCA, 2016).

Figure 5-8: Total number of transactions by sector



Source: JLL (2015c)

Key office sector transactions included a R507 million office portfolio purchase by Delta Property Fund (a small-cap fund) with buildings in Bloemfontein, Pretoria, Johannesburg and Cape Town. Investec (a mid-cap fund) made a landmark acquisition of R3.1bn office portfolio with assets in Johannesburg and Cape Town from ZenProp. Gauteng's overall dominance in office transactions, however, fell from 70.7% in 2014 to 59.3% in 2015 (JLL, 2016b).

Market Players

Understanding the nature of market players helps to develop a clearer perspective of how a real estate market operates. As Theurillat et al. (2015) highlight, the complexity of market players seems to evolve from unsophisticated end-users in self-production in rural towns to calculative investors and sophisticated developers in securitised markets in major cities.

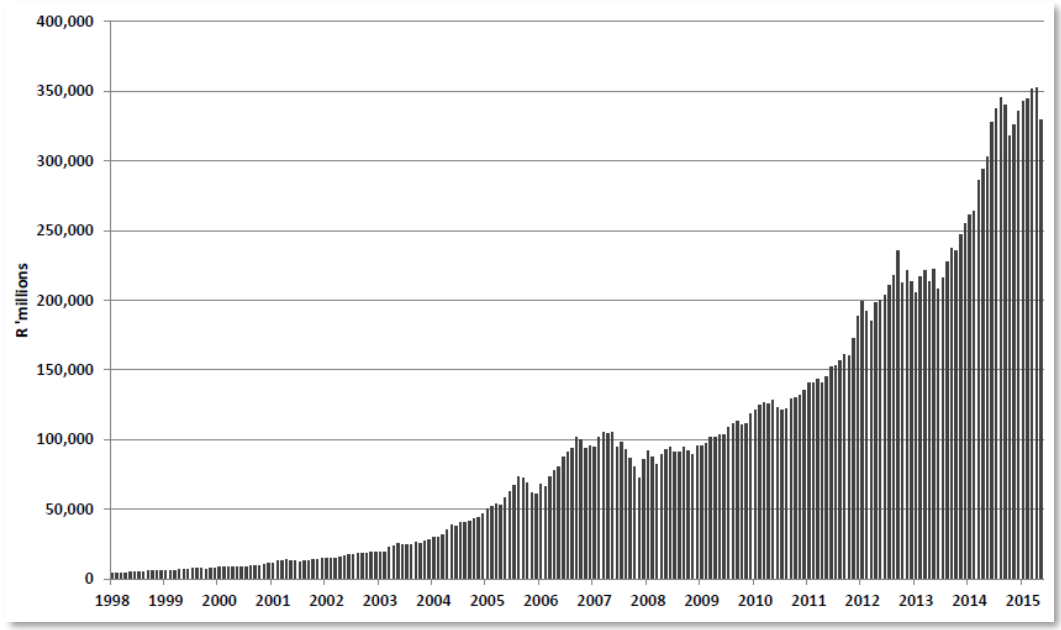
Though dated, Newell et al. (2002) provide a profile of key market players in the South African real estate market. Institutional investors have predominantly been insurance and pension funds like Liberty, Old Mutual and financial sector funds like Stanlib, and Investec. Public corporations like Johannesburg Property Company owned a huge stock of office buildings previously held by the City of Johannesburg local authority. Though there were no readily available data on key

City occupiers, the Gauteng Provincial Office claimed that Johannesburg hosted over 70 international banking headquarters (GautengOnline). Among notable international banks with branches or representatives in South Africa were BNP Paribas, The Bank of New York Mellon, The Bank of Tokyo, Mitsubishi, Barclays Bank, The Bank of China, China Construction Bank Corporation, Citibank, Commerzbak AG, Credit Suisse AG, HSBC International, JP Morgan Chase Bank NA, Royal Bank of Scotland International, Société Générale, UBS, and Wells Fargo NA (SARB, 2016b). The main real estate developers have been Murray and Roberts Construction, Group Five and LTA Construction focusing on contract projects. There were also such developers as Eris property Group, that provided other professional services such as property management and valuations.

Investment Vehicles

Prior to 2013, public investment into real estate was through 'property loan stocks' whose key weakness was investor exposure to double taxation. The introduction of REITs legislation in 2013 encouraged greater public investment in the South African real estate sector through listed companies. 2015 REITs subscription included 26 listed and 2 unlisted funds with a total market capitalisation of R350bn (See Figure 5-9 below) (SA REITs, 2015).

Figure 5-9: SAREIT Market Capitalisation

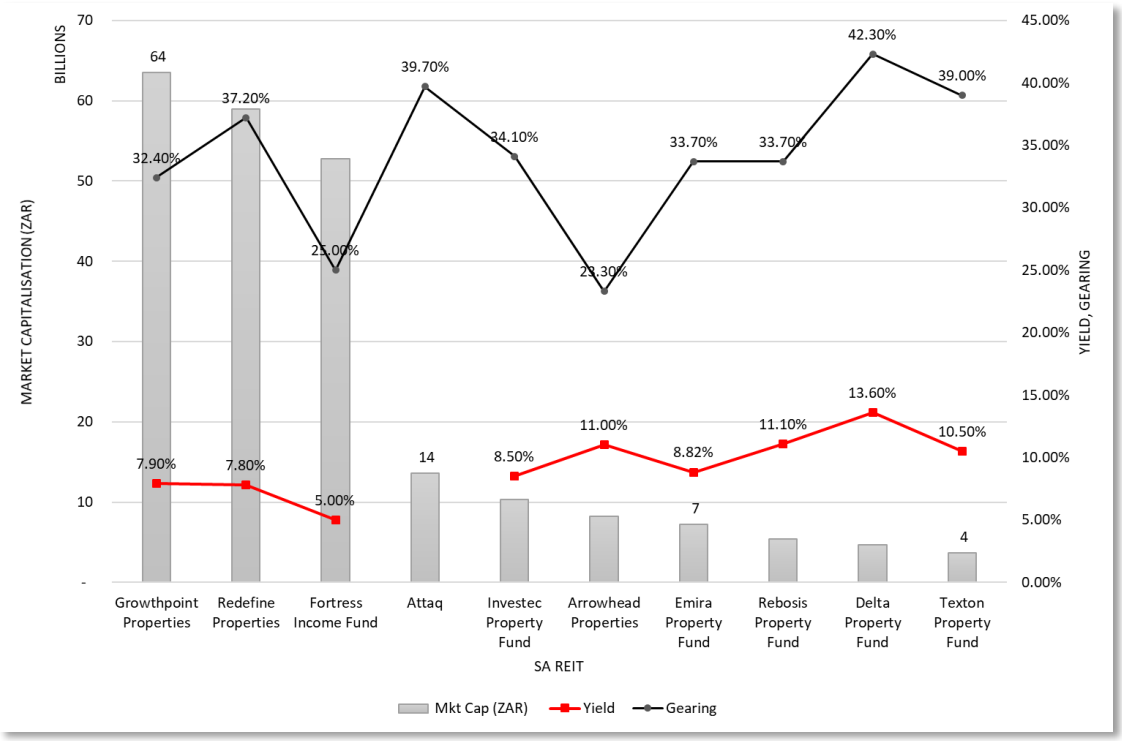


Source: SA REITs (2015)

South Africa was the only African country in 2015 with REITs listed on both S&P and FTSE. SAREITs ranked 9th out of 23 in the S&P Global REIT index, 11th out of 38 on FTSE EPRA/NAREIT Global index (Akinsomi et al., 2016). The major REITs players ranged from large-cap investors including Growthpoint, Redefine, Fortress, Resilient, Hypro and Investec, to

small-cap investors such as Emira, Rebosis, Delta, Texton and Fairvest (SA REITs, 2015). Figure 5-10 below presents market capitalisation, yields and gearing for a sample of 10 SAREITs with portfolios which included the office sector. Higher yields and gearing posted by small-cap SAREITs are indicative of total return maximisation motive in the real estate sector.

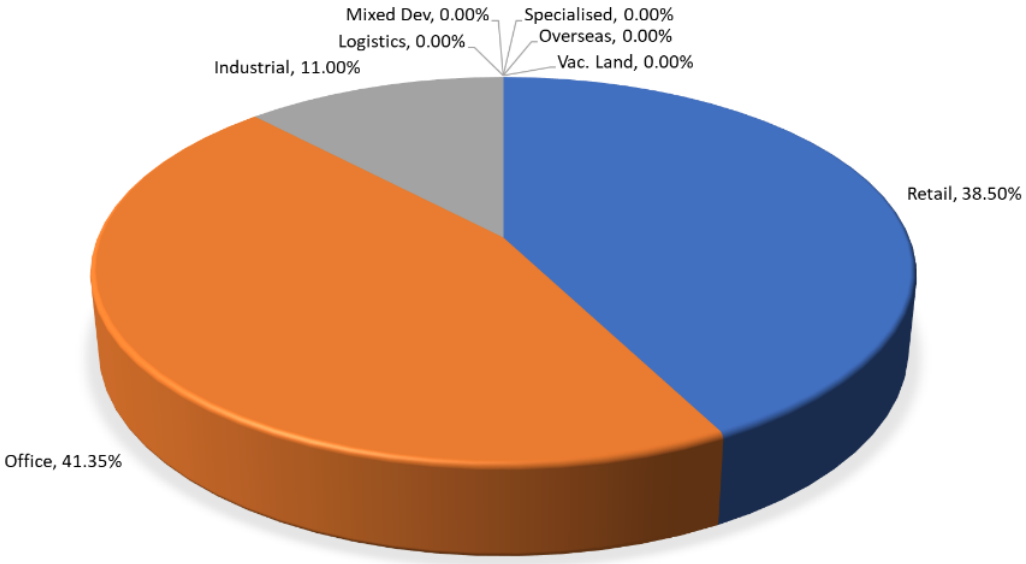
Figure 5-10:Sample SAREITS with Office Portfolios 2015



Source: Financial Mail (2016)

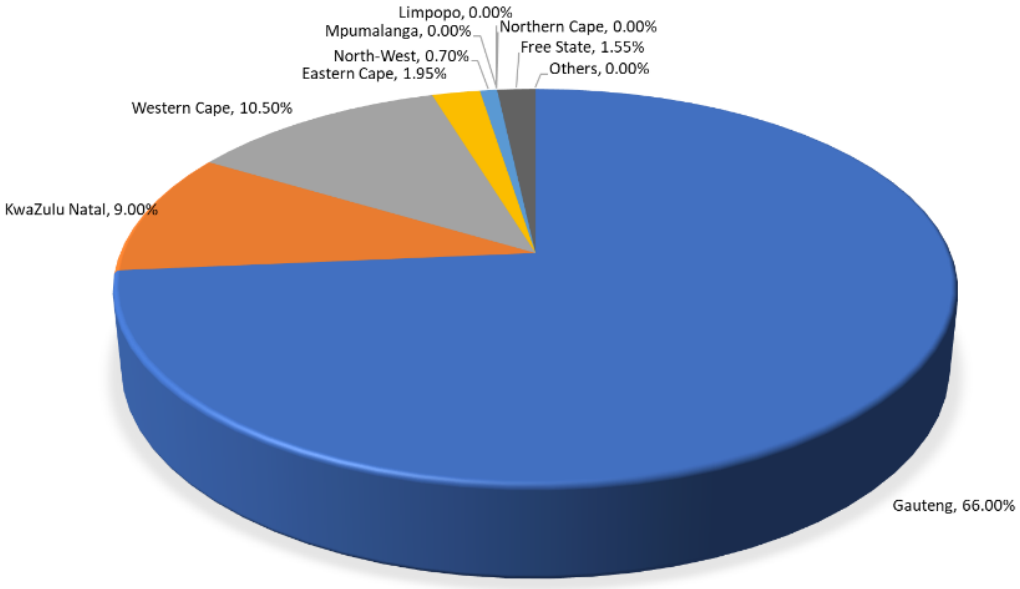
Meanwhile, large-cap SAREITs posted relatively lower yields and gearing indicative of pursuit of institutional quality asset holding. These REITs held assets averaging R200m compared to around R100m for small-cap REITs. This scenario of active small-cap and institutional investors was consistent with the Theurillat et al. (2015) description of characteristics of a major city. Despite the wide gap in market capitalisation, large and small cap SAREITs with office portfolios, they presented similar sector and geographical preferences for office investments in Gauteng Province as shown in Figure 5-11 and Figure 5-12 below (See Appendix 9 and Appendix 10 for individual REIT sector and geographical distributions respectively). Incidentally, over 95% of international banks had the registered offices in Johannesburg. The location of these international financial firms is strategic as Johannesburg provides connectivity between the Africa and global markets.

Figure 5-11: Sector distribution of SAREITs



Financial Mail (2016)

Figure 5-12: Geographical distribution of SAREITs



Source: Financial Mail (2016)

Service Providers

Johannesburg had a strong representation of international real estate service providers. Notable global real estate advisory firms included CBRE through Broll Africa, Knight Frank (Galeti KF), Savills (Seeff), Cushman and Wakefield (ProAfrica), and JLL. Leading local professional service providers included JHI, Eris Pam Golding, Ash Brook, Currie Group, ANVIL and Hall. There is, however, a paucity of information about transaction volumes moved by brokers. The presence of global real estate service providers indicates the connectivity of the South African market to the global market. However, the effect of the presence of global brand on perceptions about operations of local markets is yet to be established. Falkenbach (2009) finds that the existence of other foreign players in a target market and geographic proximity to the home market did not affect market selection. Rather, expected return, economic growth, property rights and the presence of professional services significantly influenced the attractiveness of a market. Global professional service firms tended to enter the South African real estate market by partnering with existing local firms. This approach to market entry was likely to have been a strategy to circumvent building local market knowledge from the ground and/or to negotiate access to the local market for which there was significant public interest for indigenisation of property ownership and management (See the Property Sector Charter Council, 2017). As Lizieri (2009) states, professional service providers with presence in international markets could direct international investors to these markets as theywould have local business knowledge.

Legal Framework

Leases have typically been between 3 and 5 years with annual escalations and negotiated by parties (JHI, 2015). In terms of property rights, South Africa ranked first in Africa (29th globally) in the 2015 international property rights index (IPRI, 2015). Considering that safety of title and property rights ranked third in factors affecting the attractiveness of markets (See Falkenbach, 2009), South Africa was well positioned both regionally and globally for business competitiveness.

Professional Practice

Commercial real estate transacting has largely been self-regulated through the South African Property Owners Association (SAPOA). The organisation not only disseminates information about market activity but also sets codes of practice for property investors. Professional practice has been governed by the South Africa Council for Property Valuers Profession (SACPVP) and Estate Agency Affairs Board (EAAB).

The structure of the brokerage sector(s) in South Africa

Though South Africa's real estate market has been leading in Africa, there is little written on its brokerage industry. A survey by Devaney et al. (2016) provides some insight on the brokerage

model. Brokers are typically appointed by a seller, either on a sole or multiple mandate, and represent the seller only. Brokerage services provided include advice on listing price, marketing method and strategy, preparation of promotion material, marketing of the assets, participating in negotiations with buyers, supporting due diligence, and negotiating sale agreement. Brokerage fees are typically between 5-7% of achieved sale price (split commission in multiple listing) (Private Property, 2016). Brokers are remunerated at a rate of 45% to 50% of the fee to provide an incentive to achieve the best price. The remainder of the fee is assigned to franchise fees (where applicable) and a firm fee of at least 10%. In addition to the broker's commission, a basic salary is provided to curb opportunism or higher commission of up to 90% to cover cost in lieu of a salary. Broker conduct is regulated by the Estate Agency Affairs Act, 1976 (Republic of South Africa, 1976), though this at the time of the fieldwork being repealed through The Property Practitioners Bill to address changes in market conditions and transaction processes (EAAB, u.d-b). The Estate Agency Affairs Board Code of Conduct provides guidelines on addressing various aspects regarding conflicts of interest disclosure through Clause 4.1.4 (EAAB, u.d-a).

London market, United Kingdom

London is one of the three dominant Global and World Cities which host a majority of headquarters of international finance companies and accounted for over 24% of global office investment transactions between 2007 and 2010 (see Lizieri and Pain, 2014).

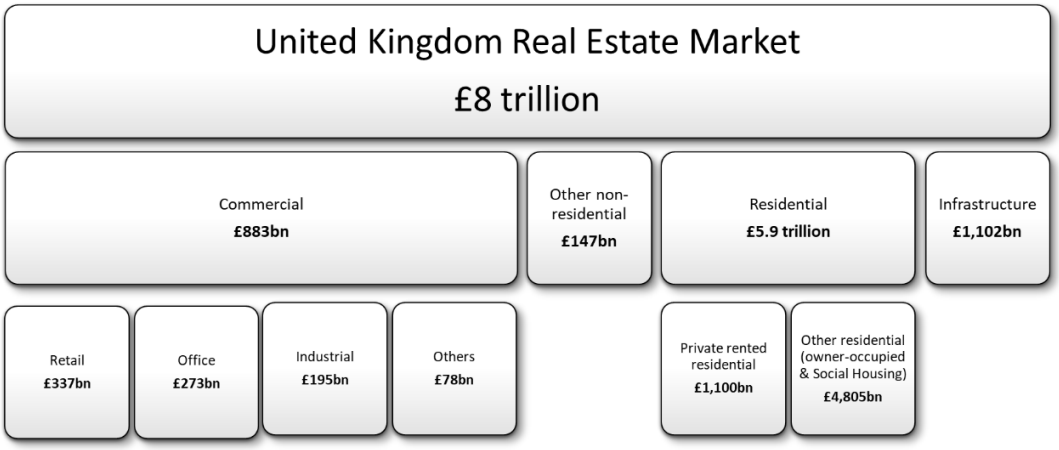
i. Economic integration and long-term fundamentals

The United Kingdom was selected to be a developed market sample from which the researcher would learn about the phenomenon in a different context. London was chosen for its global role in both the real estate sector and macroeconomy. In 2016, the UK ranked the second largest economy in the European Union after Germany posting a GDP of £1.94 trillion representing 16% of the regional GDP (Statista, 2017b, World Bank, 2017). GDP growth rate declined from 3.1% in 2014 to 1.8% in 2016 (Statista, 2017a). With a population of 14 million and employment at 7.4 million, Greater London in 2016 contributed £334 billion (22%) of UK Gross Value Adding (national income) and financial service employment of 356,100 in 2014. The City of London contributed £45 billion (3%) and 413,500 respectively (City of London 2016, PwC, 2016).

ii. Property investment markets

The UK real estate market size in 2016 was estimated to be just under £8 trillion largely composed of residential assets (See Figure 5-13 below). The commercial property accounted for £883 billion of which £486 billion (55%) represented investment property exceeding the pre-2007 recession high of £456 billion.

Figure 5-13: The UK Property Market Size End-of 2016



Source: Property Industry Alliance, (2016)

The office sector was estimated to be valued at £273 billion of which £208 billion represented office investment. London accounted for 75% (£186 billion) concentration of commercial investment market, which is attributable to its connectivity to global networks in general and international financial service networks (See Lizieri and Pain 2014, Henneberry and Roberts, 2008 and Byrne et al., 2013).

As at end-2016, prime rent in the London office sector was around £70/ft^2 (£752/m^2) per annum with yields around 4.25%, and 4.2% growth. Vacancy rates were between 6.1% and 7.9% with an average of 7.7% (JLL, 2016a, Knight Frank, 2016). The development pipeline for 2016 was 1,374,965m^2, a 33% increase over 1,031,233m^2 the previous year (Deloitte Real Estate, 2015, Deloitte Real Estate, 2016).

Transactions

London was top of the leader board of Europe's top 10 most active real estate markets with €47bn in capital flows between Q4 2014 and Q3 2015, almost 5 times more than 2nd placed Berlin and Paris at €10 billion (PwC, 2016). With transaction volumes of US$44.4 billion, London accounted for 62% of overseas transactions followed by New York at US$35.9 billion with Paris in 4th position at US$22.1 billion (JLL, 2015a). Investment transactions generally declined in 2015 (See Table 5-4 below). Q4 2015 investment transactions in central London at £12.9 billion (74% overseas investors) was down from £18 billion Q4 2014.

Table 5-4: Investment transaction volumes West End, City and Dockland End-of 2016

	END-OF 2014	**END-OF 2015**	
West end	£7.1bn	£5.2bn	41% institutional investors
City	£10.2bn	£7.4bn	81% Overseas investors
Docklands		£250m	

Source: JLL (2016a)

The key deals by end-of 2016 as shown in Table 5-5 below all involved overseas buyers.

Table 5-5: Key Office Investment Sale Transactions - London End-of 2016

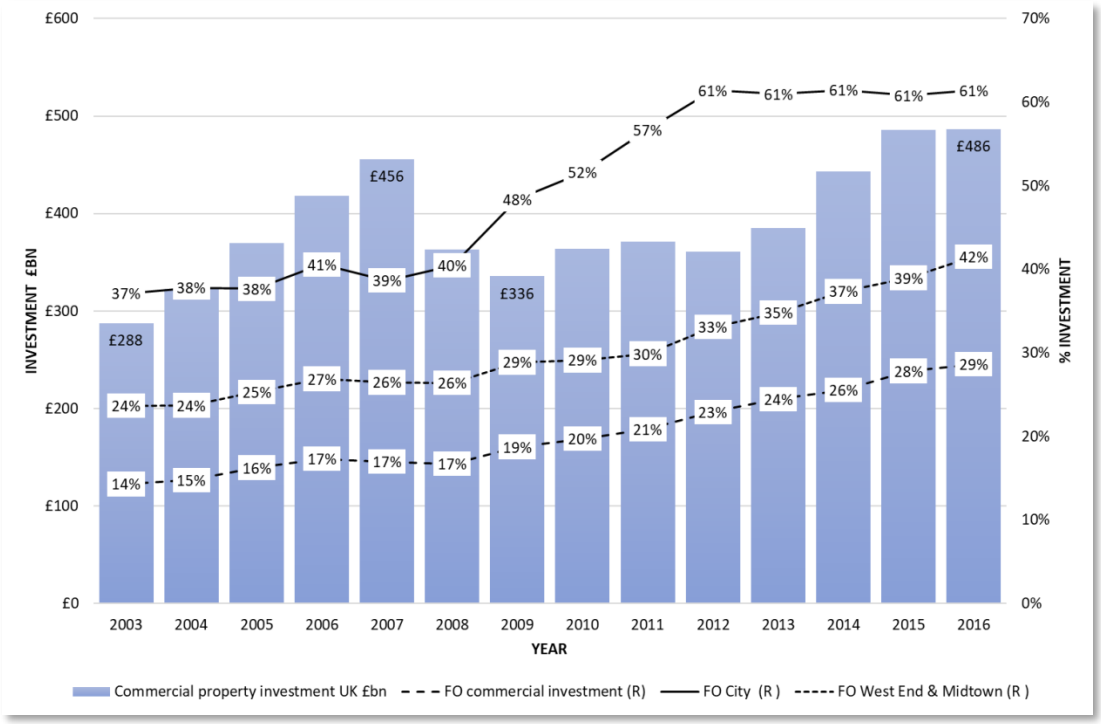
	Asset	Price	Buyer	Yield	Capital Value
City	CityPoint	£561.5m	Brookfield Asset Management	4.3%,	£8,500/m^2 largest transaction
	20 Moorgate	£155m	SEA Holdings (Hong Kong)	4.3%,	£11,820/m^2
West End	1 Dean Street	£276.5m	Norges Bank Investment	3.3%,	£32,743/m^2
Docklands	3 Harbour Exchange	£37m	Infinitus Global	7.5%	£4,320/m^2

Sources: Knight Frank (2016), JLL (2016a)

Market Players

Lizieri and Pain (2014) note that globalisation has led increased presence of international financial service firms and the associated business and professional service providers in global cities like London. Innovations in real estate investment have also simplified global acquisition of real estate assets resulting in increased foreign ownership of real estate investment assets in global cities. There has been a marked shift in overseas (foreign) ownership of commercial real estate in London (See Figure 5-14 below) from an average of 10% to 15% in the mid-1980s (Lizieri and Pain, 2014) to around 49% in 2015 (IPF, 2016, Property Industry Alliance, 2016).

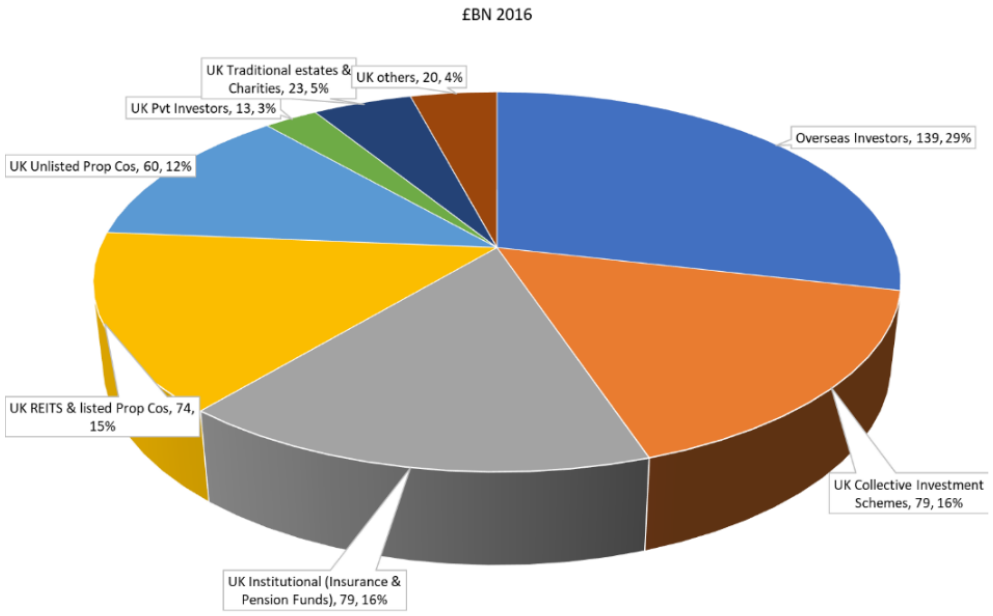
Figure 5-14: UK Commercial property universe 2003 - 2016



Source: IPF (2016). FO refers to foreign (overseas) investors.

By end-of 2016, UK investor ownership of national commercial investment was £348 billion, with large funds and institutional investors collectively accounting for 47% of ownership. £96 billion worth of investment assets were in the London office market representing 86% of national office investment and 27.6% of national commercial investment (See Figure 5-15 below).

Figure 5-15: UK Commercial Property ownership by Investor type



Sources: Property Industry Alliance (2016), IPF (2016)

Overseas investor ownership in the commercial investment market was £139 billion (29%). £91 billion out of the £97 billion worth of office assets held were in London. This indicates a concentration of overseas ownership in the office market of around 49% in London and 47% at the UK level in terms of asset value (See Table 5-6 below).

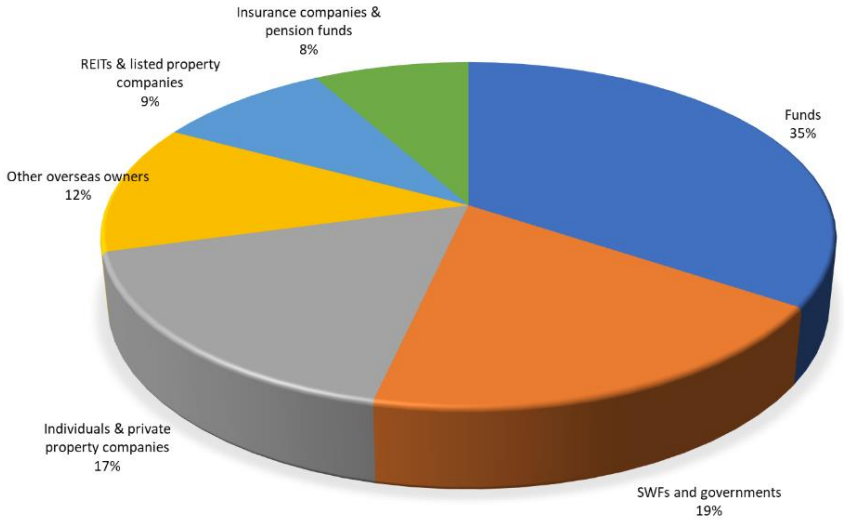
Table 5-6: UK and Overseas Investor Ownership in Office market end-of 2016

		UK (£'bn)	Overseas (£'bn)	Total (£'bn)
London	All Commercial	141	108	249
	Office	96	91	186
Rest of UK	All Commercial	206	31	237
	Office	14	5	20
UK	All Commercial	348	139	486
	Office	111	97	208

Source: Property Industry Alliance (2016) NB: Numbers do not add up due to rounding off

Funds, and Sovereign Wealth Funds and Governments were the major overseas investors in the UK commercial market accounting for 54% of overseas ownership (See Figure 5-16 below).

Figure 5-16: Overseas ownership of UK Commercial Investment Properties



Source: Property Industry Alliance (2016)

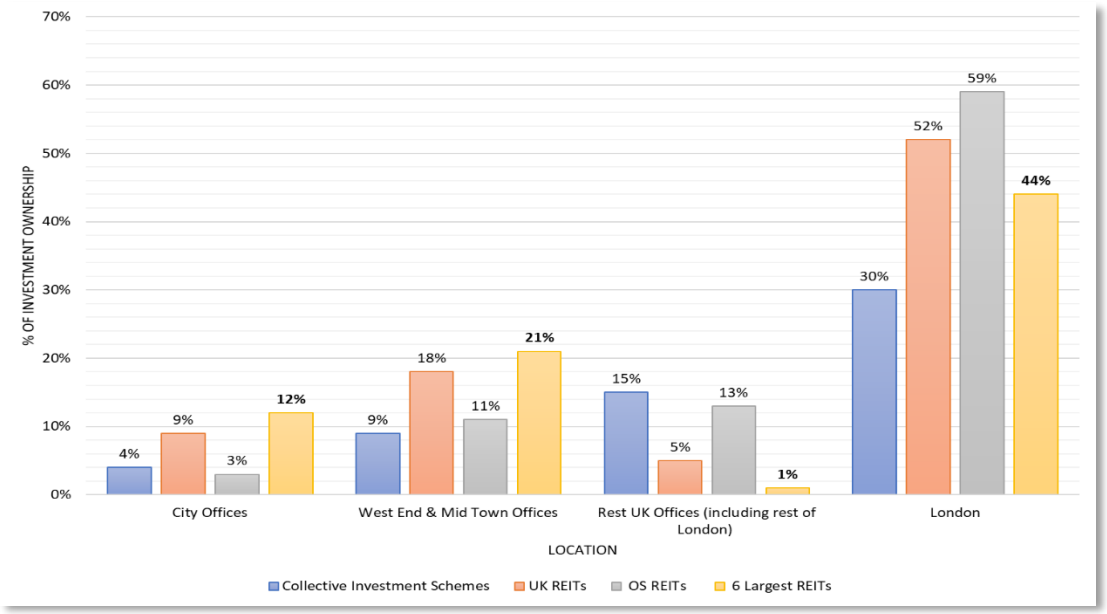
Occupiers

The London occupier market has been shaped by its global city and international financial centre status. Its growing concentration of transnational corporations, international institutions and specialised business and professional service providers for which real estate provides infrastructure for international transactions and capital flows (Lizieri and Pain, 2014) has changed the nature of occupiers. Up until the mid-2000s, typical office occupiers were financial services (50%), and professional services (27%) (Lizieri et al. 2000, Lizieri, 2009). However, since the post-2008/09 recession, Telecommunication, Media and Technology (TMTs) firms have led the occupier market in London (See City Property Association, 2014). By the end-of 2015, TMTs' occupancy was 36% in the West End, and 26% in the City and Docklands, with banking and finance accounting for 9%, 26% and 21% in the respective locations. Professional services had a similar pattern with 9%, 22% and 14% respectively (JLL, 2016a).

Investment Vehicles

Innovations in real estate investment vehicles have facilitated increased direct and indirect investment in real estate, and enabled global and domestic smaller real estate investors (See Figure 5-15 above) to participate in the market. The vehicles range from relatively simple limited partnerships to complex equity and debt structured investments. The rise in private equity investment has been accompanied by innovations and growth in real estate debt securitisation (Lizieri and Pain 2014, IPF 2015).

Figure 5-17: Segment structure of Collective Investment Schemes, UK REITs and Overseas REITS in London Commercial Investment Market End-of 2016



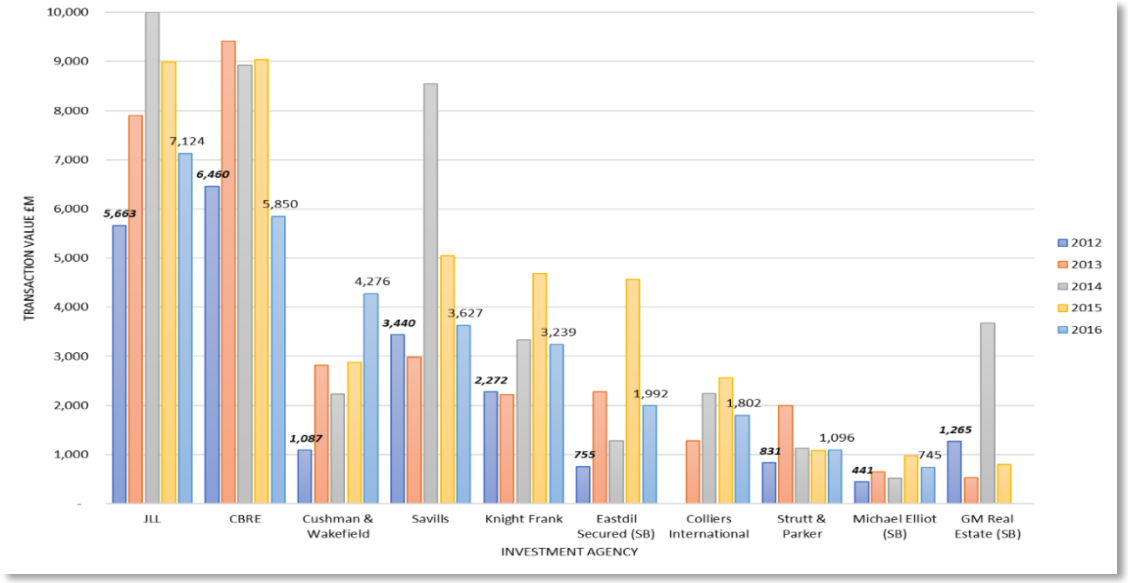
Source: Adopted from IPF (2016)

Nearly 45% of London commercial real estate was held by the top 6 Collective Investment Schemes and REITs. UK REITs had higher concentration of office investments in the City and West End than Collective Investment Schemes and Overseas REITs compared to the rest of the UK (See Figure 5-17 above).

Service Providers

The leading providers of professional real estate services in London were the global brands of JLL, CBRE, Savills, Cushman & Wakefield, and Knight Frank. The dominance of global real estate service providers in the London market is not surprising. As shown above, the market accounted for £186 billion (75%) of the UK office investment market concentration and 94% of overseas owned commercial office investment by end of 2016. These leading real estate service providers offer a 'one-stop shop' of a range of services such as fund management, investment analysis and valuation in multiple markets, implicitly reducing uncertainty and transaction costs (Lizieri and Pain, 2015). Their interaction with institutional investors and financial intermediaries has apparently developed into a dense social interaction which constitutes 'the London Property Nexus' (Crosby and Henneberry, 2016). Within the ranks, however, were single branch service providers such as Eastdil Secured (but a leading global brokerage firm – See Lizieri and Pain, 2015) and Michael Elliot which maintained presence in the Top 10 investment agency (Vendor) league table (See Figure 5-18 below).

Figure 5-18: UK Investment Agency (Vendor) league table



Sources: CoStar (2013, 2014, 2015, 2016, 2017) SB denotes 'Single Branch'

Legal Framework

Prior to the 1989/90 property market recession, commercial properties in the UK were typically let on 20 to 25-year leases with upward-only 5-year rent reviews. However, by the turn of the 1990s, a large stock of the office market was either vacant or over-rented. While the long-leases and associated clauses underpinned institutional lending policies, they did not seem to address changes in tenant requirements for shorter leases influenced by production modes, work styles and information technology (Crosby et al., 2003). The 1990s recession led to shorter leases and flexible exit clauses which enabled tenants to respond to short-term changes in the business environment (Danielle et al., 2016). Leases longer than 10 years have become rare. The average lease length has consistently been below 10 years since 2002. Leases shorter than 10 years accounted for 76.5% of new lets in H1 2016. Average office leases (weighted full term) declined from 13 years in 2002 to around 8 years in 2016, 60% of which have break clauses (MSCI, 2016). With respect to property rights, the UK ranks 8th regionally and 13th globally (IPRI, 2015).

Professional Practice

The RICS as a professional body provides guidelines on real estate agency codes of practice in the UK (RICS UK, 2016).

The structure of the brokerage sector(s) in the respective markets

The UK commercial brokerage sector typically involves listing/selling brokers representing the seller and introducing brokers representing the buyer (See McAllister et al., 2008). Sole mandates tend to be the common type of instruction, but in situations where reinforcement is deemed necessary, multiple agents may be appointed. Sale-side brokerage provides typical services of

listing price advice, marketing preparation and promotion, and negotiating heads of terms. Further services include providing information for due diligence, and participation in closing transactions. Buyer-side brokers search for and introduce acquisition opportunities to potential buyers. Services would include asset sourcing, market information, asset valuation, finance sourcing advice, bid preparation, price negotiation, due diligence and purchase agreement negotiation. Seller broker fees were predominantly outcome-based averaging between 0.5% and 1.5% of the transaction price (Devaney et al., 2016).

Comparison of markets under study

The discussion of the two markets contributes to explaining the contexts which underlay the 'Properties' component in a contemporary ethnomethodology framework for understanding real estate sale processes. From the observations presented above, Johannesburg fit the description of a major city with a significant private investment market. Small-cap REITs were aggressive in transactions in Johannesburg acquiring high-yielding assets often at a premium. Large-cap investors, though less active in the acquisitions, held high quality assets with average values of R200 million. REITs had a high concentration of investments in the office sector and the Gauteng region, that is, Johannesburg city. However, the office stock largely comprised secondary market (Grade B) assets and rather marginal prime market assets. Though specific data on these was not available, Johannesburg hosted over 70 international business headquarters, and had a presence of international and domestic real estate professional service providers. Put together, these attributes suggest that Johannesburg is a major city with a financialised office market in which small-cap funds are highly active. Referring to the office business model (see Figure 5-6 above), Johannesburg seemed to exhibit the nature of a major city in which investor motives were predominantly to maximise total returns, and market knowledge was contingent on market surveys and interpersonal relations.

London was also identified as a major city with a significant institutional investment market. It was an international financial centre with a large presence of transnational financial, business and professional services firms. Innovations in real estate investment have enabled global investors to invest in highly financialised real estate assets which not only provide space for advanced production services but also vehicles for diversified investment. The London office market was further complicated by the cyclical relationships between financial and professional service providers, who were often the key occupiers, as tenants to investors and investors were clients and landlords to financial and professional service providers. The changes in business tenant requirements and the increasing composition of overseas ownership shows the complexity of investor requirements which brokers dealt with. While global real estate professional service providers had a leading role in investment asset transactions, it was noted that there were some

single branch firms which moved significant asset volumes and maintained positions in the top 10 investment agency league table since around 2013.

By comparison, the Johannesburg office market size was around 7.5% that of London. As noted, market information on transactions, ownership, and inventory among other real estate fundamentals was not readily available. Despite, the paucity of information, there was a significant presence of transnational corporations and international financial and professional service providers. The Johannesburg office market, though dominated by large-cap investors, had an active small-cap investor sector with investments concentrated in listed REITs. The London office market had a significant foreign ownership and a presence of global professional service providers with deeper insight of local and international markets. Investment was dominated by domestic and global collective investment schemes, institutional investments and REITs.

Office leases in the Johannesburg market have traditionally been for 3 to 5-year terms with annual escalations. London office lease terms have in recent years reduced from the traditional 15 to 20 years with 5-year upward only rent review to under 10-year terms with flexible exit clauses. Finally, brokerage practices were quite different. In Johannesburg, brokers in sale transactions represented the vendor only, though the buyer side could appoint a broker for advisory purposes. In the London market, vendor and buyer sides would be represented by separate brokers. RICS Professional practice prohibits dual agency to avoid conflicts of interest. The issue, then, was how brokers acting on behalf of vendors addressed information asymmetry and behaviour to meet clients' asset disposal requirements in these two markets which converged on their connectivity to global markets, but diverged on local brokerage models.

Falkenbach (2009) finds availability of market information and performance to rank 4th out of 12 factors that least affect market selection. Hence, referring to Theurillat et al. (2015) and Figure 5-6 above, it was imperative to explore how interpersonal relations between real estate professional services and investors were associated with investment sale transactions in global cities with significant end-user, development, private investment and institutional investment markets. Theurillat et al. (2015) argue that relations are vital in the development and private investment markets to gain tacit knowledge and market insight. Institutional markets would not require relations arguably because investors relied on strategic information models for market information.

5.3.2 Sample Description

Curtis et al. (2000) suggest that a researcher's sampling strategy should be relevant to the conceptual framework and research question, generate rich information, be 'generalisable' (replicable), plausible, feasible, and ethical. There is no set guidance on sample size likely to

generate saturation in research using ethnomethodology strategy. Since the study sought in-depth knowledge of how actor perceptions framed the way search was conducted, and was associated commercial real estate market liquidity, sampling was informed by theoretical saturation subject to availability of respondents. Responses were sought from brokers and investors being sellers and/or buyers.

An opportunistic sampling (see Bryman, 2012) was adopted to draw respondents involved in commercial real estate sales transactions. 53 potential respondents were contacted by email and/or telephone to request for interview appointments as shown in Table 5-7. One respondent from Johannesburg who declined cautioned about likely difficulties for the researcher to secure interviews at that time of the year (beginning of Q4) because Funds would have been preparing end-of-year reports.

Table 5-7: Respondents contacted

Context	Respondents	E-mail only	Telephone only	Email and telephone	Total
Johannesburg South Africa	Brokers	6	4	15	25
	Investors	2	3	8	13
London United Kingdom	Brokers	10	0	1	11
	Investors	4	0	0	4
Total		**22**	**7**	**24**	**53**

Source: Author field survey 2015, 2016

Potential participants were under pressure to complete reports by end of November ahead of the end-of-year business shutdown which runs from mid-December to first week of January. However, similar concerns were not present in the case of the London respondents. In total, 19 interviews were secured (Table 5-8 below) comprising 14 commercial real estate broking firms and 5 listed funds (Table 5-9 below).

Table 5-8: Responses

Context	Respondents	Accepted	Cancelled	Declined	No response	Total
Johannesburg South Africa	Brokers	8	0	2	15	25
	Investors	1	2	2	8	13
London United Kingdom	Brokers	6	1	0	4	11
	Investors	4	0	0	0	4
		19	**3**	**4**	**27**	**53**

Source: Author field survey 2015, 2016

All contacted respondents were provided with the project brief by email to alert them of potential questions for the interview (See Appendix 4 and Appendix 5). The respondents were informed in advance that the preferred mode of capturing the conversations was by digital audio recording and interviews would be conducted at their work premises during normal working hours. While the target lists of potential respondents were prepared before the field work started, interview requests were made during the period to allow for flexibility in setting or adjusting appointments.

Table 5-9: Interview List

Respondent	Type	Role	Interview Date
JNB-BR-1	Broker	Director of Operations	Oct. 2015
JNB-BR-2	Broker	Co-Founder and Director	Oct. 2015
JNB-BR-3.1	Broker	Commercial Leasing and Sales	Oct. 2015
JNB-BR-3.2	Broker	Commercial Leasing	Oct. 2015
JNB-BR-4	Broker	Industrial and Commercial	Oct. 2015
JNB-BR-5	Broker	Director	Oct. 2015
JNB-BR-6	Broker	Managing Director	Nov. 2015
JNB-BR-7	Broker	Property Consultant	Nov. 2015
JNB-BR-8	Broker	Senior Consultant Africa	Nov. 2015
JNB-IV-1	Investment fund	New Business Manager – Acquisitions and Sales	Oct. 2015
LON-IV-1	Institutional Investment	Transactions	May 2016
LON-IV-2	Investment fund	Investment manager	May 2016
LON-IV-3	Investment fund	Investment manager	Jun. 2016
LON-BR-1	Broker	Investment agent - office	Jul. 2016
LON-BR-2	Broker	Investment agent – office	Jul. 2016
LON-IV-4	Investment fund	Management	Aug. 2016
LON-BR-3.1	Broker	Investment agent – office	May-2017
LON-BR-3.2	Broker	Investment agent – office	May-2017
LON-BR-4	Broker	Investment agent – office	Jun. 2017
LON-BR-5	Broker	Investment agent – office	Jun. 2017
LON-BR-6	Broker	Investment agent – office	Jun. 2017

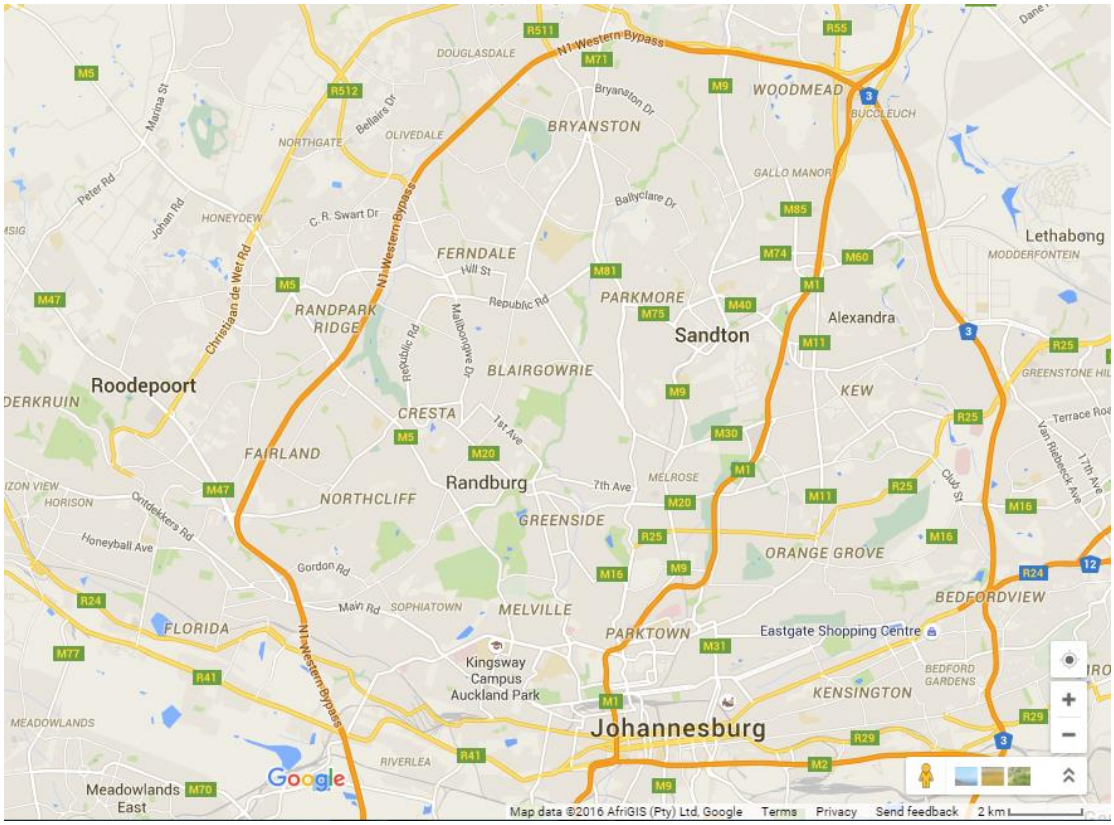
Source: Author (2015, 2016, 2017)

JNB denotes Johannesburg, **LON** denotes London, **BR** denotes Broker, and **IV** denotes investor.

Johannesburg Interviews

The 9 respondents were all located in the prominent office market hubs in northern Johannesburg, including Sandton (often referred to as the "richest square mile in Africa"), Rivonia, Bryanston, Cresta, Blairgowire, and Illovo. The geographical distribution was not an intended criterion, but it emerged out of availability of respondents. Figure 5-19 below is a map of northern Johannesburg. Johannesburg CBD is on the south-end (bottom) of the map.

Figure 5-19: Map of Northern Johannesburg



Source: Google Maps (2015)

JNB-BR-1 was a Director of Operations in a broking firm located in Cresta that had previously focused on residential broking, but diversified over the years into commercial sales. The interview, conducted in the respondent's office, began with an informal chat with the respondent about our backgrounds to create rapport. One concern I had for the interview was to gain trust and be identified with the local property market environment. I introduced myself as a doctoral researcher from University of Reading, Henley Business School, (which has a campus in Johannesburg) but when I mentioned 'Reading, UK' the respondent 'raised eye-brows'. Noticing the uneasiness, I further mentioned my work experience at a local university (in Johannesburg) that has a property studies programme. That relieved the tension but led to a discussion of real estate education in South Africa, the property market and some economic issues. The respondent talked about background education and work experience in the United States. The respondent indicated owning a real estate firm in the USA which ceased operation when the opportunity to work in South Africa availed itself.

When I felt that the respondent had eased, I requested to start the formal interview and presented the protocol of seeking consent to record the discussion. The interview took approximately 40 minutes of recording time. At the completion of the interview and recording stopped, the

respondent mentioned his interest to know the outcome of the research. The respondent highlighted that, given a quantitative focus background and working in Africa, “a place not for sissies” where things are done “differently”, research on social interaction was a promising venture. The respondent emphasised that, even in the US where transactions are transparent and market information is by and large publicly available, there was a fair amount of transactions concluded because of strong relations.

JNB-BR-2 was a founding partner of a broking firm located in Rivonia, north of Sandton CDB. The firm predominantly provides commercial lease broking services and tenant representation but has extended into sales transaction. The respondent (JNB-BR-2) explained that they were encouraged to provide commercial sales broking because often tenants with whom they have strong business relations who scale-up to purchase commercial properties as end-users preferred them as their buyer brokers, and sales brokers when they exit the assets. Hence over time sales broking has grown to a substantial level within the firm’s broking services. From my experience of the first interview, I used my previous work experience as my ice-breaker. It so happened that the respondent was among the first graduates of the property studies programme at the local university where I worked. The informal discussion webbed around how real estate education in South Africa had transformed in over the years. The respondent explained how their career path moved from construction to mining and eventually into property and how the firm grew from a handful to about 20 to 30 employees and associates. I also talked about my career plans and how I developed the passion to research on this area of study.

Having established rapport, I requested to have a formal interview that would be recorded and presented the research protocol. By this time, I was comfortable with the research questions hence I hinted to the respondent that the discussion would take a rather informal conversational format rather than a structured sequence of questions. By doing so I enabled the respondent to respond in a manner they would be comfortable through an unbound sequence of logic that would bring out rich information. the interview lasted approximately 40 minutes during which I maintained to asking short questions and let respondent talk without intervention. After the interview, the respondent asked me a rather difficult question about whom I had already talked to. I found this to be very challenging because it bordered on confidentiality and anonymity of respondents. I responded that the respondent was the first interviewee and that I was still calling around to set up appointments. The respondent then provided me with two contacts with whom I later secured appointments. I was confident that these sources did not contravene my sampling procedures. Even though there was a likelihood of the respondent and the contacts being peers, there was nothing in the research design that prevented such samples from participating in the research as the purpose of the sample process was to gain in-depth knowledge and not seeking representativeness. It turned out that one of the contacts has a unique business model of only

using networks for identity and business sourcing. There would have been no other way of accessing that respondent except through a connection.

JNB-BR-3 was a pair of brokers at a broking firm in Bryanston which largely focused on commercial and industrial lettings and sales. The respondent I had set up an appointment with requested to invite another broker within the firm to participate in the interview. I accepted the request as it was an opportunity to have richer information from one firm but hopefully diverse backgrounds. As I was waiting in the boardroom for the respondent, I noted its mission statement reading, "*Developing long-term sustainable relationships with* …". I saw it as an opportunity I could capitalise on to fit my interview into their environment. The first respondent whom I had communicated with (JNB-BR-3.1) was an industrial commercial broker and the second respondent (JNB-BR-3.2) was a commercial office broker who had worked for a leading listed REIT and some financial lending institutions prior to joining the firm. We started the interview by talking about some political humour in the public media. Politics in South Africa are contentious issues that need to be handled with great caution as some quarters of the public hold strong views. However, commentaries on political humour are common place in informal chats provided personal views are avoided. I took this as an alternative to my usual identification with a local university primarily because I taught a student who was employed at this firm but left under circumstances I did not know. I was concerned that if the circumstances were not amicable, that could affect the rapport between us.

I then drew the respondents' attention to their firm's mission statement and related it to my study emphasising that I was interested in understanding not only why it was important to build 'long-lasting relations but also how these relations were maintained. I presented the research protocol and the interview continued. I let the interview flow as an informal conversation. I presented questions without directing them at a specific respondent. The interview lasted approximately 40 minutes. After the formal interview, the respondents were curious to find out about my background. At this point I disclosed my work experience at the local university. The respondents then inquired if I knew about the [former] employee I to which I affirmed though without seeking to know the reason for the departure. To my relief, the respondents mentioned that the former employee left to work for a family property development business.

JNB-BR-4 was a senior broker at a family industrial and commercial broking firm established in 1887. The respondent had an engineering background working in for an international firm in sales. the interview was preceded with a discussion of our backgrounds. The interview took place at the respondent's office. This time, unlike at the previous interview, I was confident to talk about my background at the local university and my general experience of Johannesburg. The respondent was, I should hasten to mention, quite inquisitive. My sixth sense was indicating a

potential power balancing act considering that he had a non-real estate background. However, it turned out that to the contrary he was curious to establish my understanding of real estate markets from academic and international perspectives. If anything, the interview turned to a levelled discussion rather than a question and answer session. After all interview protocol was presented, the session proceeded as was planned, that is, the interviewer asking short open questions and the respondent left to respond in a manner they would be comfortable with, closing the session with the interviewer's reflection of the interview outcomes and seeking the respondent's ascent to the interviewer' closing views. This interview turned out different as the role changed. The respondent threw the question about liquidity back to the interviewer. My instant intuition was that the discussion would turn into a 'mini examination' either of my knowledge about the subject matter, or the respondent's accuracy to the question. I did not want the respondent to have perceive to be in either positions. I explained the broad scope of liquidity in both the financial and real estate markets, clarifying the similarities and differences between the two and finally how my research fit. I chose to play 'respondent' to assure the respondent that I was not only interested in getting information from him, but also willing to share my experiences. I thought it was over, but it was not. After closing the interview and the recording stopped, the respondent requested if he could ask me a few more questions about real estate market analysis and valuation. At this point, I had mixed feelings about the curiosity, but I reminded myself about formal and informal education particularly in lifelong learning (See Strauss, 1984, La Belle, 1982, Eshach, 2007 for instance). As an educator, I felt everybody deserved access to knowledge regardless of the amount disseminated or medium of doing so. I spared another 10 minutes to explain the underlying principles, and another 5 minutes of informal chat including introductions to the rest of the staff available. A learning point from this interview was that there is potential for power shift at any point in an interview. An interviewer should manage the power shift in a delicate manner to retain control through the process without expressing dominion or subordination.

JNB-BR-5 was a unique respondent. I was introduced to the respondent by JNB-BR-2. The respondent was a chartered accountant that worked in a private wealth department of an international accounting and auditing advisory firm. The unit he worked in specialised in real estate investment advisory. He, together with a colleague from the same department, left the firm to form a commercial property investment advisory firm, which expanded to providing broking services. The firm, which operates from Blairgowrie (see Figure 5-19 above), did not advertise itself or assets in its sales portfolio in any other form than word-of-mouth. Their business cards did not show the business physical address. They only indicated the firm name on the front side with contact name, designation, phone number and email address on the flip side. One would wonder how I got to the premises for the interview. Having been introduced to the respondent by JNB-BR-2 via email, I sent emails with the respondent providing information about my research

and to set up appointment. The respondent provided both the location address and contact numbers to call once I arrived. The respondent met me at the reception and requested if talk at a coffee shop across the road. I had to deal with the issue of how conducting an interview outside the respondent's normal working environment, though at the request of the respondent, would affect research ethics. I had concerns about the appropriateness of the environment, as well as the safety of both of us. The coffee shop had few patrons, but the main distraction was the noise from coffee beans grinding. I felt it was safe for both of us as there was no possibility of complete isolation that would have rendered either of us vulnerable. Apparently, it was the firm's discreet approach to business.

The interview started with discussions of our backgrounds delving into the main issues of the research. After interview ended and recording stopped, the respondent further explained their business model emphasising that big business in the real estate market was in the hands of a few big players who did not want their names 'out there'. That market, according to the respondent, generated sufficient business just through word-of-mouth to sustain the firm. The key was on being at what they were doing to get referrals.

JNB-BR-6 was a broking firm in Blairgowrie specialising in commercial and industrial lease broking but also involved in sales broking. Unlike, JNB-BR-5, the firm believed in full exposure with adverts posted on office windows taking advantage of ground floor location with a street view. In one section of the office, there were dozens of "To Let" and "For Sale" signboards. The respondent talked about the nature of business and their particular interest in industrial and commercial property letting, but was willing to talk about sales transactions. Interview protocol was observed, and the discussion continued. After completing the interview, we talked about the weather and the economic climate in South Africa.

JNB-BR-7 was an international broking firm located in Sandton, the financial hub of Johannesburg. The respondent was property consultant who apart from being a commercial broker was an editor of the firm's regional property market bulletin. The respondent talked about the Sandton real estate market on aspects of the development pipeline, key investors, and sentiments about the Modderfontein development (See Zendai, 2015). After settling down, I presented the research purpose and requested to proceed with the interview. The respondent mentioned that there was another respondent that was expected to participate but could not make it, and instead offered to be contacted on phone if it was needed to do so. I thought that much as doing so would enable me to source more information from a second respondent, I suggested that I would only do so if the respondent requested to contact the other person on a matter that the respondent felt the other person would be better placed to respond to. I did so to indicate my confidence in the respondent's ability to provide relevant information. after the interview, the

respondent turned tables to find out how far I was hoping to take my research, indicating that the real estate industry focused more on cutting deals than generating market research to understand market dynamics.

JNB-BR-8 was an international broking firm in Illovo, south of Sandton. The firm is involved in commercial and industrial lease and sales broking in prime markets. The firm claimed much of their business transactions were on instructions from organisations that pre-appoint them as preferred brokers in acquisitions or disposals. Hence, most of their transactions were repeat businesses to clients who acquired through them and require disposing of the property or vice-versa. The respondent was a senior consultant for acquisitions and disposals for Africa, who had previously worked in the banking industry as a real estate investment risk analyst overseeing sub-Saharan Africa. The interview took place at the respondent's office. We started talking about opportunities and challenges in African real estate markets before getting on with the interview. After the interview, as was the case with the other interviews, we had an informal reflection of the interview. The respondent mentioned something which I wished was captured on the audio recording. The respondent referred to an experience in West Africa where a leading brand was closing down production and instructed the firm to dispose of the industrial property. The respondent instructed a local broker to put up '*For Sale*' signboards but was met with objection. The local broker's response was that Personal Assistants' positions would be advertised but Chief Executive Officers were head-hunted. This implied that prime properties are best marketed by targeting potential buyers and the rest can be advertised.

JNB-IV-1 was a listed Real Estate Investment Trust in Bryanston. The fund invested mainly in office, retail and industrial commercial properties. The respondent was a Manager for New Business – Acquisitions and Sales who had joined the firm a year before after working for several years as a property broker in Cape Town. The respondent emphasised the importance of building relations in the property market stressing that ultimately people deal with people and particularly those they like. Personal interaction was crucial to building trust. After establishing rapport, I introduced my research issue and explained the research ethics. The interview turned to be the longest of all running over an hour. I let the respondent proceed without significant intervention hoping to get as much in-depth information as possible considering that it was difficult to secure interviews with investors. One captivating statement the respondent made was that, "You do not buy expensive whisky from a bottle store where there are five other brands lined up. You want to buy it from a place where it is the only one on display" to demonstrate how investors participate in the acquisitions market. At the end of the interview, the respondent provided me with the firm's 2014 Annual report for information on the firm's investments and performance.

London Interviews

The 10 respondents were all located in either in the City or the West End of London (Figure 5-20). The research did not require cluster sampling and respondents emerged out of availability of respondents.

LON-IV-1 was an investment manager in a real estate investment arm of an international insurance and pension firm. The interview was scheduled to be conducted at the respondent's office. However, just before the appointment time, there was a building evacuation. The interview eventually took place at a café near the holding area, and lasted approximately 20 minutes. This was my first interview in the UK market, hence I was enthusiastic about not only the nature of information but also the professional culture. The respondent was agitated by the evacuation because it had interrupted a transaction which they were hoping to conclude.

Figure 5-20: Map of Central London

Source: City of London (2013)

LON-IV-2 was a transaction manager with an investment fund, and an alumnus of Henley Business School. The respondent and I initially talked about the real estate program at Henley and my past work experience. The respondent also discussed the firm's investment activities and the London property market in general before getting on with the main purpose of the interview. The interview lasted approximately 35 minutes.

LON-IV-3 was an investment manager with a real estate fund for an insurance and pension fund, and an alumnus of Henley Business School. The interview took place just before the United

Kingdom referendum on European membership, hence the rapport was dominated by post-referendum prospects. The respondent indicated that the property market was holding back investment deals awaiting the outcome of the vote. The interview lasted around 30 minutes and a further 10 minutes of general property market talk.

LON-IV-4 was a Chief Executive Officer of a global real estate fund. The respondent presented an overview of the firm's activities. In the preliminary discussion, the respondent indicated that they maintained strong research relations with academic institutions including University of Reading. The respondent did not hesitate to mention their dissatisfaction of how academic research lagged industry realities and how that influenced decision-making, which affected investment stability particularly in the UK. I let the respondent express themselves without interruption hoping to capture in-depth perceptions about market expectations and practices. The interview lasted over an hour.

LON-BR-1 was a transaction advisor with a leading international real estate advisory firm and specialised in London West End transactions. The discussion began with an overview of the firm's international involvement. The interview ran for approximately 30 minutes, after which a second respondent, a national client advisory manager from the same firm was introduced for another interview which lasted about 15 minutes. The second respondent raised an unanticipated issue about social interaction, gender and the nature of background. It is an issue that was thought-provoking and deserves research attention.

LON-BR-2, an alumnus of Henley Business School, was an investment agent with a real estate advisory firm specialising in London West End market. Pre-interview discussion centred on the respondent's experiences at Henley Business School and drifted into post-referendum sentiments. The interview lasted for about 40 minutes after which the respondent provided me with marketing brochures on some of the opportunities the firm was promoting.

LON-BR-3 were alumni of Henley Business School and junior graduates working as investment agents in an advisory firm in West London. Before the interview, the respondents talked about their experiences with the firm particularly the rotation of roles in various commercial investment sectors. The interview conducted at the office premises ran for just over 30 minutes. Both respondents voluntarily contributed to the discussion and were keen to verify whether they had addressed the questions.

LON-BR-4 was a graduate surveyor and an alumnus of Henley Business School working for a real estate advisory firm in the City. The respondent was responsible for office and retail transactions in fringe markets of London but also had experience in investment residential markets. the interview was conducted in a café at the firm's premises and lasted over 45 minutes.

The respondent expressed appreciation of face-to-face interviews, because, like the property business, they provided the kind of interaction which built business relations.

LON-BR-5 was an investment agent working for an advisory firm in the City, and an alumnus of Henley Business School. The respondent talked about the nature networks dominating the London commercial markets being largely shaped by family and educational backgrounds particularly from the Cambridge, Reading and UWE alumni. The interview lasted over 35 minutes and was conducted at the firm's office.

LON-BR-6 was a junior graduate and investment agent in a real estate advisory firm in the City and a Henley Business School alumnus. The respondent had international experience in commercial office transactions particularly in France and Germany. An intriguing aspect the respondent raised was the secretive nature of brokerage in continental Europe. The respondent mentioned that brokers in the UK market were open to information exchange, but in sharp contrast, the brokers in European markets despite being mature markets were protective of how much information they disclosed and that relations mattered a lot. The interview was conducted in the firm's café and ran for nearly 40 minutes

5.4 DATA PREPARATION

Data preparation is an essential stage of research which not only arranges data in a format suitable for analysis, but also helps the researcher to familiarise with the content of the data and control validity threats.

All interviews were digital audio recorded using a high definition SONY ICD-PX240 Digital Voice Recorder and manually transcribed by the researcher using Sony Digital Voice Editor 3. Manual transcription has the advantage of familiarising with the transcript which helps with data analysis. Secondly, it enables overcoming conversion issues associated with speech tones or accents which software transcription may not be able to handle or would require training. These transcripts are saved in .txt format which can be read by standard word processing packages. Transcript files were converted to Microsoft Word ® .doc files which were then uploaded into NVivo® for coding and analysis.

5.5 DATA ANALYSIS

Research epistemology guides what one can say about data and informs how one can theorise it. Raw data, interesting as it might be, may not be useful to the reader to understand the social world behind it unless it is systematically analysed to highlight its existence. There are various ways of analysing qualitative data with the notable ones being thematic analysis, narrative analysis and secondary analysis such as discourse, content and conversational analysis (Bryman, 2012, Gray, 2013).

5.5.1 Development of data analysis method

A constructivist theoretical thematic analysis was adopted to analyse interview data. Themes are identified through theoretically proscribed aspects of constituent expectation drawn from ethnomethodology to establish how perceptions of the sociocultural context (properties and dimensions) and structural conditions of contingencies in the search process of commercial office sale transactions are associated with perceptions of appropriate search intensity and eventual search outcomes. Bradley et al. (2007) define a theme as, "*Recurrent unifying concepts or statements about the subject of inquiry*." Thematic analysis is appropriate for analysing how actors make sense of their contingencies. Braun and Clarke (2006) describe thematic analysis as a method of identifying and reporting patterns within qualitative data.

Thematic analysis could fall under a realist or constructivist epistemology. Realist thematic analysis theorises individual motivations, experiences and meanings in a simplified way assuming a unidirectional relationship between meaning and experience. Constructivist thematic analysis assumes meaning and experience are socially constructed rather than embedded in individuals. It seeks to theorise sociocultural context and structural conditions which inform the accounts provided by individuals.

Thematic analysis is also distinguished between inductive and theoretical thematic analysis. In inductive thematic analysis, themes emerge from data bearing similar properties as would be the case in pure grounded theory. Data is coded without trying to fit it into a pre-existing coding system or researcher's theoretical perspective. Specific research questions emerge from through the coding process. Theoretical thematic analysis is driven by a researcher's theoretical perspective. Themes emerge from the researcher's theoretical stance. Codes are generated from theory-driven research questions.

5.5.2 Computer-Aided Qualitative Data Analysis Software Application

Computer-aided Qualitative Data Analysis is a method of using computer software to organise or analyse qualitative data. NVivo 11 ® was used in this research to organise data through coding in a manner that would enable the researcher to identify, analyse and report themes.

Data coding was adopted from grounded theory research paradigm. Böhm (2004) describes coding as *deciphering* and *interpreting data* including naming concepts, explaining them and discussing them in detail. In pure grounded theory, theory is generated from ground-in patterns emerging from empirical data. The researcher refrains from pre-conceived theoretical influence. Analysis starts by coding observed or recorded data. Theory is developed through a process of identifying tags and labels which are grouped into categories and analysed for relationships. Basit (2003) describes codes and categories are tags or labels for allocating meaning to descriptive and

inferential information compiled during a study. Codes help catalogue key concepts while preserving the context of the settings in which they occur (Bradley et al., 2007).

Coding can be manual or electronic. Manual coding can be intensive, but it is effective in coding raw data from unstructured or semi-structured source, or for meaning such as phrases or context rather than content. Computer-assisted qualitative data analysis software (CAQDAS) facilitates accurate and transparent data analysis by providing simplified ways of identifying references for people, actions, events or locations. It is, however, difficult to make sense of how different themes knit together to form a whole (Welsh, 2002). CAQDAS has often been used as an administration tool to organise data more efficiently such as highlighting text and linking it to codes, writing memos electronically, or assigning the same text to multiple codes. Three types of coding namely, open, axial and selective coding have been distinguished mainly from Glaser and Strauss (1968) and Corbin and Strauss (1990).

Open coding

Open coding, or "initial coding" (Charmaz, 1995), involves identifying and tentatively labelling words, phrases or events emerging from the data into substantive codes by which observed phenomena can be grouped (Glaser and Strauss, 2009). Open coding involves scrutinising data line by line, or even word by word to define actions and/or events that the researcher sees as occurring in or represented by it (Charmaz, 1995, Lelle, 2010). Open codes are potential indicators of concepts for understanding a phenomenon, hence are assigned conceptual labels (Corbin and Strauss, 1990). The codes are of descriptive nature in that they break down data to gain insight of the phenomenon reflected in the data. The researcher can generate *in-vivo* codes which are informal interpretations of phenomena directly taken from the text. The researcher uses background knowledge about the context of the textual passage, or general area of investigation to generate interpretative text (tags) by which phenomena can be understood (Böhm, 2004). Though numerous open codes can be identified, not all of them are used.

The researcher identified 72 open codes through line-by-line textual analysis (See Appendices 12 to 16). The researcher sought texts and phrases in the text that were recurring or appeared important to the context. Some tags were inevitably identified through the researcher's background knowledge of the area of investigation.

Axial coding

Axial coding involves re-examining categories identified during open coding to determine how they are linked (Strauss and Corbin, 1990). Concepts that appear to belong to similar phenomena are grouped together to form categories. Categories are 'cornerstones' for theory building. They are important for developing relationships between axial categories and concepts related to a phenomenon (Böhm, 2004). To constitute a category, the more abstract concepts must be

developed in terms of properties, dimensions, conditions, actions/interactions and consequences (Corbin and Strauss, 1990, Böhm, 2004). Appendix 17 shows the way axial coding was undertaken in this research.

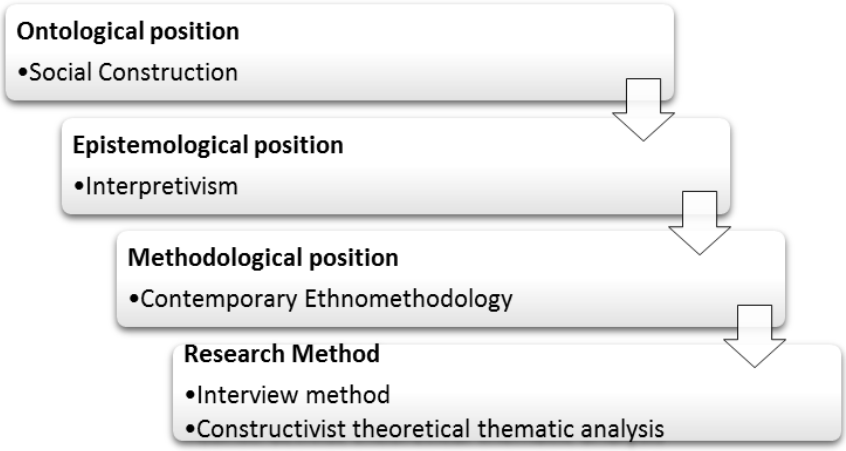
Selective coding

Corbin and Strauss (1990) describe selective coding as, "a process by which all categories are unified around a central 'core' and categories that need further clarification are filled-in with descriptive details." Böhm (2004) further states that even though the central aspects of a central phenomenon may have captured in a number of well worked-out axial categories, in practice one axial category could include the central phenomenon. It would also be sensible to give a central location to a phenomenon to which more than a single axial category relates. This could be done by summarising or reformulating existing axial codes (See Appendix 18).

OVERVIEW OF RESEARCH DESIGN

The research design for this study on understanding contingencies to processes in commercial real estate sale transaction which are associated with liquidity in the markets is summarised in Figure 5-21 below.

Figure 5-21: Research Design Outline



Source: Author 2015

5.6 THREATS TO INTERNAL AND EXTERNAL VALIDITY/CREDIBILITY

Complete truth about reality is hardly known. The purpose of research is to better understand reality through developing, improving or testing theory. Research is a process designed by the researcher to achieve better understanding of what is going on. Research strategies and methods of data collection, analysis and reporting are influenced by the researcher's philosophical stance about the nature of reality to be understood. Quantitative research tends to adopt pre-designed methodologies and methods that have been tested and verified by other researchers. Qualitative research design is contextual considering the multiplicity of realities embedded in phenomena.

There are as many research designs as phenomena about the reality being investigated. Hence, there cannot be one 'right' approach and the adopted research design could be flawed. Validity threats indicate how research designs could render research outcomes to be invalid and unreliable.

Qualitative research approach has often been viewed by quantitative researchers as lacking rigor in establishing whether the instruments used accurately capture reality and whether outcomes can be consistent. Winter (2000) cites Hammersley (1987) as stating that, "*An account is valid or true if it represents accurately those features of the phenomena that it is intended to describe, explain or theorise*." Maxwell (2012) maintains that qualitative research approach seeks to understand processes in situated contexts, while quantitative approach is interested in variations from static expectations in phenomena. Lincoln and Guba (1985) translate internal validity to credibility, external validity to transferability, reliability to dependability, and objectivity to confirmability. Mishler (1990) argues that extending quantitative validity concepts to inquiry-guided qualitative research is misleading. Some aspects of validity and reliability quantitative such as generalisability and repeatability respectively are not consistent with qualitative research philosophy.

Maxwell (1992) asserts that qualitative researchers agree that not all possible accounts of some individual situations, phenomena, activity, institutions or programs are equally useful, credible, or legitimate. Validity in a broad sense pertains to the relationship between accounts and the phenomena the accounts are about, and not the internal coherence, elegance or plausibility of the accounts themselves. He identifies three broad validity concerns in qualitative research: descriptive validity – the factual accuracy of accounts, interpretive validity – providing valid description of physical objects, events or behaviour in a setting of the study, and theoretical validity – the account's validity as a theory of phenomena, that is, the validity of the concepts as they are applied to phenomena and the validity of the postulated relationships among concepts.

5.6.1 Descriptive validity:

Descriptive validity is important to qualitative research because description is critical to credibility and defensibility of this research approach. This validity threat occurs in data collection. It refers to the accuracy in reporting descriptive information (Johnson, 1997). The threat relates to the primary understanding of specific situation or event for instance whether action is a physical or behaviour event, whether the respondent had actual experienced or the account is simply hear-say, and the inference of statements for instance what intensity of recurrence does 'frequent' imply.

Maxwell (1992) highlights two forms of descriptive validity. Primary descriptive validity relates to the factual accuracy of what the researcher observed (saw, heard or experienced). Secondary

descriptive validity refers to validity of accounts that were inferred from other data (accounts) that the researcher did not actually observe, but could in principle be observed. Possible threats to trustworthiness and credibility of accounts arise from relying on participant's views without alternative evidence of the accounts.

Ethnomethodology strategy principally involves interviews and audio-visual recordings to establish the participant's contingencies. The use of problem-centred interviews in place of audio-visual recordings is a potential source of secondary descriptive validity. The researcher's description of the participant's accounts of the problem context could influence the factual accuracy of the accounts presented in the interview. Primary descriptive validity threat was addressed by capturing respondents' accounts using high definition digital audio recording, and the researcher manually transcribing the recorded interviews *in-vivo*.

5.6.2 Interpretive validity

Qualitative researchers assume that qualified, and competent observers can, with objectivity, clarity and precision, report on their own observations of the social world, as well as experiences of others (See Berg and Berg, 2001). Researchers hold a belief in the real subject, the real individual who is present in the world and able, in some way, to report on his or her experience (Denzin and Lincoln, 2011). It is the researcher's responsibility to search for the properties and dimensions of phenomena (social interaction) as well as linkages between conditions, (inter)action, and consequences (Corbin and Strauss, 1990). Using theoretical thematic analysis could influence the researcher to focus on and interpret themes derived from literature overlooking or completely missing on emerging themes that may not have been identified in previous research.

5.6.3 Theoretical validity

Maxwell (1992) describes theoretical understanding as an account's function as an explanation as well as a description or interpretation of phenomena. Sampling criteria for the research are sufficient to understand how participants' social networks could explain their selection of search strategies and its influence on search duration. There is a threat that participants drawn from the researchers' personal contacts and referrals may not be easily replicable in other settings to generate a plausible and authentic theory.

5.7 REFLEXIVITY ON RESEARCH AND INTERVIEW QUESTIONS

The researcher prepared 21 potential interview questions of which four were on liquidity, six on search, and 11 on social networks (See Appendix 3) covering the three thematic areas.

Rapport

The search process in a real estate transaction consists of a series of activities extending from information preparation to negotiating an exchange. Unlike many other ordered processes, the real estate search process is a non-continuous process. Phases in the search process are often completed at time separated within the searcher's broad activity log. Consequently, there is a practical challenge to capturing the actual search process through unobtrusive observation methods.

The problem-centred interview approach, being a scenario-based data capturing method, should enable the respondent to describe typical and/or extreme scenarios of seemingly unordered activities into 'ordered' activities of their *'own world'*. This approach, however, posed a secondary descriptive validity threat (See 5.6.1 above). Respondents were asked to describe their roles in the firm to establish the credibility of their accounts. Such roles as owner, principle, deal team, vendor or introducing agent would suggest credibility.

Respondents were also advised of the research ethics prior to audio recording. Audio recording only commenced when a respondent consented to the recording. The digital recorder was placed at a conspicuous position not only to clearly capture the respondent's speech, but also for the researcher to be display transparency. Respondents were advised to avoid revealing their personal or firm identity during the recording. They were assured that if they did so the researcher would replace the true identity with a pseudo name.

All respondents in the nineteen (19) interviews in Johannesburg, South Africa and London, UK provided descriptions of their roles. All except for one further provided business cards with descriptions of their roles and contact details. This triangulation of information confirmed the respondents' roles. The low inference descriptors and data triangulation (see Johnson, 1997) addressed the credibility threat of respondents' accounts.

Interview questions in this sub-section sought to establish how respondents understood both real estate market liquidity and the search process. The questions also sought to establish how respondents actually searched in the market.

i. Understanding of liquidity

Since this research was inspired by debates on liquidity in real estate markets, the researcher sought to establish how respondents understood the phenomenon of liquidity. The researcher's intention was to establish how prominent time of market was in real estate broker perception of

liquidity. Discussing how liquidity was understood also enabled respondents to make sense of the context of the research. The researcher sought to understand how respondents understood market liquidity in general and particularly real estate market liquidity. These introductory questions were intended to establish how respondents perceived real estate market liquidity.

The question posed to respondents with respect to how market liquidity was understood was, "*What do you understand market liquidity to be?" (Q1.1)* The anticipated responses were references to facilitation of easy conversion to cash, exchange, or availability of market information. Validity threats were both primary and secondary interpretive threats. Primary interpretive validity threats arose from the researcher's interpretation of the responses. Secondary interpretive validity threats emanated from the respondents' interpretation of the question. However, since the researcher was seeking descriptions and not definitions, the threats were addressed by allowing for low inference descriptors. The question did not pose threats to research ethics.

Three questions were presented to address how real estate market liquidity was understood. The first question was phrased as, "*How would you describe real estate market liquidity?" (Q1.2).* The researcher expected responses to comprise statements suggesting trading turnover in monetary or space terms, bid-ask spread, price impact and/or time on market as suggested by literature. Validity threats in the question were both primary and secondary interpretive threats and were addressed by allowing for low inference descriptors. Since the research was based on understanding how time on market indicated real estate market liquidity, the researcher followed-up with a question on how time on market was understood in relation to real estate market liquidity in situations where a respondent did not provide a response relating to time on market. Though a follow-up question of this nature was a prompt for deeper insight of a respondent's perception of the research issue, it posed a confirmation bias. (Nickerson, 1998) describes confirmation bias as "*the term is typically used in the psychological literature, connotes the seeking or interpreting of evidence in ways that are partial to existing beliefs, expectations, or a hypothesis in hand."* The questions did not pose threats on research ethics.

The next question was, "*How would you relate real estate market liquidity to that of other asset markets?" (Q1.3)* The expected response was that real estate markets would be less liquid than other markets. The question posed a secondary interpretive validity threat. It hinged on how a respondent interpreted the term 'other markets'. 'Other markets' could have implied 'other' private real asset markets, commodity markets, or private/public financial markets. The validity threat was addressed by allowing for low inference descriptors. The question did not threaten any research ethics issues.

The final question relating to liquidity was, *"What are the common and distinguishing factors between liquidity in real estate markets and their asset markets?" (Q1.4)* The anticipated responses would relate to transaction costs, inventory holding risk, adverse information, and the role of brokers. This question was not directly posed to respondents. Rather, the researcher looked out for signposts in responses to question Q1.3. There were both primary and secondary interpretive validity threats relating to this question. The primary interpretive threat was that the researcher's interpretation of a response as a contrast statement was actually intended to be so. The secondary interpretive threat arose from whether a respondent interpreted Q1.3 to be one that required an elaborate explanation of contrasts in liquidity between real estate and other markets. The threat was addressed by allowing for participant feedback on the researcher's interpretation of the implied distinction. The question did not raise any research ethics issues.

ii. Search in real estate markets

The fundamental purpose of this research was to understand how the search process in real estate transactions was associated with market liquidity. The researcher presented a series of indirect questions to understand how respondents searched for exchange opportunities. (Schön, 2003) maintains that, *"In day-to-day practice, a professional makes innumerable judgments of quality for which he cannot state adequate criteria, and displays skills for which he cannot state the rules and procedures. Even when she makes conscious use of research - based theories and techniques, she depends on tacit recognitions, judgements, and skilful performance."* Interview questions were grouped to cover perceptions of search purpose, approaches and termination.

Questions in sub-section were intended to establish how respondents understood search in real estate markets. The first question, "*What do you aim to achieve in searching for exchange opportunities when you are selling and/or when you are buying?" (Q2.1)* sought to establish the nature of instructions that were associated with commencement of search. The expected responses were such as would indicate price dispersion (favourable price), optimal price (near-market value), and optimal search cost (maximise marginal benefit). At data collection, the question posed a secondary descriptive validity threat that the researcher did not actually observe what respondents claimed to have aimed for. The threat was addressed by allowing for low inference descriptors. The question also posed a theoretical validity threat that some responses may not have theoretical backing under current literature. The threat was addressed by allowing for theory triangulation - "*a use of multiple theories and perspectives to help interpret and explain data"* (Johnson, 1997). The researcher was also aware of potential confirmation bias. There were no research ethics issues concerning the question.

The second question, "*How would you decide to stop searching?" (Q2.2)* was posed to address how respondents terminated search. Some indicators of search termination would be achieving

a sample large enough to offset cost, bid matches expected price, no incremental benefit. This question posed a secondary descriptive validity threat, which was addressed by allowing for low inference descriptors. The research also allowed for pattern matching with responses to Q2.1. No research ethics issues were identified with the question.

Q2.1 and Q2.2 related to search commencement and termination respectively. They were presented in this order to indicate the boundaries of inquiry on the search process. The next set of questions (Q2.3 to Q2.6) were presented to understand the contingencies that were associated with sustaining and/or terminating search. This approach enabled the researcher to explore the search process in an ethnomethodology-consistent strategy, that is, exploring contingencies to properties, dimensions, conditions, actions/interactions and consequences of a process, without leading a respondent into a pattern of inquiry. Questions Q2.3 and Q2.4 addressed the conditions of search, while Q2.5 and Q2.6 focused on action/interaction in search.

The question, "*What would influence the time it takes to decide to stop searching?" (Q2.3)* was introduced to establish contingencies that would be associated with the decision to (i) sustain search -as duration of interacting- and (ii) terminate search – an action of withdrawing resources from the activity. Expected responses included indicators of the pool of known potential purchasers, access to unknown potential purchaser, as well as market and rating information relating to the trading asset and quality of potential purchasers respectively. The question posed both primary and secondary interpretive validity threats. The threat was addressed by allowing for low inference descriptors and participant feedback. There were no research ethics issues associated with the question.

The next question, "*How would you resolve influences on the time it takes to stop searching?" (Q2.4)* explored how a respondent made sense of potential actions or interactions that were associated with the decision to continue or terminate search. Potential responses included methods and frequency of advertising (formal), as well as referrals, direct contact, or networks (informal). The question posed a secondary interpretive threat of how a respondent would interpret the phrase 'how to resolve influences'. Low-inference descriptors and participant feedback were allowed for to address the threat. The question also posed a secondary descriptive validity. The threat was addressed through pattern matching with responses to Q2.3. There were no identified issues on this question relating to research ethics.

The last two questions in this sub-section sought to establish how respondents conducted search for exchange opportunities in commercial real estate markets.

The question, "*How do actors search for exchange opportunities in commercial real estate markets?" (Q2.5)* was tackled using scenarios of potential exchange opportunities of prime and non-prime office assets. Expected responses would be adverts, auctions, head-hunting, or

pitching (open or selective). The question posed a secondary interpretive threat relating to how a respondent interpreted the nature and location of the scenarios. The question also presented a secondary descriptive validity threat relating to whether a respondent would have actually acted in the same manner as claimed. Low-inference descriptors and participant feedback were allowed for to address the threats. There were no research ethics issues about this question.

The last question relating to the search process, *"Why would an actor search using these approaches?" (Q2.6)* sought to establish how a respondent made sense of how choices of search actions (Q2.5) were associated with search purposes (Q2.1). potential responses would relate to price dispersion (favourable price), optimal price (near-market value), optimal search cost (maximise marginal benefit). The question presented a secondary interpretive validity threat of how a respondent would interpret and relate the question to Q2.1. The researcher allowed for pattern matching to address the threat. The question did not raise any research ethics issue.

Having explored how respondents perceived the way they search was conducted, the next set of questions sought to establish how they used social networks in the search process. The conceptual understanding of the role of social networks in economic exchange was that actors (in this case brokers) relied on social networks to resolve uncertainty over the vendor's identity and the trading asset's quality as well as the purchaser's behaviour or intentions and the verification of trading asset's quality. The researcher sought to understand how brokers resolved inventory holding risk (risk of whether and when an asset would sell), and adverse information risk (whether the other party had superior information).

iii. Social Networks in Commercial Real Estate Transactions

Respondents were informed that the researcher was investigating social networks for economic exchange, which were explained as interactions between two or more people to establish or sustain a business transaction. The questions addressed two key areas, which were, how social networks were associated with commercial real estate trading activity, and time on market (liquidity).

a. Understanding social networks in economic exchange

The initial set of questions under this section aimed at exploring how respondents perceived the way social networks would be associated with trading activity in commercial real estate markets. The researcher raised these questions to understand how brokers established information on the identity of vendor and asset, as well as information on the quality of potential purchasers to resolve uncertainty about the prospects of a search process.

To explore how respondents understood social networks, the researcher presented the question, "*Considering an economic exchange situation, how would you describe social networks, and how they operate?" (Q3.1).* The anticipated responses were descriptions that would indicate

interactions used to resolve market uncertainty, the nature of unconnected opportunities, or strategic contacts for accessing potential exchange partners and implementing transactions. The question posed a secondary interpretive validity threat. The threat came from how respondents interpreted 'social networks' considering that it was not a body of knowledge traditionally encountered in real estate practice. Though networking has been a common phenomenon in business practice, social networking was likely to be perceived as peer or cultural phenomenon. For this reason, the researcher clarified whenever possible that the nature of social networks explored were those that involved economic exchange, and not peer or societal emotional support. The researcher applied data triangulation techniques to address the threat by seeking descriptions of the nature of interactions. The question did not raise ethics issues since respondents were not asked to identify alters.

The researcher sought to understand respondents' perceptions of when social networks would be necessary to search exchange opportunities in general. The question, "*When would you consider social networks to be necessary to search for exchange opportunities?" (Q3.2)* was presented. The question was presented to establish how responses would relate to claims in the literature that social networks would be necessary when the identity and quality of the traded asset and exchange partner were problematic, and market mechanisms could not resolve the associated uncertainty. The question posed a primary interpretive validity threat. The researcher allowed for low inference descriptors to address the threat. No research e*thics issues* were identified.

The researcher sought to explore the understanding from literature that social networks would be necessary when the identity of the traded asset and actor (search), as well as the quality of asset and behaviour of the actor, were problematic.

The question, "*If selling, how would you expose potential exchange opportunities to potential purchasers?" (Q3.3)* was presented explore how respondents made the trading assets '*visible'* to potential purchasers. Expected responses would be descriptions suggesting formal (non-personal) approaches like adverts, auctions, and open pitching, or informal approaches such as head-hunting, and selective pitching. This question posed a secondary descriptive validity threat. The threat was addressed by data triangulation through the question, "*If selling, how do actors identify potential exchange partners?" (Q3.4).* There were no research ethics issues related to the questions.

The next set of questions explored respondents' perceptions of when ascertaining the quality of the trade asset and the behaviour of the actor would be problematic. The question, "*If buying, what are the potential risks in the exchange opportunity?" (Q3.5)* was presented. Expected responses were asset quality and vendor behaviour. The follow-up question, "*How would the*

actor deal with them? (Q3.6) was posed to triangulate the response to Q3.5. Due-diligence technical reports would indicate ascertaining asset quality. Rating, insurance, warranties, internalisation, or social networks, such as professional or other voluntary affiliations, scope (size, diversity, domain), strength of ties, and social position would indicate quality of vendor behaviour. Both questions presented secondary descriptive validity threats. There were no research ethics issues associated with the questions.

Having explored the role of social networks in general economic exchange, the researcher sought to examine how respondents would perceive the role of social networks in real estate exchange transactions.

Two questions were presented to establish whether respondents perceived search for real estate exchange opportunities to be problematic. The question, "*How would you describe your experience of searching for real estate exchange opportunities?" (Q3.7)* was presented establish whether respondents perceived search in real estate markets was problematic or not. There was a secondary descriptive threat and primary interpretive validity threat associated with the question. The researcher used low inference descriptors and participant feedback respectively to address the threats. No research ethics issues were identified with the question.

The question, "*With what would you associate your experience in searching for real estate exchange opportunities?" (Q3.8)* sought to establish what respondents perceived to the explanation for their response to question *Q3.7*. The question aimed at establishing indicators of market information asymmetry. Expected responses included descriptions of information on transaction volumes and margins, spatial dispersion of market, privacy of market information, or role of brokers. The question posed both primary and secondary interpretive validity. The researcher allowed for participant feedback to address the threats.

b. Social networks in commercial real estate markets

Having narrowed the discussion to real estate markets, the researcher explored how social networks could affect time on market of commercial real estate investment assets. the underlying research question was *how social networks were associated with search for exchange opportunities relate to real estate market liquidity.* The researcher presented the question, "*How would you use social networks in your role as a commercial real estate broker?" (Q3.9)* to establish how respondents would resolve uncertainty in real estate markets. Responses were expected to indicate the identity and quality of the traded asset and the exchange partner. The question presented a secondary descriptive validity threat, which was addressed through data triangulation. There were no research ethics issues identified with the question.

The question, "*How would (not) involving social networks influence brokerage?" (Q3.10)* was presented to triangulate Q3.9. The anticipated responses were indicators of influence on time to

stop searching, and influence on time on market. The question posed a secondary interpretive validity threat of how a respondent would interpret business interaction as a social network activity associated with brokerage. Low-inference descriptors were allowed for to address the threat. The question did not pose any ethics issues.

The researcher presented question, "*How do you understand social networks and real estate market liquidity?" (Q3.11)* to get feedback from respondents on how they understood the association of social networks with real estate market liquidity. The anticipated responses where that social networks were or were not associated with real estate market liquidity. If they were, social networks would be deemed to be non-market methods of resolving market uncertainty. There was a primary and secondary interpretive validity threat identified. The researcher used participant feedback and low inference descriptors to tackle the threat. There were no research ethics issues identified.

Questions *Q1.1* to *Q3.11* were interview questions which the researcher presented in a format that was relevant to each interview. As indicated earlier, the researcher presented the three thematic areas (liquidity, search, and social networks) to respondents at the beginning of an interview. The researcher also encouraged respondents to address the areas in a sequence they were comfortable with. By doing so, the researcher expected respondents to provide rich information. Consequently, some questions were not actually posed when a respondent addressed the questions in their response without being prompted. In some instances, questions were phrased incorporating a respondent's statement.

c. Social networks in global commercial real estate markets

The final question was a research question posed to understand how the nature and association of social networks to commercial real estate transactions compared between developed and emerging markets. The question was presented to address the primary interpretive validity threat. Negative case sampling was used to tackle the threat.

5.8 ETHICS IN DATA COLLECTION

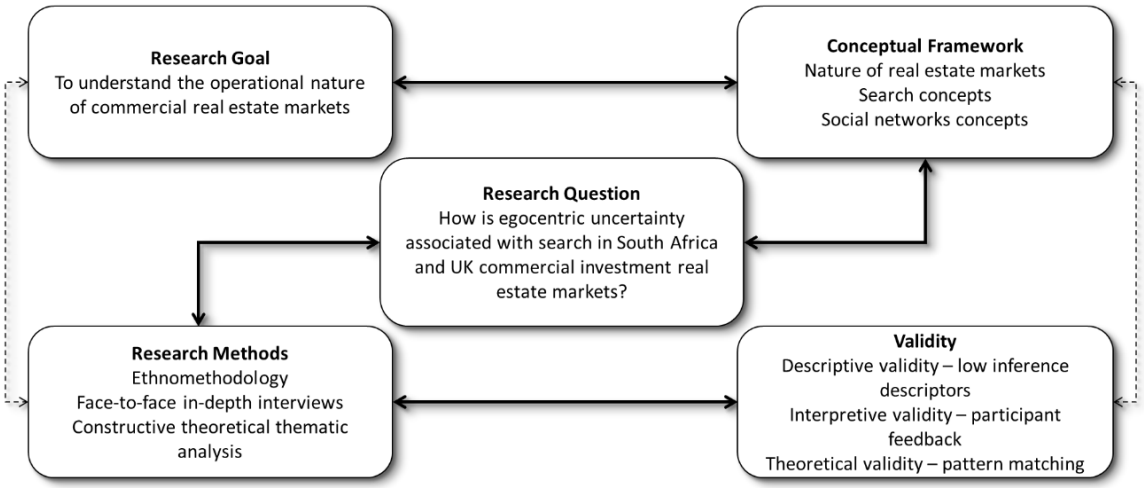
Questions about preparing and clarifying the research topic, the design of the research, the strategies of gaining access to participants, collecting and analysing data, and reporting the findings must be handled in a moral and responsible way (Saunders et al., 2009). General ethical issues recognised include privacy of participants, voluntary participation or withdrawal from participation, consent without deception, confidentiality of data and identity of data providers, reaction of participants, effect of participants on manner data is used, analysed and reported – descriptive validity, interpretive validity, and behaviour of researcher. To the best of the author's knowledge, potential participants are not classified as vulnerable by any social, economic or legal

description. Every effort was taken to ensure that participants or those that grant access were informed about the nature of the research, requirements of participating, implications of participation and participant's rights, what the collected data was to be used for, how it would be reported, and whom to contact should there be any questions to be asked about the research.

To ensure anonymity and confidentiality of participation, randomly allocated pseudo-names would be used (See Appendices 1 to 8 for relevant ethic documents). All raw data would be permanently destroyed upon completion of the research in accordance with the University Data Protection and Management Policy. Being an academic research in fulfilment of the requirements for the award of a doctoral qualification, intellectual property rights of the report are vest in the academic institution. Participating public intermediaries would be afforded access to the report, and if requested an abridged version of the report would be provided for their benefit.

Figure 5-22 below summarises the interactive approach to research design for exploring the operational nature of commercial real estate markets. It shows how the research question is developed from the research goals and conceptual framework. It also outlines how the research question informs the research methods and influences validity issues. The interactive nature of the research design adopted from Maxwell (2012) ensured that research methods indirectly reflected on achieving the research goal. Validity issues were also informed by the nature of data proscribed by the conceptual framework.

Figure 5-22: Research Design Map



Source: Author 2015

5.9 SUMMARY

Literature indicates that social networks analysis captures how actors resolve uncertainty about opportunities in markets where search is problematic. Search in real estate markets is problematic. In the absence of market mechanisms, searchers rely on social interaction to find

each other, but need to adopt an optimal strategy to transact as quickly as possible. While current research on duration variation is extensive, research on the contingencies that influence search strategies is lacking.

The research question was developed from the conceptual framework. A social constructivist epistemology was identified to be appropriate for the research question. Ethnomethodology was consequently adopted as a research strategy to investigate how vendors make sense of different transaction situations and choose search strategies. Data on properties, dimensions, conditions, actions/interaction and consequences of social interaction on search duration was collected through face-to-face interviews from purposefully sampled participants. NVivo® was used to organise data for constructivist theoretical thematic analysis.

The researcher was aware that the research would be exposed to descriptive, interpretive and theoretical validity threats because of the nature of data collection and the conceptual framework relied on to address the research question. Low inference descriptors, participant feedback and pattern-matching were adopted to address these threats. Using this research design, the next two chapters present the findings from the Johannesburg and London studies. The findings from the two markets are then compared further in Chapter 8.

CHAPTER 6: LIQUIDITY AND SOCIAL NETWORKS IN JOHANNESBURG OFFICE MARKET

6. INTRODUCTION

Chapter 5 set out a detailed research design for exploring the operational nature of real estate markets. Constructive theoretical thematic analysis was devised to provide an analytical framework to identify emerging phenomena within theoretically guided boundaries. This chapter presents emerging themes of potential contingencies associated with search in commercial real estate sales transactions in Johannesburg, South Africa. Data analysis is presented in three broad thematic areas of liquidity, search and social networks. Emerging themes about contingencies to the search process and the role of social networks, are sought using the ethnomethodology framework for understanding processes, which are, properties, dimensions, conditions, interactions/actions and consequences. The outcome of this chapter is a substantive theory of how search in office sale transactions was perceived to be conducted in the Johannesburg commercial real estate market. The key indication is that social networks were necessary in transactions when knowledge of client requirements was essential. Social networks were hence useful to accessing and managing private information as well as developing bonds which sustained the flow of private information.

6.1 RESEARCH QUESTIONS

The research question generated from the conceptualisation was how egocentric uncertainty was associated with search in Johannesburg, South Africa and London, UK commercial investment real estate markets.

6.2 RESEARCH GOALS

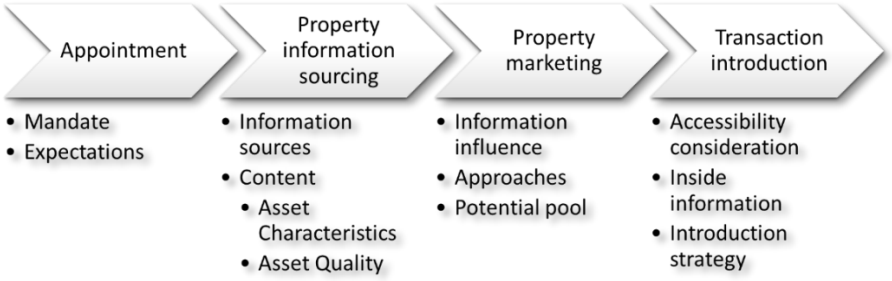
The primary goal of this research was to explore contingencies to search processes that could be associated with asset duration on market in private commercial real estate markets. The researcher addressed the goal in three thematic areas, which are liquidity, search, and social networks. These thematic areas were outlined to respondents at the start of interviews. Respondents were encouraged to address these thematic areas in the ways they would be comfortable. They were informed that the researcher would ask some follow-up questions where appropriate. The purpose of providing a thematic outline at the beginning of the interview was to enable respondents to address research issues *in vivo* while maintaining control of the interview process (see Rubin and Rubin, 2011). This approach required the researcher to listen attentively to the respondents and to constantly identify aspects that had (not) been addressed. The researcher asked follow-up questions primarily to seek clarification on issues deemed important that respondents raised but seemed not to have addressed adequately. Follow-up questions were asked to ensure that the thematic areas were exhausted as nearly as was possible.

Consequently, the sequence and structure of questions issues was not exactly the same across the respondents, but were considered to be exhaustive. It was expected that themes would emerge from the overall interview data and not from specific locations of scripts as would be the case in content analysis. the next section describes the nature of interview questions, and how validity threats and ethics issues were addressed. The rest of the chapter comprises thematic analysis, and emerging themes from Johannesburg respondents

What is going on?

Since qualitative research is relevant to studies of social relations when a researcher must develop sufficient appreciation for the processes fundamental to behaviour, it often begins with seeking to know '*what is going on*.' Figure 6-1 below present an outline of the researcher's perception of the real estate transaction process emerging from data familiarisation.

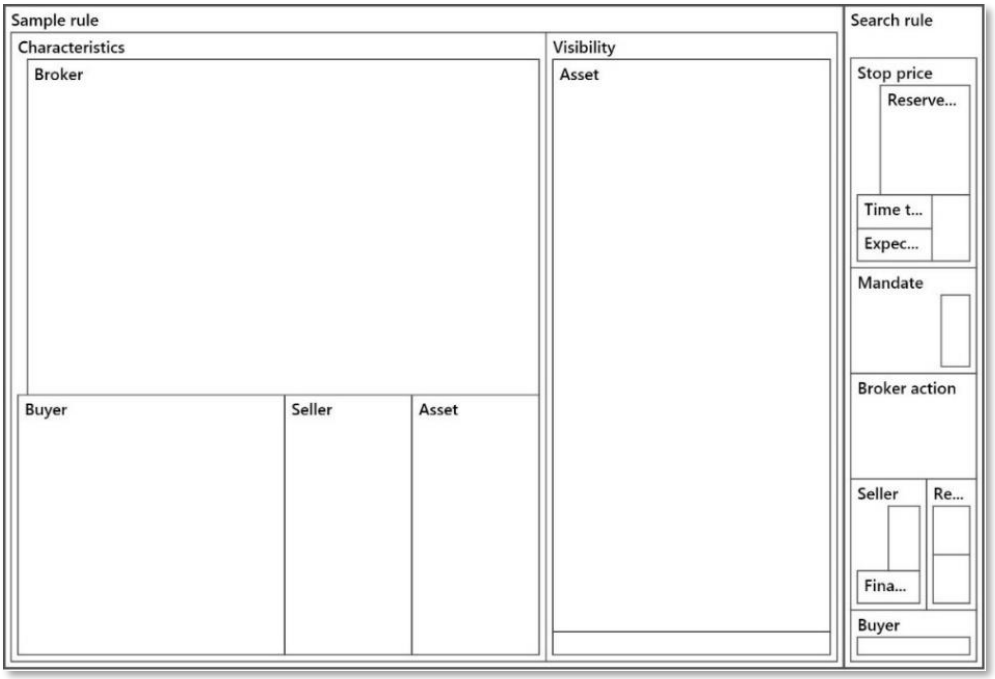
Figure 6-1: Perceived real estate transaction process



Source: Author 2016

The researcher initially grouped open codes into characteristics, visibility, broker action and stop price categories. The characteristics category comprised open codes that indicated asset, broker, seller, and buyer characteristics. The visibility category included open codes that indicated how assets were exposed to the market. Characteristics and Visibility categories were then placed under a higher order code labelled as sample rules. The stop price category was assigned to search rules. The sample rule was a theoretical code adopted from search theory (See Kohn and Shavell, 1974, Morgan and Manning, 1985) to understand the phenomenon about how a searcher would go about deciding the way to sample (observe) opportunities. Search rules explained how a searcher observed opportunities and terminated search. The substantive theory was that asset, and actor (seller, buyer and broker where applicable) characteristics and how assets were exposed (marketed) seemed to relate to how searchers observed opportunities and terminated search. Figure 6-2 and Appendix 3 below indicate the categories that the researcher used to generate the substantive theory. The box size illustrates the amount of text references coded at nodes.

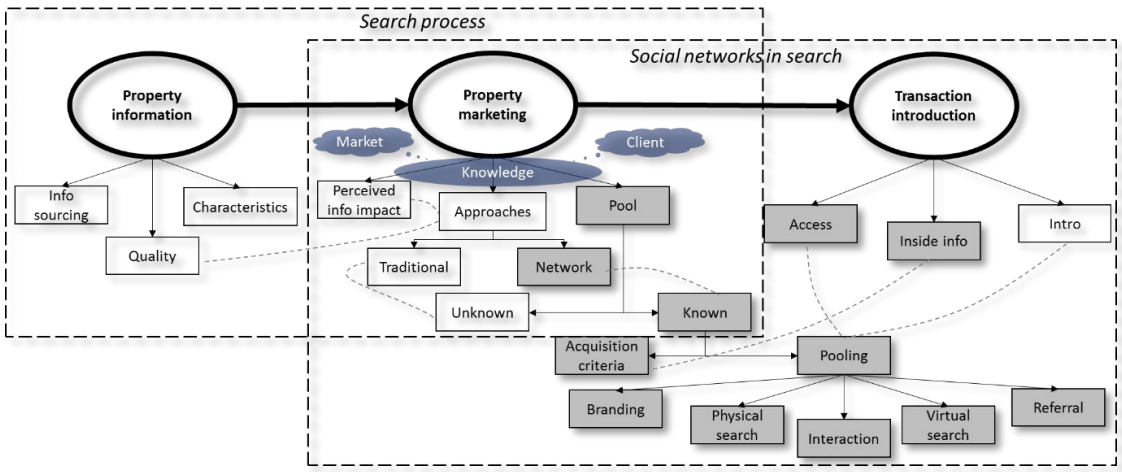
Figure 6-2: Axial coding generated by NVivo 11 ®



Source: Derived by Author (2016) using NVivo (1999)

Initial axial coding generated three broad themes, which were property information, property marketing and transaction introduction as shown in Figure 6-3 below. The search process seemed to be associated with property information, and marketing. Property marketing and transaction introduction seemed to relate to social network role in search. Hence, property marketing seemed to be the theme linking search processes with social interaction. This framework was used to identify, and re-examine codes and categories shown in Figure 6-3 below

Figure 6-3: Thematic real estate sale transaction process



Source: Author field data 2015

The researcher conducted further analysis to re-organise emerging codes into broad categories as shown in Appendix 18 to be consistent with ethnomethodology process framework. The selected codes and attributes were defined in the Code Book shown in Table 6-1 below. A concept map was then developed in NVivo ® (See Appendix 19) to appreciate linkages between various attributes from the generated codes.

Table 6-1: Codebook for analysing search in commercial real estate sales transactions in South Africa

Search stage	Dimension (Axial codes)	Attribute (Open codes)	Indicator	Definition	Description
Sampling	Asset	Type	Use	Classification asset purpose	Occupant primary activity
		Class	Grade	Quality of asset	Rating of asset's condition
		Size	Area	Quantity of space	Amount of usable floor space
		Location	Suburb	Physical position of asset	Locality of asset
	Seller	Type	Holding purpose	Motivation for holding asset	Investor, end-user
		Investment style	Asset value category	Investment maturity quality	Core, value-adding, opportunistic
		Disposal motive	Transaction proceeds allocation	Intended use of realised capital	Re-investment, re-aligning, exiting
	Mandate	Exclusive	Participation	Sole agency	Single participation
		Non-exclusive		Multiple agency	Multiple participation
	Transaction Privacy	Discreet	Privacy	Unnoticeable to public	Withholding information
		Non-discreet		Noticeable to public	Publicising information
	Broker capacity	Individual	Experience	Personal ability to handle transaction	Track record of involvement in transactions
		Brand	Team	Firm ability to handle transaction	Combined experience
		Market knowledge	Geographical delineation	Information about the asset exchange environment	Spatial coverage
			Stock		Asset coverage
			Players		Participants
		Buyer knowledge	Type	Information on motivation for acquiring asset	Investor, end-user
			Investment requirements	Information on Investment maturity quality	Core, value-adding, opportunistic

Search stage	Dimension (Axial codes)	Attribute (Open codes)	Indicator	Definition	Description
			Financial capacity	Information on ability to transact	Source of funds, internal or external
			Attitude to conspicuity	Information on perception of transaction noticeability	Views (stance) about implications of transaction noticeability
Searching	Pooling	Active	Personal	Identifying persons known to searcher	Searcher identifies known potential participants
		Passive	Impersonal	Inviting persons not known to searcher	Searcher does not influence who participates
	Searching	Target	Personal	Approaching known persons	Searcher pitches opportunity to known persons
		Passive	Impersonal	Entertaining unknown persons	Searcher observes offers from unknown persons
	Sale	Exchange	Transfer	Assignment of asset ownership	Seller accepts offer and terminates search
	Re-market	Search	On-market	Asset remains on market	Seller rejects offer and continues search
	Withdrawal	Retention	Off-market	Asset is removed from market	Seller rejects offer and terminates search

Source: Author 2016

6.3 EMERGING THEMES

The researcher sought to establish emerging themes in three broad thematic areas, namely, liquidity, search and social networks.

6.3.1 Liquidity

Given the various ways of understanding liquidity indicated in Chapter 2 above, the researcher sought views from respondents on their understanding of real estate market liquidity. Respondents were asked about their perception of liquidity [in general] and real estate market liquidity. This thematic area provided rapport and indicated how respondents were familiar with the research issue. Funding liquidity, transaction activity and time on market were identified.

i. Funding liquidity

Respondents identified liquidity with availability of funds to transact immediately and/or frequently. Some descriptions of liquidity were as follows:

> "*… My understanding of liquidity is the ability of a company to raise money or have access to money to fund a particular property transaction …" JNB-BR-4*
>
> *"… liquidity will basically evolve around the availability of Capex [capital expenditure] to the fund that is needed to purchase [a] property …" JNB-BR-6*

The descriptions below appeared to relate funding liquidity to transaction activity.

> *"… I would suspect it [liquidity] means that there is sufficient cash on hand with investors … to acquire with relative ease and frequency so that there is a strong exchange in the market place of various real estate investments …" JNB-BR-1*
>
> *"… for me liquidity is all based on the ability to continuously increase the size of the fund … in terms of small and private landlords looking to grow property funds not necessarily for listing purposes, but as a property fund in terms of … funding the growth of their property portfolio and how quick access they have to those funds …"*

ii. Transaction activity

Transaction activity was sometimes related to funding liquidity as shown above or emerged on its own as activity in sale transactions. JNB-BR-1 indicated that the commercial sector was '*very'* active as it seemed to be insulated from the market corrections that were experienced in the residential market, hence attracted well-funded private and portfolio investors. JNB-BR-7 described liquidity as follows:

> "*… I understand [liquidity] as assets being sold … moving between funds. There is quite a lot of movement bringing liquidity with it at the moment in South Africa … there are volumes and more movement of buying and selling properties in the funds …"* JNB-BR-7

JNB-BR-8 presented a comprehensive description of transaction activity by stating that:

> *"… the way I understand liquidity is when you have assets that are readily available to move hands. When I say, 'readily available,' it is assets that are known to be on the market and accessible by different players who typically have the funds to ensure that the properties get transferred with a reasonable time frame. So, if there is a lot of transfers … on certain properties, I would say the market is liquid …"* JNB-BR-8

This description of liquidity by JNB-BR-8 related transaction activity to a time frame in the sense the amount of transactions in a specified period.

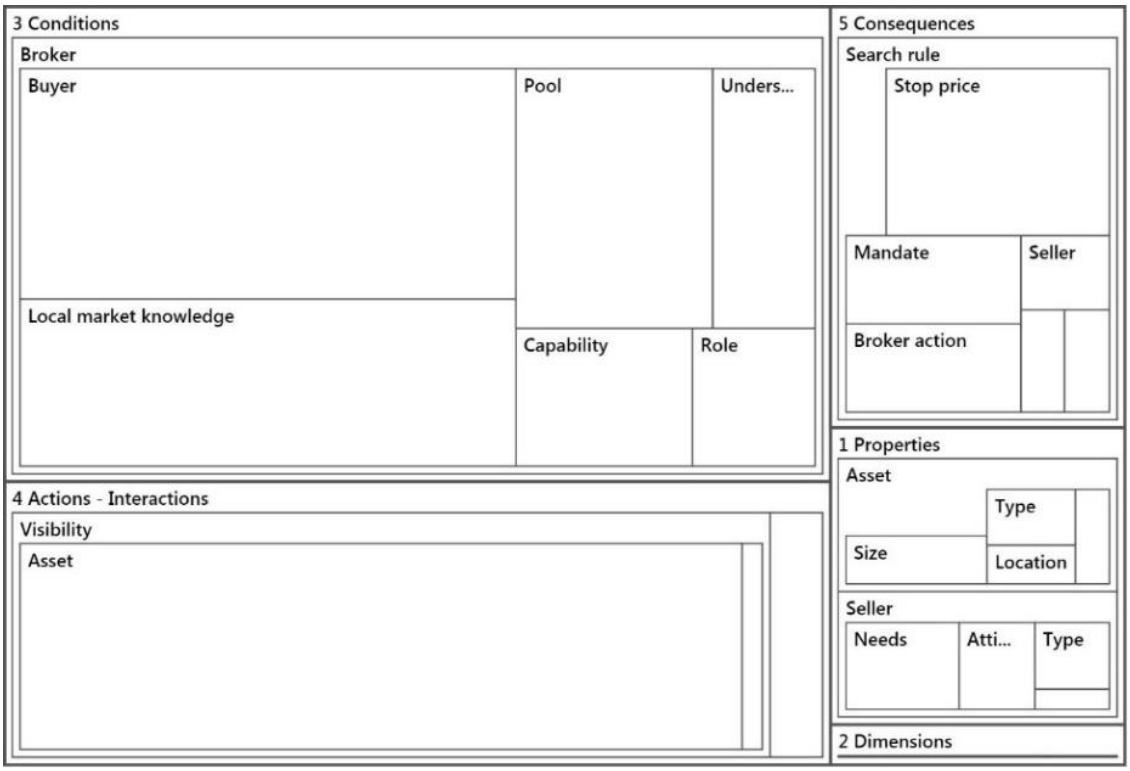
iii. Time on market

Time on market may not be described as an emergent theme in the strict sense as more often than responses came out of prompts rather than voluntarily. Responses leaned towards indicating that well-priced prime individual properties in good locations were easier to dispose of than the rest. Indicated marketing periods ranged from 'being snapped immediately' for prime assets to 3 – 6 months for smaller buildings outside the CBD.

6.3.2 Search process

The researcher analysed contingencies to the search process using the ethnomethodology approach. The findings are presented below under the headings of process properties, dimensions, conditions, actions, and outcomes. Figure 6-4 shows the selective coding generated in NVivo ® and used for the analysis.

Figure 6-4: Selective coding for search in commercial real estate markets in South Africa



Source: Author 2016 using NVivo (1999) ®

i. Process Properties

Transactions, as Rawls (2008) argues, involve individuals interacting to exchange assets where the coherence of object (asset), identities (parties) and action depend on mutually understood practices that lead to constituent expectation, which would be the exchange of the traded asset.

a. Asset attributes

Asset attributes which emerged from descriptions were asset class, type, size, and location. These attributes described the physical nature of the traded asset. JNB-BR-5 stressed that the nature of a trading asset was critical to the composition of the pool of potential purchasers.

> *"Once we understand the asset, … that defines … our potential list of purchasers because we know what they look for." (JNB-BR-5)*

JNB-BR-3 typified the association of asset attributes to identification of potential purchasers as follows:

> *"If we talk about the actual asset [in] Bryanston, A-Grade building, less than 5 years old, blue-chip tenant … 5 or 10,000 square metres, it's a very easy sale. Most landlords private or listed property funds are geared for those kinds of transactions … looking at 20,000 square metres of Sandton Head Office … it's all falls down to a yield, … smaller office space, 4,500 square metres, likely go to a very small investor or a young investor … or … an owner-occupier." (JNB-BR-3.1)*

Asset value [asking price] was also mentioned to have influence on potential purchasers. JNB-BR-2 stressed that it was important to understand an asset's characteristics and value to identify potential purchasers with interest in assets within a given range of values. JNB-BR-4 stated that:

> *"The value of the transaction will dictate who could potentially participate in such a transaction. You know … you got to target the people that you know have the capacity to participate in the transaction."* (*JNB-BR-4)*

Though asset value seems to be associated with asset attribute, it is plausible to adopt it as an alternative to physical indicators of an asset's attributes.

b. Vendor attributes

Vendor attributes were not explicitly identified by respondents but emerged from sentiments about vendor preferences for portfolio asset values, transaction privacy, or disposal motive. Respondents highlighted the importance of understanding vendor distinctions, motivation and preferred approach to dispose of an asset. Respondents often referred to vendors as '*big funds*' '*small investors*' or '*end-users*' to mention a few. JNB-BR-8 highlighted that properties are acquired or disposed of to re-position owners' asset holding. JNB-BR-4 indicated that R50m was a common threshold that distinguished '*big funds*' from '*small investors*'. JNB-BR-2 asserted that entities that preferred portfolios with assets above R50m were likely to dispose of any assets below the threshold. JNB-BR-3 and JNB-BR-5, referring to large listed funds, indicated '*[those] big entities*' preferred that knowledge of intended or actual transactions to be confidential because it could affect public perception about fund performance. JNB-BR-3 also indicated that the distinction between '*funds'* and '*end-users*' had influenced how assets were marketed. Therefore, apart from vendor type (public listed funds, private investors end-users), vendors could further be grouped by their preference of transaction publicity (discrete or open) and disposal purpose (re-positioning, re-financing, or exiting).

Process properties are therefore understood as comprising trading asset attributes (type, class, size, and location) and vendor attributes (type, privacy caveat, and disposal motive).

ii. Dimensions

Dimension, as how a phenomenon can be understood, needs to be carefully set in the context in which it shall be understood. The search context for this research is one where there is a principal-agent relationship between a vendor and broker, and the onus of searching is on the broker. The dimensions of search sought related to how the broker made sense of options to undertaking a search task. Mandate and transaction privacy emerged as themes.

a. Mandates

A mandate can be described as an instruction from a principal to a broker which outlines the terms by which the broker would act on behalf of a principal. Among these terms would be a grant of right to exclusively or severally represent a principal in a transaction. A principal's belief of an agent's acceptable performance record, or trust that an agent would perform with honesty and integrity was, therefore, critical to granting a mandate. JNB-BR-4 stated that trust tended to matter more to private [investors] than to funds and that funds were inclined to performance. These findings suggested that social proximities mattered to private investors, and funds were concerned about cognitive proximities. The nature of mandate seemed to benefit both the principal and potential purchasers but in somewhat different ways.

With respect to the principal, an exclusive mandate was believed to maintain transaction privacy and mitigate potential negative publicity. Furthermore, an exclusive mandate was perceived to indicate loyalty, demonstrating a principal's trust of a broker's capability to handle an instruction. JNB-BR-3 stated that in reciprocity, an exclusive mandate motivated a broker to utilise their intellectual property such as network resources.

Respondents believed that potential purchasers were amiable to introductions through exclusive rather than multiple sale mandates. It was believed that an observation of multiple brokers introducing the same assets would be perceived as an indication of a vendor's desperation to dispose of the asset. Exclusive mandate also assured the protection of a potential purchaser's interests such as preference of competitors. The mandate was deemed to give a potential purchaser an indication of the nature of competition probably on the anticipation that brokers approached potential purchasers with similar participation capacity. Lastly, an exclusive mandate was believed to provide control of the bargaining process, hence, the value by withholding transaction information from unsophisticated potential purchasers.

There were mixed findings on patterns of how exclusive mandates were granted between large investors (funds) and private investor or end-users. Some respondents hinted that some large funds either

restricted instructions to a handful of brokers, similar to observations by Henneberry and Mouzakis (2014), or granted exclusive mandate for a specific period and extended the mandate to other brokers if the deal did not 'dance'.

Open mandates were believed to encourage efficiency. A broker, aware that there were other brokers with similar instructions, would strive to be the first to introduce a client that would seal the deal. JNB-BR-1 emphasised that, since sophisticated clients rarely granted exclusive mandates but usually had other brokers that they dealt with, brokers would be compelled to 'quickly move' an asset out to a potential purchaser. JNB-BR-4 also emphasised that in the absence of an exclusive mandate speed was of the essence to identify a potential purchaser and get a sale agreement on the table quicker than the opposition. JNB-BR-6, however, noted that in small markets, an open mandate could mislead a principal into believing that brokers introduced an asset to different clients, yet it was quite likely that some would be introducing it to similar clients.

b. Transaction privacy

Transaction privacy emanated from narratives about what vendors and potential purchasers were likely to be concerned about regarding the knowledge in the market about a sale transaction. Confidentiality emerged as the indicator for transaction privacy. It appeared to benefit principals and brokers. Some principals were believed to prefer 'managing' negative perceptions by maintaining confidentiality of their intentions to dispose assets. Apparently, such perceptions were feared to potentially induce capital flight from public investors in listed funds. Potential purchasers were believed to perceive prominence of transaction knowledge in the public domain to indicate potential firm instability or questionable asset quality. They could also affect employee morale in the case of end-user clients, hence affect the bottom line in the short-term. A confidential transaction would not affect public perception of a trading asset's value and the asset would still '*check the boxes*'*(JNB-BR-3)* even if it were withdrawn from the market.

Transaction privacy apparently helped brokers have control over the distribution of marketing information. JNB-BR-2 believed that distributing information on a transaction opportunity in the public domain could have a domino effect. The broker would lose control of information dissemination. Information could end up in the hands of 'bandit' competition. JNB-BR-3 similarly advised that a broker could lose market identity by '*exposing'* themselves to everybody, and eventually the asset would on everyone's desk. This observation echoes Broeke (2015)'s emphasis that large overlaps in cognitive proximities led to redundancy of market actors, in this case the broker, to the network.

Non-discrete transactions were preferred by principals who sought to dispose of an asset in a short time to exit a market, or to acquire an alternative investment option available. It could, also, be that the principal did not know an asset's market value or a broker did not have a known potential purchaser. JNB-BR-5 acknowledged that the best offer price could be outside the broker's known potential

purchasers. These purposes for non-discrete transactions seem to be consistent with Stigler (1961)'s large size sampling to reduce price dispersion.

The findings presented this far about properties, dimensions and conditions are broadly pre-search preparatory information that inform how a broker would proceed in searching for a potential purchaser in a sale transaction. JNB-BR-2 underscores the role of a broker as follows:

> "*to identify the building or portfolio, what the fundamentals are, and matching it to conversations with potential purchasers … people that can perform and have financial and technical resources to conclude the deal … not going out emailing a hundred purchasers about a transaction that only maybe thirty might be interested or are capable of purchasing it …". (JNB-BR-2)*

iii. Conditions

Conditions are situations around, and inhibitions to a transaction. Two themes which emerged were broker capability and market knowledge required to accomplish a client's sale instruction.

a. Broker capability

A broker's competence to perform intelligibly in a transaction is associated with the nature of the task. Respondents emphasised the role of capabilities to transact in securing appointment as a broker. Capability seemed to be associated with knowledge of potential purchasers for a given asset rather than skills or training to undertake a sales transaction. JNB-BR-3.2 maintained that their knowledge of what exactly opportunity to introduce to a potential purchaser was gained through experience interacting with funds. JNB-BR-1 indicated that clients were attracted by the demonstration of individual and brand capabilities, seemingly a combination of inter-organisational and social proximities. JNB-BR-2 and JNB-BR-8 claimed that their demonstration of capabilities was associated with the generation of repeat business. JNB-BR-1 and JNB-BR-7 indicated that an individual broker who did not have the capacity to handle a transaction would involve other team members within the firm (intra-organisational proximity) to find potential purchasers. JNB-BR-5 associated preferential treatment to their demonstration as a brand of the ability to handle transactions in ways which were ideal to their clients' motives. Broker capability, therefore, is understood as the cognitive proximity demonstrating individual ability and organisational proximity showing brand quality to accomplish disposal instructions.

b. Broker marketing knowledge

Broker's marketing knowledge emerged as an attribute which described a broker's ability to position an asset in a market. Some vendors, as JNB-BR-1 and JNB-BR-4 indicated, had idealistic expectations about assets they intended to dispose of. JNB-BR-8 maintained that a broker's demonstration of market knowledge indicated to a vendor the nature of the background checks a broker would have done to understand an asset's up- and downsides as well as how it would fit potential purchasers' acquisition criteria. It was a broker's role to, '*know what clients are looking for and what is being provided out*

there' (JNB-BR-3). Themes which, therefore, emerged were demonstration of local market knowledge and clients' acquisition requirements.

Local market knowledge indicated an understanding of geographically delineated markets, the nature of stock in that market, and the players participating in that delineated area. In target search situations, presented in the Action stage later in iv below, a broker needed to understand potential purchasers' attributes to align a potential purchaser's '*appetite' (JNB-BR-8)* with financial capacity. JNB-BR-5 identified the process of gaining market knowledge as involving an active area investigation to know the stock, owners, players, and casually engaging with players to '*better know*' those they did not have previous interactions with. Alternatively, market knowledge could also be gained through a reactive strategy of tracking inquiries to better understand the inquirers and their local market area.

Attributes of broker knowledge of clients' acquisition criteria which emerged were understanding purchaser's requirements, and attitude to transaction privacy. The purchaser's domain was identified by asset preference and occupier type. It helped brokers to optimally search (see Morgan and Manning, 1986) by '*ring-fencing*'*(JNB-BR-4)*, stratifying, clustering, and positioning potential purchasers, and simply to cut [search] costs down. JNB-BR-1 claimed to have capitalised on brand reputation to access '*a small network*' of key market players and interact with them to '*truly'* understand their investment strategies. JNB-BR-3 cautioned that, "… *you do not do what very junior brokers do … send a client 100 options, wasting your time, client's time, and probably frustrate them and they'll not deal with you again*." They claimed to have used continuous interaction from previous work experience (social proximity) to "*break the big guys' exclusivity shield*," identify key market players, understand their acquisition strategies, access market and property information as well as know their needs.

Attitudes to transaction privacy captured the way potential purchasers would react to the way an asset was marketed. Respondents indicated that some potential purchasers would perceive extensively marketing of a high-end asset to be a '*slap' (JNB-BR-2)* in the market as it would seem to be an indication of desperation, or an undesirable invitation of unsophisticated competition, both of which were likely to '*stain*' the asset. Some potential purchasers would, also, not participate in widely marketed assets to avoid public knowledge of their activities.

Conditions of search to a broker can thus be understood as individual capabilities and brand effects which could be associated with accumulating local market knowledge and in some situations understanding potential purchasers' acquisition strategies to provide economies of scale (See Micelli et al., 2000, Wiley and Zumpano, 2008).

iv. Action

JNB-BR-3 stressed that a broker needed to understand potential purchasers' acquisition criteria, and '*go out there and find things for them ...'.* Emerging themes which indicated how brokers searched for a potential purchaser were target and indirect search. In both approaches, there appeared to be a two-

step process of setting out search criteria which were the identification of a pool of known or unknown potential purchasers, and observing offers.

a. Pooling of potential purchasers

Pooling describes a process of drawing a set of potential participants from a known or unknown network. The process appeared to hinge on asset attributes and a broker's perception of clients' attitude to transaction privacy. JNB-BR-1 claimed that '*conversations, phone calls and meetings with seasoned investors [moved] larger size investment opportunities with cash flows*.' Smaller-sized investment opportunities to unsophisticated investors or end-user [sold] quickly in the traditional sense by '*sticking a [For Sale] board*' in front of the trading asset. JNB-BR-2 applied asset value strata, attributes, and transaction complexity criteria to identify a '*smaller core*' of potential purchasers to engage with. JNB-BR-3 used a spatial approach of delineating development nodes to identify potential end-user purchasers and searched in-node first before extending to adjacent nodes.

In case of portfolio assets, there seemed to be various marketing approaches used brokers. JNB-BR-3 pooled potential investors according to their requirements. The respondent cited a transaction opportunity where two potential purchasers were identified. The first owned a property adjacent to the transaction opportunity hence was an expansion opportunity. The second potential purchaser had acquired a development with similar investment characteristics not long before hence the opportunity would fit their investment criteria. JNB-BR-7 applied a spatial approach and focused on business nodes with agglomeration opportunities to a potential purchaser. JNB-BR-4 began by grouping potential purchasers into clusters of institutional investors (funds) and private investors, then followed by how accessible they were to a broker. They would initially engage with those that have '*an easier*' [accessibility] policy and with whom they had strong relations (social proximity), but strive to give all identified potential purchasers an opportunity. JNB-BR-8 pooled potential purchasers by financial capability and acquisition strategies. The common pooling criterion appeared to be the client type hinting at financial capacity and asset class preference. Spatial attributes also emerge in terms of how relevant localised economic activities were to mobility drivers. Local market activity seemed to be more emphasised on by end-users, who acquired assets for owner-occupation purposes, than by investors, who had no occupation incentive but sought to maximise returns or diversify market exposure.

b. Searching

Target search describes a search approach by which a searcher (broker) was perceived to actively seek out potential purchasers to engage with in sales negotiation. Target search appeared to be used when potential purchasers were deemed to be large seasoned investors whose requirements were known to a broker. Respondents indicated that quite often they maintained '*shortlists'* of potential purchasers, but priority was contingent on the strength of relations, accessibility, and recent enquiries or mandate. A broker would acquire information about a potential purchaser through active interactions, and

conversations, or passive tracking of enquiries and previous mandates. All respondents but one claimed to introduce transaction opportunities to few potential purchasers at a time. They would only proceed to the next cohort when no potential purchaser from the current cohort expressed interest. The strategy was identical to Morgan and Manning (1986)'s optimal search strategy.

Indirect search is a non-personal approach to identifying potential purchasers by conspicuously indicating an asset's availability for exchange to potential purchasers whose requirements were unknown. The main goal would be to achieve a '*fairly high price*'. Advertising and auctions emerged as indicators of indirect search. Brokers were motivated to adopt these '*traditional approaches'* by the likelihood that a potential purchaser would be an end-user or one outside a broker's known pool. Indirect search would also be used when a vendor gave instructions to do so when the time to sell was not a constraint.

This far, it seems broker perception of transaction attributes and client's instructions, where applicable, were associated with how brokers accomplished search tasks. Brokers tended to adopt target (informal) search action in transactions which involve large funds perceived to prefer transaction privacy. The approach required a broker to understand both the vendors' disposal criteria and potential purchasers' acquisition criteria. Formal non-personal search approaches seemed to be used in transactions which involved unsophisticated private investors, or end-users whose requirements would have not been known to the broker. Brokers perceived the necessity for formal search strategies to be that to maximise a transaction price rather than minimise transaction privacy, hence could be deemed as acting in the best interest of the client.

The findings that have been presented to this point are associated with how search would be initiated and sustained. It is, however, vital for brokers to reduce search costs by applying stopping rules which prevent perpetual search. The next section presents findings on how brokers implement the rule for search termination.

v. Stopping rule

The stopping rule, a decision to terminate search, depends on search purpose. Search terminates either by accepting an offer or withdrawing an asset from the market. The two highlighted search purposes were to pursue a near-market value, or to maximise the transaction price. The stopping rule was contingent on search costs, price or mandate conditions on time to transact.

If a vendor had a reserve price, the broker would discuss market realities with the vendor and advise on accepting an offer near-market value. This stopping rule was associated with transactions which involved sophisticated investors who understood market fundamentals and would not pay more than market value. It was also associated with discreetly marketed assets which could remain on the market for a considerable period or be withdrawn without noticeable effect on its market value.

Where a vendor without a reserve price sought to maximise the market price, a broker would advise on a strategic pitching plan to expose a trading asset to a larger but unknown market audience. Search terminated when the best offer from received bids was accepted. A vendor would be advised to accept the highest offer received within a period before the asset got '*tainted'*. This rule seemed to be associated with transactions which were likely to attract '*unsophisticated'* private investors and end-user vendors.

Existing literature on the role of brokers highlights this decision-point on search termination as a potential source for conflict of interest. A broker could advise for early termination of search to reduce search costs, or pro-long it in anticipation of higher offers and better remuneration. Brokers, however, seemed to address potential conflict of interest by seeking to establish trust as indicated in 6.3.3ii e on page 193 below.

Substantive theory

The fundamental point drawn on search in commercial real estate markets in the Johannesburg study is that search for potential buyers was contingent on sampling rules in that:

i. Sampling rules were shaped by a broker's perception of how asset and vendor attributes were likely to influence the preferable asset marketing strategy
ii. Marketing strategies affected the ways potential buyers were identified and the importance of knowing their requirements

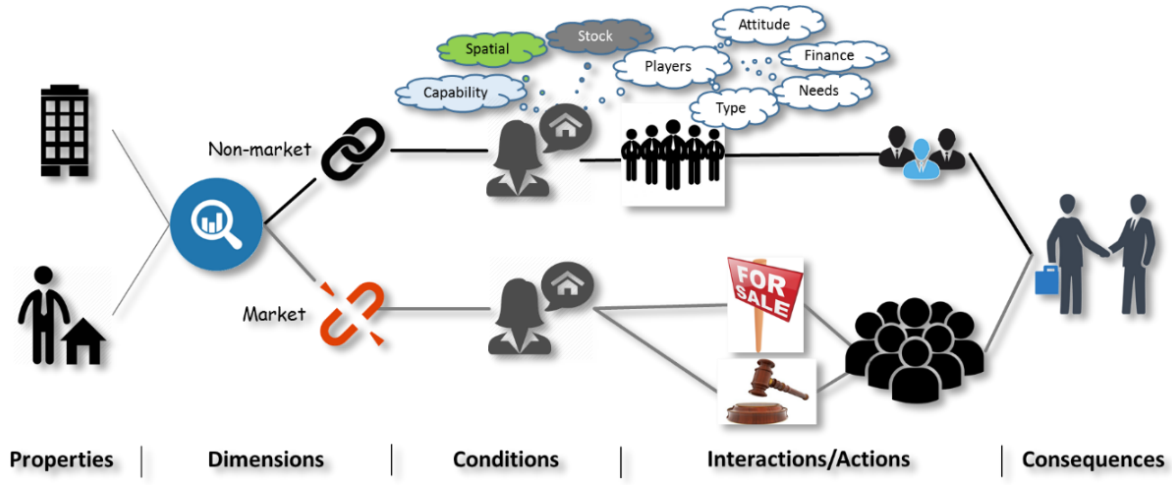
If a vendor of a prime commercial real estate asset was identified as an institutional investor, a broker was likely to perceive the vendor's marketing preference to be discreet and sale mandate to be non-exclusive. In a situation like this, the broker needed to have rounded knowledge of not only the geographical location, competitive stock and key market players, but also of client requirements. The broker was likely to use an optimal search strategy by progressively introducing an opportunity to a tier of few potential buyers with known requirements and capacity to transact until either there was an offer that (nearly) met the vendor's criterion, or the vendor withdrew the asset from the market. Either way, the broker perceived vendor to be confident that the completion or withdrawal of the transaction would not affect the asset's attractiveness.

Brokers typically perceived private investors or end-user sellers to be indifferent about how transaction opportunities were exposed to the market, and that such vendors were likely to grant an exclusive sale mandate. Such vendors tended to sell non-prime assets for which potential buyers would not be known to the broker. In such circumstances, where knowledge of potential buyers' requirements was not crucial, a broker would search formally in the traditional sense of auctioning or advertising. Search would terminate when the best offer price was observed, or the asset was withdrawn from the market.

The substantive search theory illustrated in Figure 6-5 below is that the search process in commercial real estate sales transactions would be contingent on:

i. The vendor and asset identity as properties,
ii. Broker's perception of transaction marketing as dimensions,
iii. Broker's resource as conditions,
iv. Actions and interaction among market players, and
v. Anticipated consequences of asset marketing.

Figure 6-5: Substantive theory of search process in commercial real estate sales transaction



Source: Author 2016

Two search approaches identified based on these contingencies are network and traditional as shown in Table 6-2 below.

Table 6-2: Emerging search themes – Johannesburg South Africa

		Transaction Contingencies				
		Identity	***Dimension***	***Resources***	***Interaction***	***Consequence***
Transaction Approaches	***Market (Traditional)***	Non-problematic	Non-discreet search	Market knowledge	-	Market exposure
	Off-market (Network)	Problematic	Discreet search	Capacity, market knowledge, client requirements	Social network	-

Source: Author 2016

This substantive theory raises interest in understanding how brokers developed market knowledge and understood clients' requirements. The social networks analysis below addresses this sensitisation.

6.3.3 Social networks

Findings on search conditions under 'market knowledge' in 6.3.2iii above indicate that search was partly contingent on a broker's market knowledge. Contingencies to search were not only spatial characteristics, stock, and market players, but also included understanding clients' acquisition and/or disposal criteria whether asset marketing was perceived to influence willingness to participate. Therefore, search contingencies could be perceived to collectively generate market uncertainty. This section (6.3.3) addresses when social networks would be necessary and how they are associated with resolving market uncertainty in the search process. The themes which emerged were understanding of how real estate markets operated, the role of social networks, and networks would be built.

i. Understanding how real estate markets operate

JNB-BR-1 underscored the importance of understanding how markets operated by stating that:

> *"when I first came to South Africa I did not understand the way that a commercial brokerage worked in South Africa … I have to say that the way the Johannesburg and South African investments generally work, I have done it the way it needs to be done in order to be most effective …"* (JNB-BR-1)

The emerging themes about how sales markets for office real estate operated included understanding perceptions about privacy of transaction information, participation preferences, marketing effectiveness and the socio-economic nature of transactions.

a. Perceptions about privacy of transaction information

Transaction information privacy can be described as restriction on access to information on transaction opportunities. Privacy of transaction information seemed to be associated with market player and asset type. JNB-BR-5 stated that '*bigger property players'* did not want the public to know about their acquisitions and disposals. JNB-BR-1 indicated that advertising was not how information about opportunities on high-end real estate assets was disseminated, but was effective for end-user type of assets. JNB-BR-2 reiterated the importance of aligning information availability to client preferences and asset type in the following quote:

> *"interestingly [x] a big [ ] firm in South Africa, their new premise is currently developed by [y]. I see now there is a big signboard on the building saying, 'Building for Sale' and that is slap bang in the middle of Sandton CBD. So, it will be interesting to see how long it's going to be on the market*." (JNB-BR-2)

Privacy of transaction information was believed to protect the vendor's interests by *"not disclosing too much of the information around the property to the full market"* when seeking purchasers (JNB-BR-6). In the absence of privacy to transaction information, the identity of a property owner could be established from property descriptions without the knowledge of the owner. The vendors could, hence, be exposed to unsolicited requests for mandates from agents.

> "*In the sales market, it is completely different because not everyone has got the mandate … The moment you start exposing that property in the market from a marketing point of view, you'll be sure to have more and more agents knocking at the door of that owner to try and sell the building … property for them as well"* (JNB-BR-6)

An advertised transaction opportunity revealed in the descriptions of the location, size and price the identity and intention of the owner. A broker with access to such information could locate the property, establish the owner's details and offer to sell the property (JNB-BR-2).

Privacy of transaction information was also perceived to avert potential asset stigmatisation. Institutional investors, who often held core assets, were believed to be concerned about the impact transaction publicity would have on portfolios performance. They apparently believed that public perception of offloading properties would be deemed to indicate that the concerned institution was *"taking pressure"*, and that perception could trigger shareholders taking short positions (JNB-BR-3). Furthermore, an asset which remained on the market for some time or was introduced by multiple brokers would get a "*reputation"*. Potential purchasers would suspect wrong fundamentals about a broadly marketed property for it not, it would to be snapped up quickly (JNB-BR-5). The concern about publicising a transaction opportunity was that a property got "*tainted"* if bids fell below the expected value (JNB-BR-8), whereas an asset would still produce income for distributions to unit holders if otherwise (JNB-BR-5).

b. Participation preferences

Participation preference is a client's alignment of values to the participation in transaction opportunities. Market players were often identified by investment preferences such as core, value-adding or opportunistic styles, which were also associated with sophistication, and financial capacity. Small private investors and end-users were perceived to be unsophisticated. Institutional investors were viewed to be sophisticated and to have deep market understanding. They were known to cap offers to market value and to perceive unsophisticated players as distorting the market by driving prices beyond reasonable values. Hence, institutional investors were unlikely to participate in publicly marketed transaction opportunities (JNB-BR-5). JNB-BR-2 also stated that flooding the market with information just made it "*murky*". Consequently, institutional investors apparently preferred exclusively competing amongst themselves to open competition. JNB-BR-3 stressed this perception by stating that:

> "*they [institutional investors] at least [want to] know who their competitors are. … You can't have a low-grade investor on this side and a high-grade investor on this side, competing against each other. It doesn't work that way. A high-grade investor wouldn't want to be trading on the lower-graded 'mystic', who may not be that strong, who doesn't have such a strong financial basis to conduct transactions."* (JNB-BR-3)

JNB-BR-5 reiterated that it was not that institutional investors feared competition, but simply that they preferred going to a bidding process of few people to 'guarantee' acquisitions at prices justifiable to shareholders. Consequently, it would therefore be important for brokers to understand how publicity of an opportunity influenced to the nature of participants who would be attracted.

c. Marketing effectiveness

Marketing effectiveness is the ability to use the appropriate resources to achieve the desired sale outcome. As JNB-BR-4 stated, the natural competition created in the market would be "*to identify your potential buyers quicker than your opposition will identify potential buyers in the hope of getting a sale agreement on the table with the seller fastest*". It was essential to have an effective strategy for processing information and stay ahead of competition. Simply distributing information to the market would not helpful to a vendor who does not have an ideal amount of time to dispose of an asset or to a potential purchaser to do the due diligence to ascertain whether to enter a transaction or not (JNB-BR-2). Rather, if a broker knew their market and how to pair up a seller with a purchaser, they would circumvent lengthy searches. JNB-BR-3 stated that:

> "*going to 20 purchasers, 15 of them probably would not be able to perform financially, and the other five will have a good crack at it and actually have the money to conduct the transaction. Otherwise, [you] would be running down that road, and getting it the wrong way*" (JNB-BR-3).

Effective marketing was probably the central premise of understanding how markets operate, which included identifying a geographical area of interest, knowing its stock, and understanding key market players (JNB-BR-1, JNB-BR-5, JNB-BR-7). They key point was that an appropriate strategy which required less resources to pair seller to buyer was to be pursued particularly, as JNB-BR-8 stresses, when time to act was a constraint.

d. Socio-economic nature of transactions

This can be described as understanding the role of social influences in economic action as posited by Granovetter (2005). Commercial real estate markets appear to have an inextricable social and economic interaction. JNB-BR-2 perceived the real estate industry to attract a 'very social' kind of people. Social interaction built trust and relationships which enabled the acquisition of information directly from clients (JNB-BR-7). The influence of social relations could not be overlooked. The bottom-line was that "*people [bought] from people*" (JNB-BR-3, JNB-BR-4). Relationships mattered to people and were important to getting a result. Relations were contingent on how a broker handled negotiations on behalf of clients, and how confidential a broker was to ensure that information communicated by clients to a broker was not distributed to the wider market or unintended recipients (JNB-BR-4).

Given this understanding of how commercial real estate sales markets operated in Johannesburg, the next sub-section presents how social networks were associated with transactions in these markets.

ii. Role of social networks in commercial sales transactions

As established in Section 4.2 and Table 6-2 above, networks would be necessary in certain, but not all, sales transactions. Three respondents highlighted how brokers, particularly seasoned ones, were conscious of circumstances when networks would be necessary. JNB-BR-1 as stated earlier indicated the importance of understanding how to market certain types of real estate assets which appealed to

certain investors. JNB-BR-6 used internet social media, signboards, canvassing and personal networks to access clients but stressed that with larger corporates – the blue chips – marketing "*slightly*" changed to more network based. JNB-BR-8, whose main clients were among the Fortune 500, claimed that they hardly advertised prime real estate unless instructed by clients because they generally had readily available investors on their 'books'. The indication from these statements is that networks tended to be necessary for high-end transactions rather than for entry-level sales (See Figure 5-6 above).

Networks could be perceived as connections through which resources are exchanged, and relationships are built. JNB-BR-2 stated that privileged access to information could influence the success of a transaction. Being able to "*phone, WhatsApp, or text [someone] after-hours*" and secure responses from clients was [apparently] due to networking, that is, knowing the people that one is working with. JNB-BR-3 stressed that a broker needed to continuously interact with [clients] to break the shield of exclusivity. This was indicative of collaborative networking for social capital, and social proximity.

Five main roles of networks in commercial sales transactions were identified. These roles include accessing private information, managing information in clients' interests, pooling potential buyers, channelling business opportunities, and building trust.

a. Accessing private information

Networks seemed to have been used to access privately held information on both disposal opportunities and acquisition requirements. Though the main goal of using networks would be to access privately held information, the nature of information sought differed between the vendor-side and the buyer-side. Therefore, disposal opportunities relate to vendor-side transaction opportunities, while acquisition opportunities refer to buyer-side opportunities.

Accessing vendor-side information on disposal opportunities

The purpose of accessing vendor-side information was to establish private information on the identity of an asset with transaction potential and the vendor. Disposal opportunities emerged from descriptions of vendor intentions or decisions to dispose of an asset. Ego- (direct) and alter- (indirect) networks facilitated early and preferential access to information about a sale opportunity, while the rest of the market would not know about it (JNB-BR-2, JNB-BR-6).

Ego networks facilitated direct access to private information through [continuously] interacting with vendors. Such interaction provided privileged access to trading properties, as well as detailed information, and led to the appointment to marketing opportunities through private invitations (JNB-BR-2, JNB-BR-3, JNB-BR-4, JNB-BR-6, JNB-BR-7). Clients with a "*shield of exclusivity*" tended to avail disposal opportunities by inviting brokers to:

> "*spend a couple of hours, walk around the building and look at it, take some pictures; 'Here's some property information for you. Here's some nice pictures we need to send to your clients and proposals' and swap marketing information*" (JNB-BR-3).

Clients would also use exclusive business functions to strategically reveal disposal opportunities. JNB-BR-7 confirmed this approach by stating that,

> "*We get invited to functions quite a lot. Landlords do that very carefully and very smartly if they're struggling to let or let go of this building and actually there's nothing happening with that building at the moment. It's a vacant building. So, they invite brokers so that you have conversations.*" (JNB-BR-7)

Alter networks facilitated indirect access to private information outside one's own network through alters' channels. JNB-BR-2 used prominence as "*an armory amongst [one's] peer group*" to access private information available to the network alters. JNB-BR-1 networked with groups that had international franchises to accesses information on international clients who sought to exit domestic investments.

Accessing buyer-side information on acquisition requirements

Buyer-side information was sought mainly to establish client requirements. JNB-BR-3 stressed the importance of acknowledging that clients were unique.

> "*They all want different things. The one is concerned about corporates, the other one is concerned about the roof, the other one is concerned about the doors*". (JNB-BR-3)

Networks were channels of information to

> "*just understanding what they[clients]are looking for… [to] know [that]they can perform, if they want to buy [a property] and they have the financial and technical resources to conclude the deal*" (JNB-BR-2).

JNB-BR-7 reiterated that through relationships with the potential buyers one would know which clients would be looking for certain developments, hence know whom to approach. JNB-BR-1 encouraged proactive interaction with potential buyers to "*truly understand their investment strategy and what they want*" and spending time not waiting for properties to roll in, but going out to "*find properties for them*". This ability to identify potential purchasers by understanding their requirements was also demonstrated by JNB-BR-5 and JNB-BR-3 in the following passages:

> "*We go to great lengths to understand each buyer's acquisition criteria. … Once we understand the asset, that defines who our potential list of buyers because we know what they look for*" (JNB-BR-5)

> "*We took on a project with some very credible landlord in a very strong area, … going through my most recent interactions with [potential buyers] … I've already introduced it to two property funds because I know that they both have the ability to do it. On the one fund, it is strategic for them because it is right next to an existing property that they wish to develop. For the other one, the piece of property and the rights on that piece of property are so very well suited to a most recent development that they have done …*" (JNB-BR-3)

Networks can therefore be understood as channels for addressing information asymmetry by facilitating access to privately information on vendor-side asset and vendor identity, and buyer-side acquisition criteria. The information would then be used to draw a pool of potential buyers with known interest and capacity.

b. Managing information to serve client interests

Networks seemed to have been used to understand how to manage information about disposal and acquisition opportunities. Three forms of client interests, namely, operation, participation and negotiation interests were established from field data.

The operation interest related to managing transaction risk by minimising or avoiding the effect of property occupants' knowledge would have on an imminent disposal or acquisition opportunity. A vendor would probably require such information not to be available to their employees (JNB-BR-4), in case of a corporate asset, a current tenant's employees, or to a current tenant not fully aware of their risk profile to the landlord (JNB-BR-6).

Participation interest related to how a client would be involved in a transaction opportunity. High-end real estate market players apparently would not participate in widely circulated opportunities (JNB-BR-2, JNB-BR-5), while small investors and end-users would be indifferent to how assets attuned to their business requirements were marketed (JNB-BR-1).

Negotiation interest indicated clients' desire to maintain bargaining positions in a transaction by preferring restriction of information access only to parties with converging market or social status. Seasoned participants were not able to negotiate prices to near what they believed to be fair value when competing with unsophisticated participants highly motivated to acquire assets (JNB-BR-5). Secondly, considering the negative perception about widely marketed assets, potential purchasers were least likely to adjust bid prices upwards on the belief that brokers would be desperate for a quick sale (JNB-BR-2, JNB-BR-3, JNB-BR-5, JNB-BR-8).

Therefore, by managing how information was disseminated, the asset would benefit from undisrupted operations and performance, attracting the 'right' potential clients, and/or retaining the asset's 'deserved' position in the market.

c. Pooling

Pooling could be described as assembling the risk set of potential buyers from which a purchaser could be drawn. A broker with an understanding of how real estate markets operated, that is, privacy of information, participation preference, and how economic transaction were socially-embedded, used networks to identify potential purchaser. Through networks, a broker would have had access to buyer-side acquisition criteria and understood how to manage clients' interests (See 6.3.3 ii b above). With the identity of a trading asset known, a broker would match the real estate asset's fundamentals with conversations with potential purchasers to identify a cohort with relevant acquisition criteria.

Brokers claimed that such targeted pooling of potential purchasers, which was indicative of sequential or optimal sampling, enhanced performance by shortening the negotiation time on transaction. JNB-BR-2, for instance, maintained that it was pointless to email many purchasers about a transaction when

only a handful would be interested and have capacity to purchase the asset. The sentiment implied that fixed-sample size sampling discussed in Chapter 3 would not be appropriate were there would be few potential buyers with matching requirements.

The three roles of social networks discussed above, namely, providing private information accessibility, managing private information and pooling of potential purchasers, primarily occur in the pre-marketing and marketing stages of a sale transaction. They contribute to understanding the background information and activities that lead to identifying a potential buyer to whom an opportunity will be introduced. The next two roles - business opportunity channel, and building trust – are post-transaction roles associated with a transaction outcome, and subsequent transactions opportunities.

d. Channels and Prisms for transaction opportunities

Networks could be channels for transaction opportunities preferential treatment over other competitors, or prisms which differentiated access to private information with respect to how members would be perceived to add value to a network. Network members would, therefore, earn status which would grant them preferential and subsequently lucrative partnerships. JNB-BR-7 underscored this stating that,

> "*mingling, talking and getting to know 'right people' people in the decision-making positions and tend to buy, which refers it back to your building relationships outside of the office, can lead to potential business for you*." JNB-BR-7

Preferential treatment

A broker earned preferential treatment, which could be deemed as a first-level network reward if they demonstrated relationships with clients and had an impressive track record. JNB-BR-7 illustrated how this combination generated prominence by stating that, "*having had concluded successfully with people in the past, they'll respond to you in a different manner than they would if you do not have that relationship with them. That's how it goes.*" However, preferential treatment needed to be nurtured by constant interaction to ensure that a broker was "*on top of a client's mind*" (JNB-BR-3). JNB-BR-5 affirmed this point stating that, "*unless you're in touch with [people] the whole time, they tend to forget about you. You know! there're a lot of brokers out there. [Therefore] every couple a month, we touch base, … talk to them about a potential opportunity, even if we know it's not for them, just a little to show we're thinking of them*."

Extended interaction with clients, coupled with successfully transactions with them was perceived to develop relationships which made it relatively simple "*to pick up a phone and have a chat with that person you know, or pop around for a cup of coffee*" (JNB-BR-4). Performing well on earlier deals, ensuring presented opportunity was satisfactory, and time frames were met (JNB-BR-8) helped to develop cognitive proximity with clients. This proximity would strengthen relationships and encourage clients to open channels for further potential transactions (JNB-BR-2).

Lucrative partnerships

Lucrative partnerships would be described as pecuniary benefits which emerged when clients developed confidence in a broker's ability to serve their interests. Such confidence which would be based on performance coupled with experience, brand or individual prominence in the market or among peers reinforced cognitive proximity. JNB-BR-1 highlighted that clients expected a broker to demonstrate not only an understanding of investment commercial property, but also that they could add value through a network by providing them with opportunities and solutions in ways that other brokers would not.

JNB-BR-6 reiterated the importance of value-adding which clients would look for in a relationship was reciprocated with easier fulfilment of mandates. Their flow of repeat business and referrals was attributed to years of strong relationships with landlords. Ability to successfully complete transactions was perceived to also lead to referrals from satisfied clients (JNB-BR-5) or even to be a preferred broker in specific areas (JNB-BR-7). Clients who recognised a broker *playing in that space* believed the broker would have access to listings in their client or broker networks. JNB-BR-1 claimed to have been approached directly by clients with listings for sale because of their specialised services.

Lucrative partnership was also attributed to brand prominence. Some clients, often more sophisticated buyers, "*[came] in off the street"* as they would have seen other properties being marketed [by the brand]. JNB-BR-2 highlighted that peer networks (social proximities) were potential sources of lucrative partnerships. A peer with access to inside information was quite likely to refer an imminent transaction opportunity to a prominent broker among the peers.

e. Building Trust

Trust may be described as a belief by one person that the other person will, without being instructed, act in an acceptable manner, hence addressing potential opportunism. Trust seemed to depend on a broker demonstrating ability to manage clients' interest. Indicators of such ability included resources to handle a transaction and ability to manage information dissemination about a transaction.

Trust developed through relations was associated with access to private information, and building bonds which channelled business flows. As brokers built relationships and earned trust, clients opened-up and directly provided information to brokers (JNB-BR-7). The following statement from JNB-BR-3 showed how relations and trust related to access to information and ability to conclude transactions.

> *"I know relationship is the first thing and it counts. Making that person feel comfortable with me and my skills, and trusting me and knowing that I have the better interest at heart … If they [clients]do not know you, it becomes very, very difficult to get any information out. You will get nothing They do not know you, you do not have credibility, you do not have good status, and you do not come from a strong background in terms of the company. They do not give you anything at the end of the day; you'll never ever do a transaction." (JNB-BR-3)*

Trust developed through relationships seemed to underpin inter-organisational proximity which facilitated business flows. JNB-BR-5, for instance, who operated a non-market business model relying on networking, made this claim:

> "*We have [probably] been more successful because of our discretion. We'd [sell] a lot of assets because [clients] know they can trust us, we are not going to go far and wide with this ... the reason why people don't want you to do that is if an asset has been around the market and everybody has seen it once or twice, [that] can destroy value. [It] starts to get reputation.*" (JNB-BR-5)

JNB-BR-3 also claimed credit for good relations with a lot of landlords to their ability to introduce to them strong clients and conclude successful good deals with them. The trust created because the quality of introductions which assured landlords of good deals was believed to have earned them landlords' favour. JNB-BR-6 maintained that good relationships with landlords mattered when a case had to made for preference over other competitors. They attributed their ability to access information about specific assets early to trustworthiness to present honest facts about clients or the market.

In short, networks in commercial office sales transactions were perceived to provide access to private information on the identity of vendor and asset, and the acquisition criteria of potential buyers. Networks were also associated with deeper understanding of clients' interests with respect to how information availability could affect asset operation, investor participation, and clients' position for negotiations. With such background information, networks were perceived to provide means of selective pooling of potential buyers to whom transactions would be introduced, instead of going far and wide. Successful completion tended to lead to post-transaction benefits such as follow-up business flows through preferential treatment and lucrative partnership. Over time, networks would create an environment in which clients and brokers built trust among each other. Clients and brokers would, therefore, be identified with certain network positions associated with information channels and filters.

Network position

Network position can be described as the proximity attained by an individual or organisation within an interacting group, as described by JNB-BR-1 that,

> "*My brand gives me to be able to call somebody up, give them a title, give them the brand and it all opens doors for you … now I deal predominantly with a small short list of investors in the Johannesburg community who I know are financially well connected and able to do deals. I have associated myself with other players in the market that know also when deals come through my door they are things that I can put together and package for my network."* (JNB-BR-1)

Network position could influence access and/or dissemination of information about transaction opportunities. JNB-BR-6 indicated that access to information about landlords' requirements depended on the depth of relationship at various levels of the supply chain.

Network position was deemed to be earned by demonstrating competence in handling sales transactions. Experiences of successful transactions in an area and referrals would enhance a broker's prominence in

that area. JNB-BR-7 gave an example of a broker who had been dominant in marketing and concluding successful transactions in Johannesburg East. JNB-BR-1 also attested to a similar approach to earning prominence in a network by demonstrating to investors competence to package transactions and access opportunities in an identified geographical area. JNB-BR-8 asserted that they were approached by clients because of their access to a range of investors from Fortune 500 clients to private family funds.

Network position, hence, seemed to have been associated with cognitive proximity through proven competence in concluding transactions, inter-organisational proximity in way they served clients' interests and social proximity regarding the depth of relationships with landlords, buyers and brokers in a location and market.

Networks would thus be understood as channels of private information about the identity of assets and vendors, and the nature of clients' interests which should be protected. Networks also differentiated information access through preferential treatment and lucrative partnerships, hence, generated network position. Having understood how commercial real estate sales markets operate and the role of networks in such transactions, the next aspect of the research was to explore how networks were built and maintained.

iii. Building and maintaining network relationships

Network relationship building can be described as identifying alter actors with whom the focal actor had constituent expectation over a common object of transaction. Maintaining network relationship is deemed as taking actions or measures to sustain mutual agreement and/or constituent expectation, which includes demonstrating competence and expected behaviour.

JNB-BR-4, in the following excerpt, highlighted how networks were built and maintained:

> *"… There are various angles that you [have to] use. You [should] identify who you [want to] build a relationship with and focus on that. It does not happen overnight. You [should] be there and you [should] be consistent … people [want to] hear facts and figure, honesty and integrity. So, that is the kind of thing you [should] work on. You [have to] set goals on who you [want to] meet and over time, as long as you focus on that, and set goals, eventually you are able meet those people and the more you speak to them over a period of time and if you're able to do a successful transaction with them that relationship just builds and … it is quite easy to pick up a phone and have a chat with that person you know or pop around for a cup of coffee … [but] if you [want to] approach a senior person within a fund just for a cup of coffee, I think you [will] struggle to get first time with that person. If you have that strategic property, the doors will open for you quite easily."* (JNB-BR-4)

The statement highlighted some fundamental aspects of network building and/or maintenance, which are purpose, being seeking access to opportunities, and approach which demonstrated competence and behaviour. Three approaches which emerged were canvassing, interaction, and referrals.

a. Canvassing

This networking approach, comparable to search embeddedness (See DiMaggio and Louch 1998), was used to identify unfamiliar stock and market players. Clients, whether landlords or tenants, would be approached directly or indirectly to establish market information or to present transaction opportunities. Canvassing was a broker-driven approach to building new relations and earn trust (JNB-BR-7) consistent with capitalisation and contagion effects of flow networks (See Figure 4-4 above).

Direct canvassing involved "*getting [one's] feet out into the market, ... physically walk into buildings and make contact with clients [to] get some information ... [and] knowledge of what is happening*" (JNB-BR-7) in a particular geographical area (JNB-BR-5, JNB-BR-1). Indirect canvassing, alternatively, would be 'virtual' search where clients would be identified and contacted using non-personal media such as telephone calls or emails (JNB-BR-2, JNB-BR-3, JNB-BR-6). JNB-BR-4 highlighted that canvassing was an effective market-entry strategy when accompanied with an opportunity which was likely to be of interest to a client. Knowing that one would have had not dealt with a target client before, the information content of the introduction needed to be concise, and captivating to get favourable response. JNB-BR-5 emphasised that presenting an opportunity to a client even with the knowledge that it might not be '*for them*' was a way of demonstrating that one has the desire to serve the client's interest.

b. Interaction

Interaction was grouped into 'formal' and 'informal' categories. 'Formal' interaction would be an organised interaction, while informal interaction would be a dynamic activity in a natural setting.

1. Formal interaction

Three themes of formal interaction which emerged were business interaction, professional events and business events.

Business interaction

Business interaction would be described as formal one-to-one interaction to explore business opportunities where there was an existing relationship with a client. Such interaction had a clear purpose, and tended to take place in a business environment. It could involve providing market information (JNB-BR-2), site visits (JNB-BR-3) or regular office meetings (JNB-BR-8). Brokers, depending on the depth of relationships, overcame barriers of exclusivity and gained access to private information on available opportunities through continuous business interaction (JNB-BR-3, JNB-BR-4). The closer one was to a client, the better they understood what clients required (JNB-BR-6). The key outcomes of business interaction were knowledge of clients' acquisition or disposal requirements and what JNB-BR-8 referred to as *'transaction leads'* or *'a pipeline'*. JNB-BR-1 underscored these outcomes in the following statement:

"… one of my biggest clients now is somebody who 7 years ago when I started didn't have an extremely big portfolio but now buys R50-60m [assets]. So, I met him when he bought from me a [mom and pop] Res1 [a planning permission category for residential use with business rights] with office rights building for R1.4m and we are [now]dealing in R50-60m [assets]. His experience has grown with my experience; his market penetration has grown with mine. So, it is just about the more you are in the market the more active you are starting with smaller things and meeting with business people the more your network grows." (*JNB-BR-1*)

Professional events

Professional events were functions where providers of professional services interacted to know each other and exchange information on professional practices identical to value alignment (See 4.4.2 above and contagions in 4.1.2 above). The South African Property Owners Association was cited by two respondents as a professional network that brings together various players in the commercial property supply-chain. JNB-BR-1 indicated that the forum did not yield '*much'* business because of conflicts in business remunerations among brokers. JNB-BR-5 indicated that most participants at the forum had prior business interaction, hence used it simply for informal interaction.

Business events

Business events were activities organised by clients to promote opportunities and provide an environment for interaction for brokers to know landlords and the stock available on market. These events offered opportunities to engage with the '*right'* role players in the market in a relaxed atmosphere rather than in time and topic-constrained boardroom meetings (JNB-BR-4, JNB-BR-7). It was through such events that informal relationships would be established or strengthened leading to potential business (JNB-BR-6, JNB-BR-7). Some examples of events were ground-breaking functions, building launches, leasing opportunities, office-welcoming functions for new projects or re-developments, and introductions of market entrants (JNB-BR-2, JNB-BR-3). Business events were also used to expose marketing opportunities and to facilitate conversations on properties which landlords had difficulties offloading (JNB-BR-7). Invitations were extended to brokers and other clients with whom the host had or desired to explore relationships (JNB-BR-3, JNB-BR-4, JNB-BR-6, JNB-BR-7).

2. Informal interaction

Informal interaction would be described as social interaction episodes which would take place in non-business environment. Being socially involved with clients not only displayed competence and integrity, but also provided direct access to strategic information sources as JNB-BR-3 claimed:

… I've been in sales my whole life. I know … relationship is the first thing … and I do whatever I can to make sure that I become socially involved with [clients]. It has definitely helped me in my business because I can circumvent [bureaucracies] and go straight to that source which makes my deal turnaround time and succession to what the client wants a lot quicker, which outstrips my competition (JNB-BR-3)

Though the ultimate benefit of informal interaction would be gaining access to information on business opportunities, the main purpose of informal interaction was to maintain channels of information.

> *"… personally, I use golf as an opportunity to improve relationships with strategic people. If there are some senior role players that enjoy a game of golf, I try to get them onto a golf course. You've an opportunity to have a bit of one-on-one time and often discussions are held there that you would not have access to at all."* (JNB-BR-4)

> *"… taking out a person for a cup of coffee [is]... not because you have to; [It's] because you want to get some insights over a cup of coffee or at a lunch and that might trigger a thought in terms of "I read about this building and my people say, this business that is in a bit of trouble, … I know the owner of the properties so maybe we could look at ... trying to structure a transaction …*' " (JNB-BR-2)

> "*we sort of [use]a bit of a tracking tool to when we last spoke to somebody. We try [to] contact people on special events be them birthdays or somewhere along those lines. and then … engage them on specific opportunities*." (JNB-BR-5)

Conversations at times incorporated personal information like family or personal situations, which would not be discussed in formal interaction. The ability to seek information outside the work environment appeared to be associated with the nature of conversation that could be borne in that given environment. JNB-BR-2 and JNB-BR-3 demonstrated in the quotes below that personal information was appropriate when social relations had been developed and maintained over a reasonably long period, and essential when access to business information or decision was critical.

> "*I tell all our gentlemen and [ladies] … 'take a landlord out for a cup of coffee once a week. Just go and chat with them on a social basis' … I know I can phone a fair amount of landlord representatives or property managers after hours … and if I'm in need [of] some information [as soon as possible] that means the difference between me doing the deal or not doing the deal, and I have to phone … or text them and they will come back to me, and that I have purely put down to getting to know the people that you are working [with] …*" (JNB-BR-2)

> "*… continuation of contact based on the relations … 5, 6, 7, 8 or 10 years, is an automatic social relationship with that person, and when you meet those people you talk about private things, you know, private life before you go to business. 'Yah how're doing? How's the [family] and then' oh what happened with that building and everything.' … [by] understanding how corporate companies work, it is very easy to get a foot [in]*" (JNB-BR-3)

Informal interaction was, thus, indicative of the cooperation function of bond networks (See 4.1.2 above) and network prestige (See 4.4.2 above).

Referrals

Finally, relationships would also be built through referrals from clients who would have been satisfied with the demonstrated competence (JNB-BR-5, JNB-BR-6). Referral would also come through peer networks. A peer who was aware of a potential opportunity, could give a lead, '*phone these guys. They might be looking …*'" (JNB-BR-2)

Overall, social networks appeared vital to understanding the local commercial real estate sales market culture, to knowing how to penetrate markets, and to knowing how to maintain presence in the local networks. The most fundamental purpose of networks, however, seemed to be that of accessing private information on market opportunities and client requirements in order to conclude sale transactions early.

6.4 SUMMARY FINDINGS

The purpose of this chapter was to analyse data from Johannesburg and present emerging themes about contingencies to the search process and the role of social networks using the ethnomethodology framework for understanding processes, which are, properties, dimensions, conditions, interactions/actions and consequences. Responses on liquidity were sought to establish the respondents' understanding of the research background. Respondents in the first instance mostly referred to real estate liquidity as capital (funding availability). They also referred to the comparative difficult of selling real estate assets regarding lengthy time to sell. The chapter sought to establish the nature of the search process using the broad ethnomethodology framework. Emerging themes indicated that the search process was contingent on vendor and asset identity, marketing perceptions, broker resource conditions and interaction with clients, and finally anticipated consequences of marketing choices. The findings highlighted the importance of understanding how real estate markets operated to appreciate the role of networks. Real estate markets were perceived to be typified by privacy of information, preferential participation, marketing effectiveness, and the socio-economic nature of transactions. Social networks were thus used to access or disseminate private information on client requirements, manage client interests, and pool potential buyers. They seemed to be used also to build and maintain networks through formal and informal interaction. These findings related to Johannesburg, an emerging market. Considering the global nature of capital flows in commercial real estate markets, and the localisation of market knowledge, this study further explored the London market to establish possible replication and/or deviations in the nature of commercial sales transaction processes. It was quite apparent that brokers in Johannesburg seemed to used proximities in their social networks in different ways to enhance access to private information which would be essential to successful conclusion of transaction, but difficult to establish. The next chapter presents findings from the London context study to establish possible replications and/or deviations in broker practices and the use social networks in search processes of commercial real estate sales.

CHAPTER 7: LIQUIDITY AND RELATIONS IN THE LONDON COMMERCIAL OFFICE SALES MARKET

7. INTRODUCTION

The research design incorporated London, United Kingdom to study a mature market which would serve as a context from which the researcher would draw on issues that may not have been captured in the study of the emerging market of Johannesburg, South Africa presented in Chapter 6. Like Chapter 6, this chapter is guided by an ethnomethodology approach to process analysis. The chapter has four main sections covering liquidity, disposal process, relations and perceptions on relations association with liquidity. It ends with a presentation of a substantive theory of the operational nature of the commercial real estate sales market. In chapter 8, findings from this chapter and those of the Johannesburg study are explicitly analysed to establish key themes of transaction processes in commercial sales. The terms investment agent and agent used in this chapter instead of broker reflect the distinction between professional advisory and match-making emphasised in the context market. Investment agents in this context were the equivalent of brokers in Johannesburg.

7.1 LIQUIDITY

The central theme of this research was to understand the operational nature of commercial real estate markets as a dimension of real estate market liquidity. To establish this understanding, the researcher presented to respondents the question of how they perceived liquidity in general and in commercial real estate markets. This interrogation sought to establish whether respondents' perceptions about commercial real estate market liquidity converged with that in real estate literature. Literature often cites transaction activity, price impact, holding period, and time on market as indicators of liquidity (See IPF, 2004 and Marcato et al., 2015). The first three are common in financial markets literature and the fourth is mainly cited in real estate literature (See Amihud et al., 2012, Knight, 2002 and Liu and Qian, 2013).

Four indicators of liquidity were identified by the respondents, namely, funding liquidity, transaction activity, price impact and transaction process. The following are respondents' descriptions of liquidity:

i. Funding liquidity

The initial description of real estate market liquidity was often that it was the currently available cash from an asset's inflows, sales receipts or lines of credit (LON-IV-3, LON-BR-1, LON-BR-3). Respondents mentioned access to cash generated from the asset's operation and/or sales receipts to meet short term investment opportunities as well as short term financial obligations as referred to later about a retail fund that sold an asset to meet redemption notices. This perception of liquidity was consistent with the funding liquidity as the ease with which traders obtain funding for trading (See Brunnermeier and Pedersen, 2009). Arguably, the perception could be linked to the financialisaton of real estate assets

in which the trader's ability to reposition their asset holding in the short-term is essential. Security of income, and that of capital were identified as key indicators of liquidity. It was not uncommon for respondents to compare direct real estate with financial securities like much of research on liquidity in real estate markets. An important aspect is raised that is perhaps crucial to direct real estate and seems subtle in financial markets, which is to clarify whether liquidity in real estate markets is understood in an operational context of transactions or the information content of underlying securities.

LON-IV-4 was critical of the UK valuation and banking systems and argued that understanding the source of capital was fundamental to how liquidity ought to be perceived. They maintained that it was inappropriate for investment funds, for instance, to place themselves in a situation where they would be forced to sell short an asset that is acquired for long term operation.

> *"So, if you look at the valuation system, for me institutions that can help long term, if I look at the German capital for example, German values tend to be much more focused on sustainable valuation. If there is a change in income, they will change the valuation. They don't tend to move it around because of exuberance or otherwise in the capital market. They will take a longer-term approach, so it is more reversion to me. Now that does mean that you could as an investor be holding something at a price at a value which is different from what you could get from it in the open market. But if you take a longer term of it, and say, 'Well I can afford to hold. My cost of capital is 5 percent. If I retain this investment for 5 years I will be able to sell it for significant more than I can today.' Is it inappropriate that in our position you value your expectation of long term capital and the income it could be having and, in the meantime, you pull that back to something that works for your cost of capital? I don't [think] that is a quite sensible approach because property is expensive to transact. In around it will cost 5 to 10 percent in this market. Does it really make sense that you are forcing yourself to sell or to buy at the wrong time of the cycle just because you need to maintain a view as of today, when your liabilities might be for 20 years' time? … But clearly if you have an open-ended fund are you are in a position where you are forced to sell or if you have a loan maturity coming up and it needs to be tested then it's appropriate to say what is it worth today. Because it could be you have to sell it today. But if you do not have to sell it today, it is an interesting question, but it doesn't impact on what it is worth to you and it shouldn't impact your judgment nearly as much as it has been." (LON-IV-4)*

An exploration of how plausible these claims are in association with real estate liquidity is outside the scope of this study. An important consideration for future research, however, is how the body of knowledge explains the contribution of holding motives on asset liquidity. The rest of liquidity descriptions presented below tend to be based on conceiving real estate asset liquidity from a trading asset perspective.

ii. Transaction activity

Transaction activity refers to the amount of transactions in number of unit sales or overall transaction value in each period. Real estate market liquidity was associated with transaction volumes and costs. Reference was made to transaction processes as contributing to its rather illiquidity. Most commercial real estate assets apparently traded from £1 million pounds to anything to over £100 million. Though respondents did not state with certainty the amount of transactions that would have taken place, they claimed that assets in this band sold '*very quickly*'. The London West-End for instance was deemed to

have high transaction volumes of high-end properties compared to other sub-markets (LON-BR-2, LON-BR-5, LON-BR-6). However, in comparison with financial securities, the size of these assets and the required due diligence were some reasons for low transaction frequency in real estate markets (LON-BR-1, LON-IV-4).

iii. Price impact

Price impact relates to how transaction urgency is associated with the closeness of transaction price to the expected sale price (Amihud et al., 2006). LON-BR-2, LON-BR-5 and LON-IV-4 cited a transaction in a retail fund which was triggered by redemption notices after the UK voted to leave the European Union in June 2016. The instructions to the appointed brokers were to achieve a sale within 10 days of instruction. The asset sold in less than 7 days at a perceived 6% yield compared to an expected 4 ¾ % expected yield.

The transaction activity and price-impact descriptions of liquidity seem to be consistent with the literature (Marcato et al., 2015). The lumpiness of commercial real estate transactions affects how often the assets trade. The urgency of sale is also associated with the transaction price. In markets where there are few potential buyers, transaction urgency leads to discounted sale prices arguably because assets would have not been exposed to a market large enough to reduce price dispersion (See Stigler, 1961).

iv. Transaction process

Office real estate sales transactions are invariably associated with various processes that facilitate asset exchange. Transaction processes in broad terms was perceived to comprise pre-marketing, marketing and post-marketing processes. The statements below are respondents' descriptions of real estate sales transaction processes.

> *"Liquidity is the whole process of get an asset to the market and sold … the process involved is far more time consuming compared to other assets"* (LON-BR-1)
>
> *"Disposal of actual buildings is a process that takes months compared to stock … we appoint agents, … They undertake a full marketing campaign. They might do tours. … they conduct all the viewing. They conduct the bids process. We manage them throughout. We decide with them which of the bidders we are going to proceed with. We agree heads of terms and that's how it works really*. (LON-IV-1)
>
> *"Legal due diligence takes time"* (LON-BR-2)
> *"There is a lot of work to do on due diligence of the asset"* (LON-IV-4)

LON-IV-1's description above provides a comprehensive outline of the transaction process. LON-BR-1's description of real estate liquidity was commonly used to rank real estate liquidity with that of financial securities. Respondents stressed that the post-marketing process significantly affected the overall transaction process. This emphasis of the 'inflexibility' of post-marketing stage points at institutional constraints in sale transactions. Similar observations are made by Devaney and Scofield

(2015) who find that the price/solicitor date to completion for purchases of commercial properties tended to be longer (30-44, 45-59 days) than the marketing to price/solicitor date (15-29 days).

An alternative perspective of real estate market liquidity that emerged focused on property and market fundamentals. This perspective appears to view liquidity as the saleability of an asset associated with its fundamentals and prevailing market fundamentals. LON-IV-2 indicated that two key attributes of liquidity that they always considered were location fundamentals of the property and different points in the [market] cycle. These attributes were examined, but rather than focus on location and market position attributes only, the researcher sought attributes that related to broad property, market fundamentals and transparency.

v. Property fundamentals

Property fundamentals are a collection of a real estate asset attributes associated with its utility to an owner, which are identified as physical, and operational attributes. Physical attributes that were associated with attracting potential buyers included decent building qualities such as ceiling heights, floor plates, internal structures, lighting and ventilation. These attributes were believed to be sought after by investors in assets because they indicated ambience and sustainability of the working environment. Operational attributes that were sought included property rights (whether freehold or leasehold), covenant strength, and income benefits. LON-BR-2 asserted that well-let core assets in London West-End, for instance, tended to attract potential buyers with international capital because of property fundamentals. These mostly period properties with outstanding physical attributes where on freehold Crown estates and had decent occupants with secure covenants on long leases and low void periods. LON-IV-3 indicated that asset rental levels, whether under-, over-, or rack-rented, reflected its property fundamentals and thus indicated potential asset liquidity. Finally, access to a transport hub was perceived to be most important in attracting and retaining tenants (LON-IV-2, LON-IV-3).

vi. Market fundamentals

Market fundamentals may be described as an assemblage of attributes associated with the environment in which assets are acquired and/or disposed of. Two market fundamentals which emerged relate to occupier and investment markets.

Occupier market fundamentals were associated with the likelihood of occupant adjustment in space requirements. Financial services firms in London West-End, for instance, provided technologically intensive soft services which tended to have stable space requirements hence took long term leases. Creative industries, say in Soho, were human resource intensive that tended to have short term space adjustments hence required flexible short leases of 3 to 5-year with breaking clauses (LON-BR-2).

Investment market fundamentals were perceived to influence the nature of capital flows in the market (LON-IV-2, LON-BR-4). For instance, around 2009, the start of the global financial crisis, the large

volume of by public listed property investments owned assets placed on severely illiquid market attracted opportunistic capital. Domestic capital dominated transactions until mid-2014, mainly from UK institutions and property companies focused on the London market. Post-2015, there were more international capital flows from net-worth families in South Africa, Middle and Far East, and Australia (LON-IV-4, LON-BR-4, LON-BR-6).

vii. Transparency

The final attribute of liquidity in commercial real estate markets that emerged was transparency. Transparency can be described as how information is disclosed. LON-BR-1 stated that the real estate market was not as transparent as financial markets in accessing asset prices. Within the real estate markets, the commercial market was perceived to be less transparent than the residential market. Information was perceived to be privately held in internal databases which were not accessible by the public unless there was a press release. Exchange of private information apparently involved conversations and relations. Accessing information earlier was therefore fundamental to succeeding in the industry. There were also several principal-to-principal transactions that were not captured by agents. LON-IV-2, however, indicated that the UK commercial real estate market seemed to have improved transparency since around 2011 owing to real estate search organisations like CoStar that have been collecting and disseminating detailed information on property transactions.

Transparency on requirements was perceived to be important within the investment market to enable agents to secure appropriate opportunities except in the case of funds when investor requirements were too complex to attract brokers' attention (LON-IV-4). Though transparency was useful on both the disposal and acquisition side, there seemed to be more transparency on the acquisition side when investors sought to access a market, than on disposal side where control on disseminated information which could impact an asset's liquidity was necessary. Transparency would be helpful in drawing a potential buyer's confidence on a prospective transaction provided it did not create leverage over the seller. Low transparency, however, would induce high information costs, but with improving technology and more transparent systems, possession of information would not provide any advantage to the holder.

Relating to the reviewed literature, transparency would be said to contribute to ascertaining the identity and quality of the trading asset, and parties to the transaction. Less transparency in commercial real estate markets contributes to information asymmetry relating to the identity and quality of assets and exchange partners. Low transparency thus appears to be a fundamental reason for the prominence of the broker's role in real estate transactions.

Perceived liquidity indicators which have been drawn include funding liquidity, transaction activity, price impact, transaction process, and an alternative approach focusing on property and market fundamentals as well as transparency. These indicators are consistent with literature inclined to using

financial benchmarks to assess real estate market liquidity. The nature of transaction processes in real estate transactions was perceived as market friction responsible for illiquidity in real estate markets. However, the drawn real estate liquidity indicators did not provide insight to why real estate markets operate in the manner they do, which is different from financial markets. The exploration of real estate transaction process was thus extended to interrogate respondents' lived experiences in day-to-day commercial sales activities, consistent with the ethnomethodology strategy.

7.2 DISPOSAL PROCESS

Previous studies such as Key et al. (1998), McNamara (1998), Crosby and McAllister (2004) and Devaney and Scofield (2015) identify the key stages of the real estate sale transaction process. Much as these studies identify the components of the transaction process, they fall short of explaining contingencies – potential disruptions – to the process which are essential to understanding how real estate markets operate. The investigation of the disposal process for office real estate assets through analysing lived experiences sought to unveil the associated contingencies.

LON-IV-1 described the disposal process as follows:

> *"It starts with appointing agents. The agent produces a brochure and undertake a full marketing campaign that could include investor tours for direct presentations and conversations. The principal manages the agent throughout, selects the closing bids and agree heads of terms"* (LON-IV-1)

LON-BR-6 referred to the disposal process as comprising appointment of [a listing/selling] agent, undertaking a full marketing campaign, identifying potential buyers, negotiating heads of terms and contributing to the due-diligence process.

LON-BR-5 highlighted the importance of understanding the place of relations in brokerage of a transaction.

> *"Relations with investors and relations with other agents in the market are important. It is vital for an investment agent to understand how revenue generation comes from advising on transactions." (LON-BR-5)*

The disposal process is thus sub-divided into pre-marketing, marketing, and introduction. Post-marketing processes, though cited, are not discussed as they are outside this study's scope.

7.2.1 Pre-Marketing

The pre-marketing stage is the period in which an asset is identified for potential sale, and the terms are established on how the asset would be marketed. The findings presented in this sub-section highlight contingencies associated with the stage. These are presented under the appointment and preparation stages.

i. Appointment

Listing agents could be given instructions to act on behalf of the principal in a potential sale on sole or joint mandates (often for large assets) not with preferential treatment, but based on capacity to undertake

the instructions. LON-BR-5 highlighted the importance of relations to broker appointment in the following statement:

> *"…to be instructed to sell a property, you often need to have a good relationship with the owner … there are circumstances when it might be [that an owner has] a trusted advisor who they have worked with for years and have experience and they know that there is no need to go into a pitching situation to see what other advisors are capable of. They know this particular agent is more than capable and will charge a reasonable fee, and they will proceed with him. That is based on experience and trust of working with that particular agent. In that respect relationship is important with agents" (LON-BR-5)*

Agents on the acquisition side were appointed on a 'first past the post' basis, though for smaller assets, they would be invited to pitch (LON-BR-3, LON-BR-6). On larger assets, a principal would alternatively [hand-pick] an agent perceived to be the best intermediary (LON-IV-1) underscored by LON-BR-5 below.

> *"…investors will rarely retain an agent on the buy- side … but the investor might bring in an agent where they might have come across an opportunity and feel they are not sufficiently skilled and experienced on the side of due-diligence. So, they might ask a trusted advisor to act on their behalf in that respect … that is about having a good personal relationship …" (LON-BR-5)*

The following were qualities expected of potential agents that emerged.

Timescales: Agents were expected to be realistic with ability to accomplish the instructions considering the nature of the assignment and the client's motive (LON-IV-1, LON-IV-4). The Hammersmith project, though a retail investment by an investment fund which faced short call redemptions, was an example of demonstrated capacity to achieve a sale within the client's time constraint (LON-BR-2, LON-IV-4).

Market knowledge: Agents were expected to have knowledge of market players, potential buyers, as well as property and market fundamentals. They were required to demonstrate access to the market by virtue of network information about buyer requirements as well as sentiments, and ability to directly engage with potential buyers (LON-IV-1, LON-IV-2). Agents were also expected to provide broader marketing coverage to clients with access to domestic and international capital (LON-IV-3, LON-IV-4, LON-BR-1).

Professionalism: One of an agent's roles would be to ensure smooth transactions. A potential agent was expected to act professionally by performing as expected on a transaction, upholding their reputation about serving a client's interest, communicating with the principal throughout the marketing campaign, and consulting with the principal on major decisions. An agent acting on the acquisition side was expected to underwrite a sale. In the UK commercial market, an agent was not expected to act for both the acquisition and disposal sides as doing so was likely to create a conflict of interest (LON-IV-1, LON-IV-2, LON-BR-1) (See also 3.2.2 above).

ii. Preparation

The listing agent, once given instructions, prepared a marketing strategy. He/she would inspect the property with the principal and establish the client's motives, that is, whether to have a quick sale with potential discount on price, or a full marketing campaign to achieve best value for the asset (LON-BR-2, LON-IV-3). The agent advised the principal on the asset's achievable and listing prices. Further, the agent gathered strategic property information including building surveys, measurement surveys, lease documents, legal documents and prepares marketing material to best position the asset in the market (LON-BR-1, LON-BR-3). This description of a listing agent's role was consistent with literature (See 3.2 above)

7.2.2 Marketing campaign

Listing agents were responsible for disseminating information about opportunities to introducing agents. The common marketing media were emails, phone calls and face-to-face meetings. There were also external subscription databases like CoStar, and EGi available, but respondents believed that the market would have already been aware of a transaction opportunity by the time it was listed on a database. (LON-BR-1, LON-BR-6).

Respondents emphasised that a marketing strategy was asset specific, and that various methods could be employed depending on the transaction credentials. Off- and on-marketing approaches emerged as the two broad categories of marketing strategies and are presented below.

i. Off-market strategy

In an off-market strategy, assets would be sold without a formal brochure or marketing campaign. The marketing strategy would be to target a select group. The opportunity would not be presented to a wider audience, but to a few most likely buyers, probably not exceeding 10, as a confidential off-market opportunity (LON-IV-2, LON-BR-5, LON-BR-6). LON-IV-4, for instance, indicated that there were situations where fund managers they knew would directly present opportunities to them. Off-market strategy was preferred on the acquisition side by buyers less inclined to competitive bidding but for whom getting information early was essential to secure an acquisition even if it meant paying a premium (LON-BR-1, LON-BR-4). Preference for off-market transactions was driven by costs in bid preparation in relation to certainty of securing an acquisition as indicated below.

> *"We are finding more clients now saying that they do not want to work at the open market because it is so competitive in the [London investment] sector, and they would prefer to source off-market opportunities …" (LON-BR-04)*

> *"On the acquisition, we generally prefer to try and treat off-market. The reason being that there a lot of resource required to fully research an acquisition and often going through the bid process you can do a huge amount of work which is not exactly time efficient for a situation where you may not end up delivering the property to the company. So, the fund's preference is to deal off-market so that we can have that exclusivity and sometimes we prefer to have that deal certainty we would pay a slight premium to achieve that access to what we think market value maybe for a given property. So, it comes to certainty again*" (LON-IV-2)

LON-BR-2 also highlighted that client inclination to off-market deals could be associated with certainty of disposal.

> *"if I [X] might be selling a property which I know will suit the requirements for a client I have got, then I will present the opportunity to the client, speak to [X] to see if we can set up a negotiation. Their initial instruction might well have been to widely market that property but through my relations with [X], I might be able to get an early position for my client to buy that property without it going to the market, which may appeal to [X's] client because that means they can get a guaranteed sale and worst case scenario if that sale falls through and they not [exposed] anyway, but it also appeals to my clients because they are not in a competitive bidding situation because ... no one really likes being in a situation whereby they are have to bid on a property and it's all very 'cleaver and dagger' ... in such situations you can end up more than you had hoped for the property"* (LON-BR-2)

Secondly, off-market strategy was preferred when it was perceived that best price would be achieved by keeping the marketing focused and introducing the opportunity exclusively to a smaller group creating a sense of exclusivity (LON-BR-2, 04).

> *"... We might provide a recommendation to the vendor ... we might say, 'we don't think this property must be sent around to the whole market.' 'We don't think it should be sent to our mailing list of 5,000 contacts. We think the best way to achieve the best price in this case is to only market it to you know five, ten, fifteen select parties.' (LON-BR-1)*

Off-market strategy was also preferred for '*trophy'* assets. Large, high value, individual building sales as well as portfolio sales tended to be sold through a more targeted approach (LON-BR-1). Lastly, off-market transactions appealed when time was a constraint to sale as LON-IV-4 stressed:

> *"... there will be times when liquidity dries up and when those calls make a lot of sense ... I am sure you have heard of people talk about the aftermath of Brexit that ... open ended funds needed to sell property quickly. And then there was a certain number of purchasers who we know would be able to move very quickly. And there were deals that happened one being that in Hammersmith ... that happened very quickly because there was somebody who had capital and deployed the immediate capital quickly. There was a quick transaction to be done at a sensible price and that transaction happened"* (LON-IV-4)

LON-IV-2, however, maintained that they would rarely sell off-market unless there was a compelling case to do so such as a special purchaser like an adjoining owner or someone who had a vested interest in the property such as tenant. This suggested that marketing approaches would be associated with vendor preferences as well – a consideration for the process dimension.

An off-market sale strategy would thus be preferred when an acquisition guarantee was sought, or when the best price particularly for high-valued assets was perceived to be achieved through exclusive and focused marketing.

ii. On-market strategy

On-market strategy tended to be preferred on the disposal side. The aim was to achieve the best price through a best bid process. The bid process minimised the need to underwrite an acquisition as the bid process indicated demand-driven best value to policyholders (LON-IV-2, LON-BR-3). LON-IV-4

maintained that at certain points of the property market cycle vendors desired to test the market rather than undertake a bilateral (off-market) transaction. Though buyers preferred buying opportunities off-market, small-lot buyers and asset managers seeking high-yielding properties probably accepted that the kind of properties they sought were likely to be put to the wider market, since often the ultimate buyer was not known (LON-BR-1).

Two identified approaches to on-market strategy were agency networks and advertisements. LON-BR-6 described 'markets' as all the major agencies and clients capable of knowing about transaction opportunities.

> *"the buying of office buildings is about having a nose or ear to the ground and those in the market will [most] likely be aware of it through the agency network and that means that the key marketing is getting to the agent network contacts … in the UK as a disposal agent, the value is more in knowing your agency network because that is where you circulate your deals whereas in Europe, deals are directly sent to clients and in that case the skill is in knowing all the clients and their requirements so that you can target the correct clients for the sale…" (LON-BR-6)*

Agency networks: This marketing approach would involve distributing information about an opportunity to a first tier alter network of peer agent list or full agent list who probably did not have access to the listing agent's client, (LON-BR-2). The on-market aspect would arise when a listing agent disseminated an opportunity to their wider first tier network of introducing agents who know potential purchasers which implied leveraging second tier network, with requirements matching the trading asset. The second-tier marketing would then involve introducing agents with access to decent potential buyers (institutions, private equity funds, or private net-worth individuals) to whom the listing agent does not have access (See 3.2.2 above on conflicts of interest). Introducing agents conduct a full marketing campaign through targeted investor tours, direct interaction and presentation to investors (LON-IV-1, LON-BR-3). Hence, the agency network was preferred when there was widely known acquisition interest for such an asset and potential buyers would participate in the best bid process (LON-BR-1). LON-BR-5 amplifies this point as follows:

> *"… it is also important to have relationships [with other agents] because in most transactions there will be an agent on both sides of the transactions. You are dealing with your counterpart on daily basis whilst you are [on] that transaction … but even you have an existing strong relationship with that agent, it makes the negotiation of the transaction much less hostile and you can often get more satisfying or effective outcome. It also helps to [invoke] opportunities with other agents who might have clients and would have not come around without those relations …" (LON-BR-5)*

LON-BR-04 underscored the importance of relations in the following statement:

> "*the role of relationships in [fringe] markets is quite important … one thing about fringe markets is that the ownership is very fragmented … and quite a lot of it is private ownership so it is quite hard to get to these owners and start a conversation in order to initiate a deal … the market I am dealing with is quite untapped … relationships in that market, [considering] the amount of people in it and the relations you can tap into, in London help to have those contacts"(LON-BR-4)*

Agencies were thus deemed to be ideal because through networks they were likely to provide wider coverage of clients who would have not been accessible through direct private treaty transactions or advertising (LON-IV-2).

Advertisements: Agents could use public media to promote opportunities to a large unknown audience of potential buyers identical to cultivating structural holes (See 4.3.1 above). Promoting an asset through advertising was contingent on an asset's profile. Advertising was perceived to be prudent for marketing unique assets, or large asset portfolio sales which would appeal not only to institutional investors but also to non-traditional players seeking assets for other non-investment reasons (LON-IV-3, LON-BR-3). LON-BR-6 reiterates this point below:

> *"For smaller lot sizes, we would use Estate Gazette Interactive (EGi), but it would be the last [resort] to ensure you have covered the whole market" (LON-BR-6)*

Advertising was also plausible for assets in fringe markets or smaller cities (LON-BR-2). LON-BR-1 presented an example of a situation when they had to advertise a regional opportunity:

> *"we are about to bring a property to the market in Peterborough. It's quite a small lot size, and for us it's quite difficult to gauge who the buyer of that property might be. So, when we are marketing this property, our strategy that we would report to the client would be to send it round to as many parties as possible ... to our mailing list, on our website, to advertise the property to as many parties as possible to get [to] the whole of the property industry or as many parties as we can to have sight of what we are selling" (LON-BR-1)*

Two considerations were raised regarding advertising, which were the effect of withdrawing an advertised asset from the market, and when advertising would not be necessary.

Effect of withdrawing an advertised asset from market

LON-BR-2 indicated that if an off-market transaction did not go through, the asset owner would not be exposed, and would have an opportunity to put the asset on the market. The researcher pursued the discussion to establish how withdrawing an advertised asset would affect its marketability to which the respondent replied as follows:

> "*… if you go to the market, everyone has the information on that property. So, they [tend] to share … they all know exactly what it is. [Withdrawing an asset from the market] can affect the future marketing campaign for that property because if you then relaunch it, you will look like a desperate seller. People will think they can get a bargain. So, they might put in some low-quote bids in the hope that you might want to sell it, just to get rid of it…*" (LON-BR-2).

LON-BR-1 indicated a similar sentiment stating that:

> "*… It gets blighted and takes a price-knock unless repackaged. We have just gone through best bids on something that was on the market with a different agent last year, and everybody said, 'ah I saw this asset last year.' But we were able to say, ' oh no but the rent review has been completed since then. So, it's a different story.' But if you send something out into the market best bids and then you ask for best bids, then six months later you go back out because it didn't sell, the price would reduce accordingly …*" (LON-BR-1)

It was necessary to further establish when advertising would not be necessary given the marketability effect of withdrawing an advertised asset.

When advertising would not be necessary

A number of reasons were cited about when advertising may not be required. Advertising, considering the cost involved, would not be worthwhile in a market with advanced advisory networks and deep knowledge of potential buyers for specific assets as emphasised below.

> *"... we don't do a huge amount of [advertising] because I guess that's the role of people like me to make sure rather than advertising formally in magazines or in a newspaper or something like that, we, instead, are focusing on people ... typically the industry is a relationship business and we, as with anybody, find building strong relationships in doing big business with successful relationships is probably the most successful way of going"* (LON-IV-3)

> *"... For [prime] office buildings, the value of putting an advertisement in the EGi [Estate Gazette Interactive] or on your company website is probably minimal because all your key agents will know about it and therefore the clients will generally know about it" (LON-BR-6)*

Conformity to marketing strategy, another aspect for consideration of the process dimension, was reiterated by LON-IV-1 in the following statement:

> *"We would never advertise an asset. It's not what we do. It's not like the practice at all. It would be a very strange thing to do in the UK market, especially in the London market. I mean we do not sell sort of £1m properties. We sell properties many tens of millions or hundreds of millions you know. To put it just ... it is not at all how market practice works. So, we would [not want] to do something that is so against sort of perceived norms we have to have a really strong reason to do it rather than the reasons not to do it if you see what I mean"* (LON-IV-1)

LON-BR-2 highlighted that liquid market like [London] market did not need to publicly advertise property.

> *"It's almost over brokered because the same agents try to buy and sell property in this market that it doesn't take long for people to start speaking about it and to find a right buyer for [a] property ... We don't put sale boards up. We don't advertise in any magazines. We don't use the Estate Gazette. We don't use Property Week or any. We don't need to do that*" (LON-BR-2).

LON-BR-6 argued that advertising did not necessary reach out to the effective demand.

> *"Online marketing would be more like presenting the opportunity to the general public but not actually to players in the market."* (LON-BR-6)

LON-BR-1 emphasised that commercial property business was a communications game, hence opportunities would not be advertised far and wide for everybody to see.

> *"Having conversations and relations with agents and clients is not only the way of doing business but is the way most properties are bought and sold"* (LON-BR-1)

A marketing campaign for a commercial sales transaction opportunity could thus be undertaken in three ways, namely, off-market promotion, on-market agency network promotion, and on-market advertising. The decision regarding a marketing approach to be adopted therefore, seemed to be contingent on broker knowledge of potential buyers' requirements, the asset's distinguishing attributes, and agent's capacity to deliver within the client's time constraint. The acquisition side of sales transaction tended to prefer off-market because of exclusivity while the disposal side preferred on-market to minimise the

underwriting requirement. Both transaction sides believed their preferred approaches were appropriate to serving their interests in a transaction. An off-market sale strategy was preferred when the best price was likely to be achieved through exclusive marketing (See Sequential search in 3.1.2 above). An on-market strategy through agent networking was a best bids approach used when there was widely known interest in an opportunity (See optimal search in 3.1.3 above). Advertising was a best bids approach used when potential purchasers were not known (See fixed-sample size sampling in 3.1.1 above). From the foregoing findings, it appears that the marketing strategies in commercial real estate sales transactions would be off-market, agency network based on-market strategies and advertising. These approaches would be used to introduce opportunities to potential buyers.

7.2.3 Introductions

A transaction introduction may be described as a presentation of an opportunity for potential acquisition. In the UK commercial real estate market, transaction opportunities are presented to potential buyers by introducing agents, unless sourced by the potential buyer. Introducing agents are appointed on 'first past the pole' basis (See RICS UK, 2016) and are rarely retained (See McAllister et al., 2008). Broker contingencies to introduction which emerged were market knowledge, market access, and client knowledge

i. Market knowledge

Active interaction with clients in acquisitions and/or disposals was a vital source of market knowledge (LON-IV-1). It was a way of gaining in-depth on-the-ground understanding of clients' requirements and market activities (LON-BR-1). With such knowledge, it would be possible to know potential purchasers (LON-BR-5, LON-BR-6). From previous interactions with clients, agents would know their requirements and how quickly they could react to transaction opportunities (LON-BR-5). They would probably further know how clients' investment committees were structured and how easy it could be to get opportunities through. Such market knowledge would help draw a shortlist of potential clients (LON-BR-2).

ii. Market access

In the UK guidelines on introductions of commercial real estate sales transactions compel a client to accept advice and instructions of the first agent who put that property to them. The onus is on the agent to deliver that deal to the client earlier than other agents (LON-IV-1, LON-IV-2, LON-BR-1). Getting information early as an investment agent was thus perceived to be important because it meant one could get to a client in advance of competing agents (LON-BR-1). This advantage would, however, be contingent on whether the recipient agent was on a priority list, which is a first-tier network. LON-BR-2 and LON-BR-6 indicated how information on opportunities could be selectively distributed in the statements below:

"I might speak to the person that I have [set down] before first. I might have got mates in the market who I always give what we call an 'early to'. So, they might be the first opportunity to place that property with potential investors" (LON-BR-2)

"… we might release an early a week or 10 days before we formally start marketing to selective agents and generally those are the sort a [back-up bargaining chip] because if I give you a piece of information early that allows you to secure position, and have the greatest choice of clients to secure the position with, that is quite valuable, but in retain I fully expect that when you are selling the next building, I will get the early from that. So, the way we will pick which agencies to give earlies to is who we think has got major sale coming up in the pipeline or is a major sales house … fully expecting back information in return." (LON-BR-6)

In brief, access to commercial market information depended on relations- '*people knowing people*' – and not online searching (LON-IV-1, LON-BR-6). Conversations among collaborating agents and investors in the market played a central role in accessing and circulating strategic information (LON-BR-1, LON-BR-4).

iii. Client knowledge

Client knowledge would essentially be understanding client requirements and behaviour. Since commercial real estate sales transactions were lengthy processes as noted under marketing campaign (7.2.2 above), transacting parties sought certainty of securing transactions. In conventional business terminology, the checklist for ascertaining the quality of an exchange partner would be referred to as '*Knowing your client'* (KYC). Emerging contingencies on client knowledge were credibility, financial capacity, acquisition criteria and preferred acquisition methods.

Client credibility

LON-IV-1 emphasised that if one agreed terms with a transaction partner, it was important to know the other party's capacity to perform their side of the deal. Credibility was about demonstrating a track record of concluding similar deals within timescales (LON-BR-3). It would also be about an earned reputation of performing and committing to performing as expected. With respect to client credibility, agents preferred to deal with straight-forward clients who had a better track record to individuals or firms known to be difficult to deal with. Difficult clients were perceived to waste valuable marketing time and resources committed to failed deal (LON-IV-3, LON-IV-4). Clients who previously placed offers but failed to conclude a deal would most likely expose the transaction to risk of another failed transaction and reverting to an under- bidder who might not be available or could subsequently offer a lower price (LON-IV-1). Broker credibility was also deemed to be essential.

Client financial capacity

LON-IV-3 claimed that their track record of multi-billion Pounds (£) annual asset acquisitions contributed to agents viewing them as prolific buyers and obvious targets to introduce opportunities. The same names tended to come around when properties with certain credentials were launched (LON-BR-2) The capital structure of an acquisition also indicated the likelihood of a potential buyer

completing a transaction. LON-IV-1 maintained that making it known whether a sought acquisition would be equity- or debt-financed helped to be spotted by introducing agents. LON-IV-4 also stressed that it would be pointless to compete in acquisition bids with investors that had low costs of capital.

Client acquisition criteria

Agents needed to establish market and property fundamentals (See 7.1 v above) which appealed to clients' acquisition criteria. The key to investment agents' ability to identify appropriate potential purchaser was understanding the client's acquisition criteria by interacting with fund managers, who were perceived to have a duty to understand differences in clients' sources of capital and investment sentiments (See David and Halbert, 2014, and Halbert and Rouanet, 2014). Acquisitions seemed to be driven by existing portfolios which were also driven by target returns over a given period. Some indicators were fund specific. Funds holding portfolios comprising assets with short unexpired leases were likely to have acquisition requirements for assets with longer unexpired leases to improve the portfolio credentials (LON-IV-2). LON-IV-4 stressed that it was important to have a huge degree of transparency on acquisition requirements not only to ensure investment agents secured appropriate assets that met the acquisition criteria, but also to maintain a moral high ground to turn down an inappropriate introduction.

> "*For us we have relationships with the clients, we have the capital. It's much better to get a good pipeline of things that are relevant than to have a diverse pipeline of things you couldn't possibly buy … there are times when it's just easy to say what your investment philosophy is. Quite often I say to people, 'I want to buy buildings that work for occupiers,' or 'if you think it's a good deal I probably have the money to take advantage of that.' So, you get some simple messages that they would say, 'this works. I can see a number of people wanting to occupy this building.' or 'it's a good retail pitch' … It works' I would rather they come with things that they fundamentally believe in rather than something they believe can be bought*" (LON-IV-4).

Property fundamentals: Property asset fundamentals as indicated in *v* above relate to property attributes such as design, finishes, size, environmental sustainability and location. The type of assets acquired depended on the fund profile for which they were to be bought (LON-IV-3). Being abreast with different funds' requirements in terms of risk profiles, sector or income structure gaps in their portfolios was deemed essential to investment agents (LON-BR-1, LON-BR-3). Open-ended funds, for instance, would require greater liquidity to meet short-term redemption calls than closed-end funds which had cash flow certainty over fixed investment holding periods. Understanding the composition of various funds and the gaps in client requirements viz-á-viz property credentials would help agents with originating potentially successful transaction deals.

Market fundamentals: The identified market fundamentals were sources of capital, market benchmarks, and investment destinations as indicated in 7.1 vi above. In a market with significant institutional investor participation, knowing the sources of capital helped understand their investment behaviour. Funds with capital sourced from markets with an investment philosophy of stabilised long-term income

security, for instance, were inclined to acquire core assets with long unexpired leases (LON-IV-2, LON-IV-4).

Asset acquisition method

The final KYC was understanding how potential purchasers were likely to acquire assets. The two acquisition methods as identified in marketing campaign were bidding and negotiating. Small-lot buyers and managers of high-yielding assets accepted that opportunities which met their requirements invariably traded on-market (LON-BR-1). Further, potential purchaser with a compelling requirement for a building would be content to bid in a market situation (LON-BR-2). Clients would prefer negotiating an acquisition if they were likely to get an early position to buy and avoid a competitive bid on the market (LON-BR-2). Negotiating was also plausible in softer markets where there might not be sufficient depth for bidding (LON-IV-2).

These findings provide deeper insight of contingencies to asset disposal in the commercial real estate market. Hence, marketing preparations, campaign and introductions highlighted in the disposal process seemed to be associated with broker qualities, asset characteristics, and client requirements. Communication, knowledge of client requirement and understand marketing approaches appeared to be engrained in the nature of the commercial market. Investment agents seemed to have involved considerable perception of contingencies in property fundamentals, market fundamentals, transparency and relations in conceiving a holistic view of how they would accomplish various stage of a sale process.

The next section explores respondents' perceptions of how relations addressed contingencies to the disposal process in commercial real estate sales markets. The analysis aimed at establishing the embeddedness of relations in sale transaction as claimed by Granovetter (1992), and Fligstein and Dauter (2007) as well as the use of relations to resolve uncertainty posited by Rangan (2000) and Podolny (2001).

7.3 RELATIONS

A key point raised was that relationships with other agents and clients in the property industry were important. The emphasis of how relationships were vital in the property is presented in the respondents' in-vivo statements.

> "*the best agents in the property business tend to be the ones with the best relationships with the closest client contacts and the best agent contacts because they are constantly hearing about properties coming up early and they are constantly able to share that kind of information with their clients. There are the ones that are ahead of the game, because it is not a transparent open industry … If I am selling a property, or my director is selling a property, or the team is selling a property, they will be inclined to go out to the agents and clients who they have a better relationship with, they have done business with in the past, they know good performers, they know good reliable agents or clients that they like. I mean that is very important in the property industry* (LON-BR-1).

"… it's all about sharing information, and having people I know in all different agency practices within the market I work in, but also having client relations in whom I can speak to and give them what I can say they believe is going on because they are the investors … our market is probably majority of information we gain from other individuals" (LON-BR-2).

"I think that [relationships] are crucial. I mean certainly in the UK real estate market, who you know matters massively. It's far more about who you know than what you know in the UK … That is what will help you get a deal done" (LON-IV-1)

"… property as a whole is a very people kind of business. It's all about to gain access to certain information which is often borne through relationships and actually the ability to perform on a transaction … So, relationships [are] pretty fundamental and it's even looked upon from the management team. It's a key strength to someone's [bow] when they are looking to recruit as well. So, they [management] would go out and sound off members of the industry, 'what do you know about this individual, how well do you know them?' And that's often the key driver probably around. They want to employ someone in that respect; How well known someone is? What impact or leverage in relationships will they be able to bring to our business? So that's pretty fundamental to the whole [deal]" (LON-IV-2)

With the nature of emphasis on relations in the property market, success in this industry was contingent on how agents utilised relationships. The relations contingencies are presented below under the sub-sections building relations, information sourcing, agent performance and trust below.

7.3.1 Building relations

Building relations was perceived as spending time and making sure that one understood and conveyed exactly what they sought and that the other party understood that too. Through having transactions with key practices, one success would often lead to another success (LON-IV-2) – indicative of preferential treatment or lucrative partnership (See 4.4.2 above). Being well-connected in the markets was deemed to be important as people tended to do business with people that they knew and liked and whom they could trust. One would be able to make good decisions quickly, which is crucial when dealing with people who had options to present that opportunity to somebody else as demonstrated by LON-IV-4, and LON-BR-4 below.

"So, if you are responsive, if you are polite, if are engaging with what they ring you up, they will keep ringing you up. … In terms of your communicating outside the market place it does not have to be quite people intensive and relationship driven. But of course, you can put your requirements on the website, you can do this, but none of that works. In the brokerage industry, it is very much about being in the minds of the people when they are working out who to call or who to email rather than necessarily expecting people to come and search … search you out … The way we take and translate those deals that we have evolved as a business into actual opportunities in the market place is through our transaction teams. And the transaction teams are property specialists who should be well-connected in the markets in which they are operating and on the basis that people tend to do business with people that they know and like" (LON-IV-4).

"… someone might say I have known this person for a while. Let's go and meet them for a coffee and talk about what we do as a team …" (LON-BR-04)

Relationships could be built in various way. The emerging relationship building approaches were through business, and peer interaction.

i. Business interaction

Relationship building requires committing time to meet clients and agents and exchange information on requirements and opportunities (LON-IV-2). New relationships emanate from interacting with colleagues, members of one's network that might have moved to a different company. They could also be developed simply getting to know people on the other side of the deal both advisors, and principals and solicitors and everybody else through working on similar deals (LON-IV-3, LON-BR-4, LON-BR-6).

ii. Peer networks

Peer networks were perceived to probably be the common way of building business relations in the property industry. Respondents often stated that agents and managers tended to have had pre-made networks from prior interactions. Off-market principal-to-principal transactions quite often happened because investors had a historic friendship from, say, attending university or working together at one point.

> *"I have my agency contacts who due to my level would generally be junior surveyors, senior surveyors and associate directors whereas my boss will have director, senior director" (LON-BR-6)*

(LON-IV-4). LON-IV-2, LON-IV-3 and LON-BR-2 indicated that they developed their networks largely through university peers. It was easy to make 'those' phone calls and make sure that their colleagues knew their requirements. Peer networks provided early access to instrumental information on opportunities, but was underlaid by an expectation of reciprocity to maintain access to bond network as LON-BR-04 acknowledged:

> "*… sometimes it is about contacting someone at your level in another firm or a client and have a catch-up meeting to talk about what he would have been doing and what you also would be doing and that is how I have ended up building my own network and then I would get heads up of things coming onto the market…" (LON-BR-04)*

LON-BR-1 indicated, for instance, that because she earned her qualifications through distance learning, she did not have that relationship from university. She also highlighted that the commercial office property market was quite a '*boys club.*' A lot of the guys [males] would go to their friends, or see each other over weekends, and exchange information. All her contacts were former work colleagues or people that she had come across in deals. So being a distance learning graduate and a lady in a boys' club made it a lot more difficult for her to interact and build relations. The association of gender with business connectivity in commercial office sales intermediation, and, secondly, how study mode and peer networks inform the building of relations in commercial property markets are two important points worth noting for future research.

iii. Professional networks

Contrary to literature but consistent with findings from the South African findings, association with professional bodies - value alignment networking - appeared to be a subtle issue to agents. The first

presentation was a conversation with an investment manager (Box 7-1) and the second was with investment agents (Box 7-2 and Box 7-3).

Box 7-1: Interview except on professional association – LON-IV-2

> ***I: Do you subscribe to any professional networks?***
>
> *R: uh professional networks?*
>
> ***I: Yes, professional networks like the Society of Property Researchers or that would be more in the academics or anything similar like IPF.?***
>
> *R: uh not personally. Yes, there are individuals within the company that do subscribe and are members of the IPF for example and sit on the board uh just to think about it ... there is the British Council of Shopping Centres that we are kind of members of through our retail team, accessible retails which is another platform for out-of-town retail and there is sort of that ...* (LON-IV-2)

Source: Author field survey 2016

Box 7-2: Interview except on professional association - LON-BR-2

> ***I: any professional networks that you are involved in?***
>
> *R: Uhm not at the moment. No.*
>
> ***I: Ok, RICS?***
>
> *R: Oh, sorry I am a chartered surveyor, yes.*
>
> ***I: Have you used the professional networks to influence how contacts perceive you?***
>
> *R: uh one it is on my business card and it is on my email address, and so without directly thinking about it I would say yes. I suppose yes.*
>
> ***I: So, what would that mean to them when they see your name and 'MRICS', what does that imply to your contact****?*
>
> *R: It means that I am probably semi-knowledgeable [laughs]. So, it means I have obviously ... that I have committed to the industry and I have undertaken exams to get to this position.* (LON-BR-2)

Source: Author field survey 2016

Box 7-3: Interview except on professional association - LON-BR-4

> ***I: How does [RICS] help you with your identity in the market?***
>
> *R: To be honest, I do not deal with many non-chartered agents because [for]a lot of the big firms we deal it would be a requirement to have an MRICS. I think it is more of the private individuals and investors [who] deal with non-[chartered] agents and it is more like brokerage … I think it is a movement in real estate profession to get qualified because it seems there are positive things about professional qualification generally in the UK*

I: Do clients [mind] whether or not you belong to a professional body?

R: No, but I would say it depends on the client. If they are seeking value for money and you are not qualified, they may act strange. I do not really know because the Managing Director of our company is not a chartered surveyor. One of the best brokers we have in our company is not a chartered surveyor, [but] he is the one bringing in huge fees. I think if you are good at your job and you are knowledgeable, and you are a likeable person, people can see how capable you are from the information you receive. You can be a qualified surveyor and be awful at your job.

Source: Author field survey 2017

This apparent triviality of agents' professional affiliation as quality assurance raises concerns about how clients kept agent behaviour in check. It appears agents relied on bond networks (See 4.1.2 above) to keep abreast with client requirements through business relations, a form of convergence networks, and peer interaction, which is a form of cooperation network.

7.3.2 Information sourcing

As noted earlier under market strategies, getting information earlier than the rest of the property market was perceived to be crucial, and relations mattered for accessing information. How much information one could extract from such relationships would be associated with how well one knew the other party and how much business one had done with them in the past as shown by LON-BR-4 below.

> *"Someone you have met for coffee or lunch is much more likely to tell you who has [made movements] than just cold-calling someone you have no relationship. They will probably not give you any information …" (LON-BR-4)*

Information in the residential market would be readily available through online databases. It would not be so much the case in commercial markets. The value of providing online information on available opportunities was considered to have minimal value to commercial real estate investors (LON-BR-6). Rather, information sourcing would largely be relationship-based (LON-BR-1). LON-IV-1 and LON-BR-4 emphasised that it was through face-to-face interaction with people followed by phone calls and emails that information about who was likely to be actively passed around in the market.

> *"… I think social networks being quite a frequent face-to-face meeting is what builds relations and [following] up with phone calls. I think emailing someone, or adding someone on LinkedIn does not create relations …" LON-BR-4*

LON-IV-2 pointed out that subscription databases still had significant information gaps, and there was no market test or tools to overcome the gaps (LON-IV-2). This problematic nature of important market information seemed to justify social solutions to commercial real estate transactions.

The emerging modes of sourcing information were through business interaction, real estate transaction tracking, and social interaction.

i. Business interaction

Through day-to-day involvement in buying and selling different types of properties, agents would have on-the-ground information on market activity and understand which players were best placed to buy or

sell assets in the market. (LON-BR-1, LON-BR-3, LON-BR-5). It would be through consistent conversations that brokers source requirements, and secure business flows (LON-BR-04). Most properties were deemed to be bought and sold using business relations (LON-BR-1, LON-IV-3) underscoring the social networks in economic exchange.

ii. Social relations

Social interaction would be perceived to provide opportunities to meet colleagues in a rather informal environment. LON-BR-2 described the commercial real estate market as a '*very social market*' with frequent social events. Social events with other agents, like frequent coffees, drinks or regular informal catch-up meetings were about constantly being in contact (LON-IV-1, LON-IV-2) to know what was happening on the market.

> *"the more junior agent you are, the more you are expected to provide information about what is going on in the market and the way you do that is by social networks by meeting people for coffees, breakfast, lunch, running in general over the market and what you have been doing. I think it is a positive thing, and it is what sets real estate apart from other markets where things are automated and computerised. It is nice to have an industry where people are focused on doing things face to face … people are interested in meeting [knowledgeable] people … as a firm we have a lot of information at our finger tips." (LON-BR-04)*

iii. Internal and External databases

Internal databases were beneficial as research tools for searching records on historic and current introductions (LON-IV-2, LON-BR-3, LON-BR-5). Agents tend to have a ready list (hot money) of [go-to] clients with known requirements who can be immediately approached (LON-BR-04). LON-BR-5 highlights the use of internal databases in searching as follow:

> *"… if we sold another building recently, we might receive offers from different parties and [with] that sort of information, … you know as a selling agent, when you come to sell the next building, that there were nine (09) unsuccessful offers from nine (09) known investors. It becomes easy to contact those nine (09) investors …" (LON-BR-5)*

External databases such as CoStar Propex [Property Exchange], CBRE Deal Flow and Estate Gazette Interactive may reach out to a wider audience which might not have relationships with the agent than a traditional mailing list. There is still substantial relationship-led information dissemination before an opportunity is launched to ensure that they get their preferred clients early before it gets on a wide marketing campaign (LON-BR-1, LON-BR-4).

> *"I would not say we go to mailing systems like CoStar Propex. We can do mail-outs to agents, but that is not where the real circulation happens. That is [often] the last resort just to make sure nobody has missed it, but generally we would circulate it through the agent network and it gets around very quickly" (LON-BR-6)*

iv. Real estate transaction tracking

Information on historical trading patterns, passing rent and growth potential could be sourced by tracking personal contacts, activities or the [company] brand deals and clients known to have previously sought acquisition (LON-BR-1, LON-BR-2, LON-IV-2). LON-IV-4, however, cautioned that the way

the agency community tracked investors' activities and anticipated repeated acquisition behaviour was not a strategy which anyone who understood diversification probably would pursue, but was one that the agency community often quite followed. Investment agents tended to mirror investors' acquisition and disposal behaviour, hence it tended to be difficult for investors to communicate broadly to the market anything that was different from the behaviour market watchers saw investors to be demonstrating (LON-IV-4).

Information on transaction opportunities and client requirements was thus acquired through formal business relations and informal social interaction. In-house property databases on client enquiries as well as tracking of clients' activities on the property markets were also used to source market information. Having explored how relationships would be built and used in commercial sales transactions, the final aspect is to establish the outcomes of relations. These are presented as performance, trust and effect on liquidity.

7.3.3 Agent Performance

Considering that real estate asset sales transactions involved a number of processes contingent on accessing information, the researcher sought to establish how relations were associated with agents' performance in commercial sales transactions. Agent performance would be conceived as demonstrable ability to use existing contacts and relations in the industry to access information on specific client requirements early and act in the best interest of the client. This aspect was captured from *in vivo* descriptions of respondents' perceptions of how relations were associated with agent performance responses presented below.

> *"Relationships are very important. That is the best agents in the property business tend to be the ones with the best relationships with the closest client contacts and the best agent contacts because they are constantly hearing about properties coming up early and they are constantly able to share that kind of information with their clients. There are the ones that are ahead of the game ... The property market because it is all about conversations, relationships, ... getting that information early; it's not a particularly transparent industry and getting access to that information earlier is the real key for succeeding in the property industry"* (LON-BR-1)

> *"It takes contacts in the industry. So, if we didn't know [x] we would probably use another agent who knew [x] well to get that information to them because if we got wind they might be the right kind of buyers for this property, and I knew that you knew them very well, you have done previous deals with them and I know you and represent ... even if you worked for another agent I present the opportunity to you to take to [x]. So, it's just about developing relationships and sharing information, but it is not readily available as you right now"* (LON-BR-2)

> *"I can't speak for my European colleagues, but I certainly think in the UK it's very important to us and I think a large part of our success is the network that our transactions team and our investor relations team have with other investors and agents. I don't think if we had the same amount of money to invest but we were lesser known we did not know anyone on the market we would have far more trouble investing that money ... Every lead is important to know ... My main thesis is that relations are very important. I think they tell you who's going be active in the market and who's not. I think they help you get the deal done. If your broker has good relations with the buyer's broker and tries to dispose of an asset that helps enormously. I really can't trust that enough"* (LON-IV-1)

"It's really to making an effort maintaining those existing relationships and meet colleagues of us within the sectors that I have been focusing on and it's so much people [..] it's making the time to go out and meet people ensure that they know our requirements because ultimately they are brokers and their fees are generated from broking a deal. So, they are equally incentivised to meet us and get to know us, understand our specific requirements which would say though not all of the times they would know who to go to if the right opportunity comes across their desk … and it is even kind of looked upon from kind of the management team. it's a key strength to someone's [bowl] when they are looking to recruit as well. So, they would go out and sound off members of the industry - what do you know about this individual, how well do you know them? And that's often the key driver probably around they want to employ someone in that respect. How well known someone is? What impact or leverage in relationships will they be able to bring to our business? So that's pretty fundamental to the whole [deal]" (LON-IV-2)

"… I think there is a huge difference between when I started when I did not have my network of junior agents who would provide me with slightly early information to now I have that. We have a lot more opportunities coming across our desk. We have worked a lot [in] the past nine months, building our networks and doing this public relations exercise about what we are doing. It is proving to how much an impact social network has on your day-to-day job of being able to find out what is happening on the market…" (LON-BR-4)

From the above descriptions, respondents indicated that commercial real estate sales markets were driven by interaction. Getting information early mattered hence performance was associated with who one had relations with.

7.3.4 Trust

There was an apparent element of trust with agencies in building up relationships. Reputation was perceived to be important for sales transactions. Business relationships were created from trust and expecting consistencies with their market reputation (LON-IV-2). Trust was built from a reputation for commitment, honesty and transparency (LON-IV-4, LON-BR-3). Agents with a reputation of being reliable advisors helped overcome barriers in the early stages of transactions as they possessed instrumental information which clients needed for due diligence (LON-IV-3). Reputation was thus about how one dealt with people, and about striving to be approachable, or accessible wherever possible. LON-IV-4 expressed the role of trust in business relations as follows:

"There are certain people where you know it's not really going to be good to be on the other side of the deal from them. The nature of the counterparty is very important. It is one of the considerations we have in investment committee. 'Who is the counterparty? Do we know them? What's their reputation? What is their track-record? Will they complete? Will they do what they say they will do or not? not fundamentally but if he talks and he do often sells [to] the highest bidder. So that ... that the nature of the counterparty is one of the considerations" (LON-IV-4).

"In practice and, yes [relations affect the quality of information accessed]. it is human nature that … business is easily done where there are strong relations … you would expect an agent that you have a strong relationship [with] to be more helpful than one you have no knowledge, experience or trust. It all boils down to trust …" (LON-BR-5)

These sentiments on trust underscored what Rangan (2000) highlights as a role of social networks in addressing uncertainty of the quality and intentions of potential exchange partners.

To recap the findings on the role of relations in commercial real estate sale transactions, it appears relations addressed contingencies to communication and knowledge of client requirements through business interaction and peer networks. The contribution of professional affiliation to addressing contingencies was deemed to be trivial. Though internal and external property databases were deemed to provide information about client investment behaviour, respondents perceived formal business relations and informal social interaction to have facilitated exchange of instrumental information. Network interaction was perceived to enhance agents' performance as well as to earn clients' trust of agents' behaviour.

Taking a further step back to the transaction process, it seems a broker accepting instructions to act on behalf of a client would consider not only the property and market fundamentals in preparing and executing a marketing strategy. Relations with clients and other brokers, particularly through bond networks would be considered as well. Agent performance would be contingent on how expedient information generated through network relations would be towards achieving specific client requirements. These findings on contingencies to the disposal process provide deeper insight to commercial real estate sale transactions which contributes to better understanding of the operational nature of real estate markets beyond the current categorisation in existing literature. The final section sought to verify these propositions.

7.4 LIQUIDITY AND RELATIONS IN COMMERCIAL REAL ESTATE SALES MARKETS

The researcher finally sought the respondents' perceptions of how relations were associated with liquidity in commercial office sales markets. The following were the responses *in vivo.*

> *"Because I have got access to that information probably earlier than the rest of the property market, I have a broader range of clients or opportunities that I can go and put that property to"* (LON-BR-1)

> *"I would think the off-market is a lot quicker [to sell than an advertised property] Because you made a direct approach to that person [that bought the asset] is the person that who wants to sell, you know, whereas often some of the properties on the market I have sell we go through an advertisement. So, if you don't get the price they wanted, they may not sell. Whereas in an off-market, it's one-to-one, isn't it? It's much quicker, easier"* (LON-BR-1)

> *"With my relationships, I have made far quicker ... I have disposed an asset far quicker with relations than without them. And I would say on the acquisition side, it just makes the information flow far quicker"* (LON-BR-2)

> *"I think to get a deal fast you really the networks. I definitely think that's important"* (LON-IV-1)

> *"I think relationship is key to reach the communications going now ... being able to have that reach through our relationships to Middle East and South Africa, Australia, China Hong Kong. It's pretty key [important] and as we see the real estate asset becoming more global and a lot more kind of cross border investments beginning to happen, those relationships are beginning to extend further through a company network than ever before so that would make it more efficient instead of going through a[n] office agent in London, it goes to his kind of capital markets team. it will go to another country to find a requirement I think that relationship will begin to go from offices resource to the guy that would be over there as opposed to going*

through chain individuals getting to that country. And often things like information can be exchanged in certain varying times [..] those are efficiencies that will begin to come in as those relationships [integrate] with globalisation commercial [markets] (LON-IV-2)

I am not too convinced, I mean if we talked about advisors, with what role they play in in liquidity whether that, let's speak in terms of the volume of capital that we have got at our disposal or the actual perceived liquidity of the asset … perhaps where you might consider it relevant is the quality of work produced by an agent if they were selling an asset for you then they have got the ability to really demonstrate the wider market, the rest of the market, the buying side of the market, the quality is of this asset if you instructed them to sell then I mean that's what you would expect them to do, but it may not always be the case (LON-IV-3)

"If your building is ready for sale and so when somebody does the diligence ... it does what it says on the tin, then you have a much smoother transaction process. If you are upfront about any of the issues, then you avoid people chipping on the due diligence findings. ok it's all ... it's all about preparedness for sale, and when deals happen quickly, it tends to be because there is a relationship there and some deals might appear to happen quickly perhaps they have been working for months behind the scenes teeing it up" (LON-IV-4)

"It gives you confidence by dealing with the right people that you are pointing in the right direction" (LON-BR-3)

LON-IV-3 was of the view that collaboration among agents – collaborative networks – assisted in reducing due-diligence since agents shared vital information with peers they knew had clients with matching requirements.

"*… Typically, we work with an enormous range of advisors, and it's invariably a small group who year-on-year act for us on those acquisitions because they get to understand the profile of assets that suits our requirements very well. If they develop a reputation for being [some] of our so-trusted advisors, they [alert each] others [of] who would want to buy the [particular] asset that they are going to be selling … and that works well for us as well because it means we get to work with somebody who knows the kind of information that we want during the due diligence process and typically it's somebody we know how they operate, they know how we operate. So, there are not a lot of barriers to overcome in the early stages of due-diligence where that it's not certain what kind of information or level of detail that we require"* (LON-IV-3)

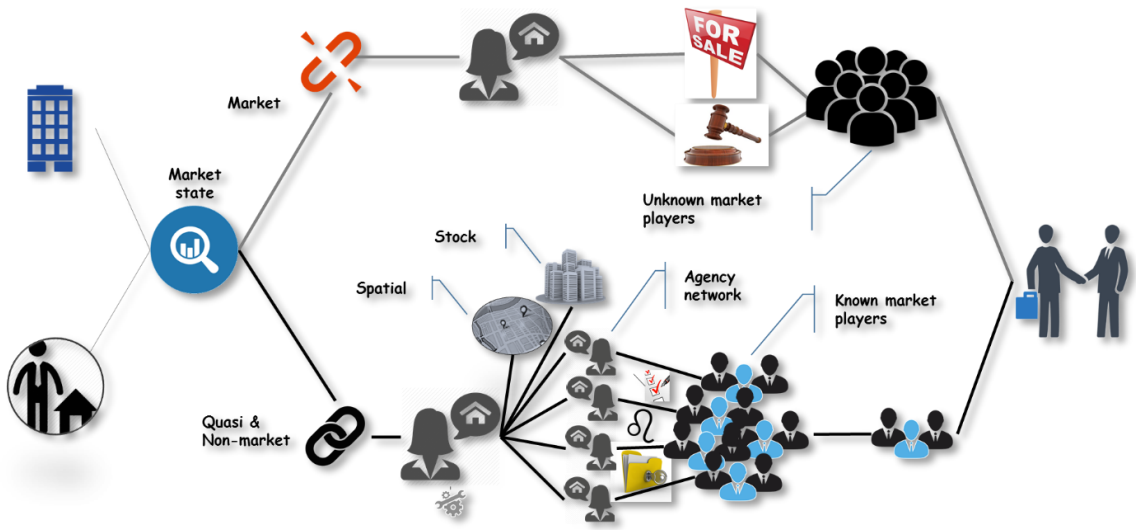
The above statements highlight that relationships provided early access to information, and in a market where clients had an obligation to accept the first introduction of an opportunity, getting information early mattered to succeeding in sales transactions. Relations were associated with how early an opportunity could be introduced hence were likely to affect the search duration.

7.5 SUBSTANTIVE THEORY

The operational nature of commercial real estate sales markets in London, United Kingdom is presented in Figure 7-1 below. Market (advertising), quasi-market (agency network) and non-market (confidential) disposal strategies could be adopted. Knowledge of property and market fundamentals was deemed to be essential to all marketing strategies. Relations, however, mattered to quasi-market and non-market strategies. Agency networks seemed to be preferred for circulating information on transaction opportunities and client requirements. Access to instrumental information appeared to be governed by bond networks which could be used to earn trust as well as to facilitate access to

instrumental information. Agency networks, however, demonstrate qualities of on-market sales by exposing opportunities to interested market players (second-tier network) through a wide network of introducing agents (first-tier network), and not necessarily to the public. Client-broker relations mattered more to the appointment of a listing agent than the appointment of introducing agents. Broker-broker relations, however, mattered to introducing agents accessing and introducing an opportunity to potential buyers earlier than other competing brokers.

Figure 7-1: Substantive theory of operational nature of commercial real estate sales market - London



Source: Author 2017

7.6 SUMMARY

The research findings brought out some key issues that would contribute to understanding how relations are associated with liquidity in the London commercial office sales market. The first section of the findings established that liquidity was perceived as funding liquidity as well as marketing liquidity in relation to transaction activity, price impact, and transaction processes. An alternative perspective to liquidity focused on the saleability of an asset considering its fundamental credentials, and prevailing market conditions. Hence, liquidity would be contingent on the position of the market cycle. The section looked at the disposal process and identified pre-marketing, marketing and post-marketing stages. The key finding was the importance of demonstrable knowledge of the market, access to market players and understanding client requirements. The final section explored relations and established how they would be essential to sourcing information and building trust. Relations were claimed to be associated with performance and to contribute to liquidity by providing early access to information hence facilitated quicker conclusion of transactions. These findings are consistent with existing literature on embeddedness of relations in economic activities as well as the use of relations in resolving uncertainties in economic exchange. They provide insight to understanding how private information is accessed to facilitate sale transactions hence contributing to understanding the way commercial real estate markets

operate. These findings are reflections of perceptions about transaction activities in a mature commercial real estate market. However, they seem to bear resemblance with experiences in the Johannesburg study which is an emerging market. Chapter 8 therefore analyses these experiences for possible replications and deviations which would be useful insight to global and local practices which create liquidity in commercial real estate markets.

CHAPTER 8: REVIEW OF SOCIAL NETWORKS IN COMMERCIAL REAL ESTATE SALES TRANSACTION

8. INTRODUCTION

The gap on understanding the nature of real estate transaction process has been highlighted by Healey (1992), Keogh and D'Arcy (1999), Seabrooke and Kent (2008) and Lizieri and Bond (2004) in Chapter 2. Chapters 3 and 4 developed a conceptual framework to better understand the nature of real estate markets by exploring the search and social network concepts respectively. These chapters explored the search alternatives and role of social interaction in search processes of an economic nature. Chapters 2 to 4 demonstrated the association of property attributes and social networks with search processes in exchange transactions. Chapters 6 and 7 presented findings from Johannesburg, South Africa and London, United Kingdom respectively on how brokers addressed contingencies to sale transactions in the respective office markets. Black et al. (2003) argue that including institutional assumptions could lead to more accurate decision models.

This chapter explains the emerging themes around the fundamental research question of how social networks resolved contingencies to sales transaction processes. It reflects on research findings from Johannesburg and London regarding how contingencies to the search process were identified, and how social network approaches would be used to resolve ensuing uncertainties. The review is presented in three broad sections, which are commercial real estate sales market characteristics and search approaches, social networks and commercial real estate transactions, and nature of social networks and time on market. A substantive theoretical model of contingencies in the search process for commercial sales is presented as this research's contribution to understanding the operational nature of commercial real estate sale transactions.

8.1 COMMERCIAL REAL ESTATE MARKETS CHARACTERISTICS AND SEARCH APPROACHES

One of the key distinctions between financial and real asset transactions is how asset characteristics are associated particularly with search approaches and liquidity. Liquidity of financial asset markets is evident from the transmission of market information through trading activity. Private real asset markets rely on search rather than market mechanisms to establish relevant market information (Amihud et al., 2006, Geltner et al., 2003). Invariably, direct real estate assets transactions occur in private markets, hence search is relevant to market liquidity.

8.1.1 Liquidity in real estate markets

Conventional literature (see Sayce et al., 2009) highlights the unique characteristics which distinguish real estate markets from financial asset markets. However, a number of studies have sought to compare liquidity in direct real estate markets with that in financial asset markets (See, for instance, Bond and Chang, 2012 and Cheng et al. 2013). Hence, the research sought to establish the perceptions of real

estate market liquidity among respondents. References to funding liquidity were not uncommon in initial descriptions of market liquidity. Respondents further alluded to real estate market liquidity being associated with transaction activity, price impact, and processes involved. The illiquidity of real estate markets in comparison with financial asset markets was perceived to be associated with information asymmetry regarding property and market fundamentals. Buyers, sellers and intermediaries disproportionately held private information. Consequently, brokers (being matchmakers) faced inventory holding risk – the broker uncertainty of whether and when an asset would sell (See Amihud et al., 2006, Lin and Vandell, 2007, Yinger, 1981).

Transacting parties are also confronted with adverse information risk, which related to market transparency. Buyers sellers and brokers may each hold strategic information to their advantage. Disclosure of information on asset quality could be established through due diligence. Broker behaviour could be managed through disclosure of conflicts of interest. Yet, there seems to be no asocial methods of addressing buyer behaviour that could adversely affect a sales transaction. Goyenko et al. (2009) indicate that adverse information in financial markets is corrected by adjusting reservation prices in subsequent transactions because securities can be sold in small lots at a time. In direct real estate markets, the downside risk of investment can be large and costly to reverse (Clayton et al., 2008). Assets are sold as whole units and the transaction process is lengthy hence adverse information cannot be corrected through market mechanisms. Transparency was deemed to be essential to ensuring that brokers introduced opportunities to buyers with relevant requirements. It also enabled a buyer to minimise likelihood of an undesirable acquisition that would be costly to reverse by maintaining a moral high ground to turn down an inappropriate introduction. As shown later in 8.2 below on page 233 below, social relations have been used in place of market mechanisms to address information asymmetry.

In direct real estate markets, property and market fundamentals contributed to search friction which Mortensen (2011) describes as the prevention of instantaneous matching assets to buyers. Hence, liquidity is partly associated with search. Consistent with literature, (see Engel and Rogers, 1994, Maclennan and O'Sullivan, 2012, Wilhelmsson, 2002), respondents identified processes which distinguish search in real estate markets from that in financial markets as marketing campaign, property viewing, managing bids process and price negotiation. Property fundamentals such as heterogeneity and location, and market fundamentals such as market state and role of broker confine market knowledge to localised sub-markets. Information on transaction opportunities, as shown in 8.2.1 on page 234 below was mainly exchanged through networks. Respondents emphasised that commercial real estate sales market was a '*people business*' arena in which transactions were accomplished through conversations.

Hence, it seems reasonable to incorporate search processes into understanding liquidity in direct real estate markets. Search addresses inventory holding and adverse information risks. However, property

and market fundamentals contribute to search friction. The key to understanding liquidity in direct real estate markets, therefore, is to unbundle the contingencies to the processes in strategies adopted to reduce search frictions.

8.1.2 Search in real estate markets

Search purposes prominently identified in literature include i) seeking a favourable price through minimum price dispersion (Stigler, 1961), ii) seeking the least search cost for an optimal price (Kohn and Shavell, 1974) or iii) maximising marginal benefits through optimal search cost (Morgan and Manning, 1985). Respondents identified equivalent search purpose in such categories. They referred to the expectation in a sale mandate to be one of achieving the 'best price' for the asset. The inferred best price was either a near-market value or highest bid relative to a broker's perception of the buyer behaviour, market state or preferred marketing approach. Some assets would be advertised through public media such as external databases or company websites. There would also be assets not widely advertised in the public domain, but through networks and sold on best bids. Finally, other assets would be presented as confidential introductions. A broker's choice of a search approach deemed to reduce search friction depended on their perceived contingencies to search in each specific context. A broker would consider the imbalance between the demands of the sale instructions and the available resources in adopting the appropriate marketing policy to reduce search friction. The two considerations by searchers when making choices of search strategies are stopping rules and search costs.

A stopping rule is a decision rule to terminate search (See Lippman and McCall, 1986). The rule depends on the search purpose and consequences of the search method. A searcher may terminate search when a sample is large enough to reduce price dispersion (FSS), the observed offer equals or exceeds the expected price (OS) or when there is no significant marginal gain observed (SS). These stopping rules are discussed further in 8.1.3 on page 231 below.

Meanwhile, in Chapter 3, (See Summary and Comparison of Search Models 3.1.4 on page 51 above), a broker's choice of marketing strategy was linked to the uncertainty of i) if and when an asset would sell, ii) the known pool of potential buyers in the searcher's network, and iii) the potential pool outside the searcher's network. Baryla and Zumpano (1995) and Lippman and McCall (1986) indicate that search costs influence the duration an opportunity remained unsold on market. Search costs in this context refer to the effort required to identify a potential buyer, also referred to as psychic cost (Morgan and Manning, 1985) or within-search costs (Elder et al., 1999).

Uncertainties associated with search cost which have been identified from the Johannesburg and London empirical data are broker's individual or brand capacity and relations indicating a broker's perception of resources required to search. Broker capacity refers to broker's local market knowledge rather than the skills or training to undertake a sales transaction. It demonstrates the broker's knowledge of client requirements and existing market stock enables a broker to position asset in the market. Local

information includes that on spatial market delineation, active and potential stock, as well as market players, their investment requirements and preferred investment domains.

Uncertainty about relations refers to concerns about broker access to non-redundant market information held by (un)known individuals. Access to privately held information in direct real estate markets is fundamental to liquidity as well as the intermediation role of brokers in real estate markets. Relations with investors and other brokers in the market provide channels through which information about clients' acquisition criteria could be accessed. David and Halbert (2014) stress the importance of understanding how the location of business properties was contingent on the penetrating coalitions of local market players over and above the investment qualities. Such access to information on client requirements was instrumental to listing brokers in the Johannesburg context and introducing brokers in the London context in identifying clients whose requirements matched an available opportunity. Early access to information through networks enabled an introducing broker to outwit competition in introducing opportunities to potential buyers and facilitates an early conclusion of searching. This is consistent with Campbell et al. (1986) who maintain that relations provide access to diverse and instrumentally useful information, as well as access to potentially influential players.

So far, two broad areas of uncertainty to the search process have been highlighted. The first area of uncertainty relates to information asymmetry indicated by the broker's perception of property and market fundamentals. The second area is linked to behaviour indicated by resources at the broker's disposal. These uncertainties are associated with adopted marketing strategies and stopping rule for a transaction opportunity.

Resolving influences on the time it takes to stop searching

Lippman and McCall (1986) and Chen et al. (2010) emphasise that an optimal marketing policy, which is the search strategy that minimises search costs, is critical to search models. Two search approaches identified in literature are formal search (Huffman and Torres, 2001) and informal search (Davern, 1997, Marin and Wellman, 2011). Formal search involves non-personal intermediation using public media such as advertisements, or outdoor signboards to convey the vendor's sale intention. Search is intensified by exposing a transaction opportunity to many unknown potential buyers, but it tends to be costly (Albrecht, 2011, Benefield et al., 2011, Stigler, 1961). Haurin (1988) and Krainer (2001) show how formal search through advertisements reached a wide audience of unknown potential buyers in residential real estate markets. Informal search operates on networks and access to inside information through relations (See DiMaggio and Louch, 1998 and Röper et al., 2009). It generates small relevant samples per search episode. Hence, search cost per episode tend to be low, but the information generated is limited. Therefore, a broker would seek an optimal marketing policy befitting the property fundamentals and for which resources would be available.

8.1.3 Optimal marketing strategies

Three marketing approaches were identified from the research findings, and these included on-market, off-market, quasi-market search.

i. On-market search

On-market search was formal and non-relational search which targeted at large unknown audience of potential buyers. The best price was deemed to be the maximum favourable price achieved by public advertising for bids through tender or auctioning. The approach was perceived to be preferred for unique assets whose market value or potential buyers would not be known. Such assets tended to form a small market by being in fringe or rural areas. It could also be used for large portfolio sales of assets which could otherwise have easily sold individually. Such assets were perceived to appeal to non-traditional market players. On-market search was consistent with the fixed-sample size sampling strategy on how samples (offers) would be observed. Information would be disseminated to unknown potential buyers through non-personal channels such as advertising. The best price was achieved from observing all bids in one search episode of bidding or auction. Typical clients would be end-users hence access to clients' requirements would not be relevant.

Research findings on both the disposal and acquisition sides suggested that bid preparation was highly involving and costly exercise, consistent with literature (Benefield et al., 2011, Stigler, 1961). The acquisition side had no guarantee of securing a transaction and more so at the expected value. On the disposal side, a publicly traded asset could be stigmatised and be vulnerable to opportunistic buyers if it failed to trade the first time it was placed on the market. Respondents in both Johannesburg and London indicated that re-marketing a failed transaction opportunity was a challenge unless there was proven change in its fundamentals. On-market search was deemed unnecessary in communication-driven markets with advanced advisory networks, and deep client knowledge.

ii. Off-market search

Off-market search has an informal search strategy which involved personal interaction between exchange partners. The perceived benefit of off-market transaction was the preservation of asset value. This search approach mattered to clients for whom transaction confidentiality was critical. The approach was preferred in both Johannesburg and London contexts for disposing of or acquiring 'trophy' assets. Potential buyers would be known but few. Hence, the best price would be achieved by focused, exclusive and confidential marketing. Market knowledge was, however, crucial. There would be no formal marketing campaign. Rather, introductions were made on one-to-one basis, consistent with Kohn and Shavell (1974) sequential search. Findings indicated that vendors who sought certainty of disposal especially when time was a constraint preferred the off-market approach. Interestingly, this finding contrasts that of Röper et al. (2009) in a residential market context that searchers seeking certainty of sale if housing mobility was necessitated by urgency in personal circumstances were least likely to use

social networks. Such sellers would use brokers, who widely advertised the property. Off-market approach were perceived to also appeal to buyers who were less inclined to competitive bidding, and its associated cost of preparing bid, but were highly interested in securing transactions even if it meant paying a premium over the market value. Private investors and wealthy individuals were typical clients who preferred off-market transactions. Interestingly, institutional investors in both in Johannesburg and London preferred to acquire assets off-market even though owing to the absence of market evidence such acquisitions would require to be underwritten by trusted professional service providers.

iii. Quasi-market search

This approach was a blend between off- and on -market search, equivalent to Morgan and Manning (1985) optimal search. It employed networks to exclusively market opportunities in high-yielding assets for which there was widely known interest from investors. A full marketing campaign would be presented to a pool of potential investors who brokers knew had requirements that matched the opportunity. The ultimate buyer would then be drawn through a formal multi-stage bid process. Quasi-market search was preferred by institutional investors as well as emerging and private investors seeking assets trading at high yield and which exhibited potential for growth. In Johannesburg, however, institutional investors preferred to compete with 'identically' sophisticated market players that would not drive prices beyond reasonable levels just to secure an opportunity. Exclusivity was perceived to preserve the value trading assets and clients' status by restricting public knowledge of a transaction opportunity as in an on-market approach.

Each of these search strategies would be suitable for different contexts. A broker's choice of an optimal marketing strategy would therefore depend on his/her perception of associated contingencies. The optimal marketing policy would, therefore, be one which addressed a searcher's perception of uncertainty on the demand-resource balance (see Cox and Mackay, 1976).

Demand: A broker, as a searcher with a sale mandate, would be confronted with the need to resolve uncertainties around the identity of the trading asset, and vendor. The identified asset attributes were property fundamentals such as type, size, class, and location. Vendor attributes comprised client type such as investment funds, private investors, high net-worth individuals, or end-users, as well as client preferences in terms of investment criteria and disposal motives. These attributes constituted the properties (See Maynard, 2012 and Charmaz and Smith, 2003) of a sale transaction process and were associated with preferred marketing strategies.

Resources: Resources as mentioned in 8.1.2 above were individual or brand capacity and relations required to access information. Individual capacity was identified as a demonstration of market knowledge and ability to accomplish tasks. The second type of resources identified was relations which provided access to private information. Relations indicated the strength of ties between broker and client which influenced access to client information. Relations also reflected a broker's position within a

social network, whether a peer or business network. They demonstrated a broker's instrumentality to a network and in turn provided access to strategic non-redundant information. Resources could, therefore, be perceived as situational and inhibiting conditions to a transaction process. Indeed, existing literature does not seem to stress the importance of the locale of resources as a contingency to a transaction process. Earlier studies such as Elder et al. (1999) extended the understanding of search cost by incorporating search effort as an indicator of search intensity known to reduce time on market. The association of search effort with the searcher's available resources has, however, not been interrogated. David and Halbert (2014) acknowledge the importance of relations with local coalitions over and above knowledge of property fundamentals in securing strategic locations.

The literature gap which this research addresses is on understanding how a broker's construct of demand-resource imbalance with respect to sale instructions shape the search process. Indeed, this attribute of search choice which is critical to search outcomes is best captured through qualitative analysis. This research thus contributes to the body of knowledge by incorporating demand-resource imbalance as a central theme for understanding contingencies to a sale transaction process. Table 8-1 below outlines how a broker's perception demand-resource balance seemed to shape search strategies and resolves uncertainties. Relations were necessary in off- and quasi-market search to resolve asset identity, vendor identity and buyer quality when client interests mattered. This observation was consistent with Rangan (2000) who maintains that networks are relevant where the identity of assets and vendor are problematic, and information on the quality of the potential buyer is important.

Table 8-1:Demand-ability balance and optimal search strategies

	Off-market	**Quasi-market**	**On-market**
Task	Dispose/acquire trophy asset Guaranteed transaction Protect client interest Expected price	Dispose/acquire high-yield asset Minimise underwriting Protect client interest Market-related price	Dispose/acquire unique asset Maximum price
Resources	Individual capacity Relations	Individual capacity Relations	Individual capacity
Strategy	Focused marketing	Selective marketing,	Open marketing
Uncertainties	Asset, vendor, buyer identity and quality	Asset, vendor, buyer identity and quality	Asset identity

Source: Author field survey 2016

The next section of this chapter demonstrates how relations are perceived to resolve uncertainties around asset and vendor identity, as well as buyer quality in real estate transactions.

8.2 SOCIAL NETWORKS AND COMMERCIAL REAL ESTATE TRANSACTIONS

Real estate markets are known to have unique characteristics – spatial dispersion, asset heterogeneity, and localised market information. Literature acknowledges the dominant role of brokers in real estate transactions (See Zietz and Sirmans, 2011). Brokers have the advantage of economies of scale in

searching for opportunities which clients find to be costly and too involving (See Yavas, 1992). One fundamental advantage of engaging a broker is that of making use of their market knowledge. Scofield (2011) highlights that knowledge brokerage is crucial to real estate transactions. Again, there seems to be a gap in literature on how and why brokers use relations to exchange information with principals and other brokers. Hence, a review of how the commercial real estate sales market operated was necessary so that the locale of social networks could be established.

8.2.1 How commercial real estate markets operate

Four tenets of understanding how commercial real estate markets operate identified in the findings are presented below.

i. Privacy of transaction information

Control of information dissemination seemed to be associated with the type of market player and asset, and was contextual. Perceptions of the respondents were that, firstly, information circulation was quicker through networks than the public domain and, secondly, the tacit rule of promoting marketable opportunities through networks seemed to sustain the private nature of transaction information. In Johannesburg, an emerging market, it seemed that protection of client interest mattered to institutional investors. The perception was that publicly available information on investor transaction activities could negatively affect values of underlying assets and in turn affect portfolio stability. Institutional investors in London, however, seemed to not mind public knowledge of transaction activity as it was deemed to demonstrate transparency. Hence, a broker needed to understand clients' perceptions about privacy of transaction information. To this respect, information dissemination could be linked to marketing effectiveness in 8.2.1 iii on page 235 below.

ii. Participation preference

The preferred mode of participation seemed to be associated with client's perception of the best way to disposal of or secure an acquisition an opportunity. Investor concerns included such issues as the bid preparation cost, sophistication of potential competitors or potential impact of transaction knowledge on asset marketability. Large listed funds in Johannesburg preferred to exclusively trade with equally sophisticated market players. Hence, core assets, which invariably appealed to this cohort of investors, tended to transact off-market or through exclusive bid processes. London institutional investors preferred off-market acquisition and on-market or quasi-market disposals. Less sophisticated investors tended to demand assets that traded in open markets, which large funds perceived as 'cleaver and dagger' arenas. A broker's understanding of investors' preferred property fundamentals (See Kaiser, 2005), sub-markets and ways of transacting, that is, whether on- or off-market, would thus be essential.

iii. Marketing effectiveness

Marketing effectiveness indicated how the best price would be achieved. Given transaction privacy and participation preference, brokers sought effective marketing strategies which were consistent with asset

qualities, client requirements as well as resources at their disposal. The findings indicated that broker understanding of fundamentals, local knowledge of market players and social interactions were crucial to choosing search strategies. This was consistent with economic sociology perspective of relations which maintains that actors do not strictly adhere to prescribed routines, but their purposeful actions are embedded in a system of social relations (See Granovetter, 1985 and Fligstein and Dauter, 2007). Brokers claimed to have managed client expectations on appropriate marketing strategies and re-directed them to the ones for which they had capacity to employ and achieve clients' price expectations. Therefore, a broker's resource constraints ought to be considered alongside property fundamentals when considering marketing options likely to achieve the best price.

iv. Socio-economic nature of real estate transactions

Relations undeniably matter in commercial real estate transaction transactions (See studies by Lizieri and Pain, 2014, Halbert and Rouanet, 2014). Despite the sophistication of market players, information in commercial markets was perceived to be mainly exchanged through human interaction. Relationships were crucial to accessing information early and were important for eliciting information because of the high human specificity of the brokerage industry (See Scofield, 2011, Brown and Potoski, 2003, DiMaggio and Louch, 1998 and Fligstein and Dauter, 2007). Reputation was deemed to be important and earned through interaction. Relations provided access to private information on client requirements and market activity. Brokers with relations could better resolve uncertainties around their demand-ability balance and adopt appropriate search strategies as suggested in marketing effectiveness above. This was consistent with Rangan (2000), DiMaggio and Louch (1998) and Kollock (1994) who maintain that social networks would be relevant in economic exchange where public or independent mechanisms could not be cost-effectively used to address uncertainty about the identity and quality of the asset as well as potential partners to an exchange opportunity. The findings of this research also confirmed Burt (1992)'s position that actors with stronger relations tend to perform better than those without. However, unlike Crowston et al. (2015)'s findings on social networks in residential markets that only broker-to-broker ties were significantly relevant to sale transactions, the findings of this research suggest that both broker-to-client and broker-to-broker relations mattered in commercial transactions. Broker-to-client relations were particularly critical in the Johannesburg context where the single brokerage model with seller-only representation was predominant.

8.2.2 Role of social networks in commercial real estate markets

The identified roles of social networks in commercial real estate sales transactions were accessing private information on client requirements and quality, managing information flow in the clients' interest, and pooling potential buyers. These roles are relevant in off-market and quasi-market search strategies.

i. Accessing information on client acquisition and disposal criteria

Social networks were used to exchange information on clients' requirements of property and market fundamentals. Furthermore, networks provided information on clients' financial capacity and credibility. The modes of accessing such private information are discussed in 8.3.1 on page 237 below. Access to private information on client requirements enabled listing brokers in Johannesburg to 'ring-fence' potential buyers, and to identify relevant introducing brokers to give 'earlies' in the London context. There does not seem to be any real estate literature explaining this phenomenon. However, the phenomenon could be explained by actor instrumentality to a network (See BarNir and Smith, 2002) and the reciprocity norm of social networks (See Borgatti and Everett, 1992).

ii. Managing information flow in clients' interests

This role of social networks was a normative quality (See Bonchi et al., 2011, Mizruchi, 1994) associated with participation preferences 8.2.1 ii above and social conformity discussed in 8.3.2 below. Three types of client interest were identified. The first was operational interest which related to managing information flow about a potential disposal or acquisition so that the tenant operation at a traded property were not disrupted. A client could be concerned about how occupants' knowledge of an imminent transaction would affect their perceived tenure security. Occupiers' negative perceptions could sabotage the marketability of an opportunity.

The second client interest relates to participation interest. Large market players in Johannesburg preferred off- or quasi-market acquisitions to avert the effect of negative perceptions on portfolio stability. Frequent activity of asset disposal or acquisitions could be read as desperate moves to re-position investment portfolios. The consequence could be capital flight or fall in security prices.

The third client interest was that of negotiation. This interest was sought to maintain a bargaining position by controlling how information on an opportunity is circulated. Seasoned clients, apparently believed that limiting how information was disseminated controlled unsophisticated investors' access to information. This apparently enhanced ability to negotiation. Unsophisticated investors were perceived to not fully understand the market, but unreasonably drove prices high to secure assets. This behaviour of seeking transaction exclusivity was consistent with Borgatti and Halgin (2011) convergence goals of bond networks which sought to engender conformity (See 4.1.2 above and 8.3.2 below). There seems to be no established real estate literature which explains this loss aversion behaviour among institutional investors.

iii. Pooling potential buyers

This role was identified with the buyer-side brokerage in the United Kingdom context, but was prominent on the vendor-side brokers in South Africa vendor-brokers could directly introduce opportunities to potential buyers. Potential buyers would then appoint their own brokers to negotiate the transaction. Social networks helped to ring-fence potential buyers whose requirements matched the

available opportunity and had demonstrable credibility. Some fundamental attributes for selection included capital sources, transaction record, and reputation. LON-IV-06 emphasised that being well-connected in the market was important as people tended to do business with people they know and like. LON-IV-01 who stated that who one knew mattered more than what one knew. Hence, investor prominence in a broker's social network was important to receiving early introduction to transaction opportunities.

8.3 NATURE OF SOCIAL NETWORKS AND TIME ON MARKET

Social networks are non-market approaches of addressing information asymmetry (Rangan, 2000). In Section 3.1.2 above, the use of brokers was found to intensify search and reduce search duration in residential transactions. Search intensity was in turn associated with access to information and perceived to inversely vary with a broker's search cost. Search cost was described as time and effort associated with search. The search effort was informed by a searcher's perception of demand-resource imbalance with respect to the instruction. Resources comprised market knowledge and social relations. Relations provided access to privately held information on market activity and client requirements. Hence, relations played a vital role in shaping search efforts, and therefore search costs.

It has been noted in Table 8-1 on page 233 above that relations were relevant to drawing a relevant pool of potential buyers in off- and quasi-market strategies in which the identity of the trading asset and, the vendor, as well as the knowledge of client requirements were essential, but problematic to establish. This design of research provided for interrogating perceptions about contingencies to a search process. Sections 8.1 and 8.2 above elaborated on the first four components of the transaction process, namely, properties (asset and vendor attributes), dimensions (on-, quasi- and off-market search), conditions (capacity and relations) and actions/interactions (access to private information, managing client interests and pooling). The final component of the search process, outcome, was a termination of the process, hence, this also indicated duration. Respondents, when requested to comment about their perceptions of how social networks were associated with search duration, indicated that they had opportunities introduced early access because of network ties. Respondents' *in vivo* claims of how social relations affected search duration have been repeated in summary under Section 8.3.3 below. In brief, respondents demonstrated how they used social interaction to identify potential buyers for an asset in a very short time. Social relations helped them circumvent bureaucratic barriers to reaching key decision-makers and concluded transactions through in informal interaction like playing golf.

8.3.1 Building social capital

Social capital, the quality of opportunities created between people (See Lin et al., 1981) addressed information asymmetry through tapping into network knowledge and enhanced performance. Market information could ordinarily be accessed through asocial methods such as real estate transaction tracking and searching property databases. However, the commercial property market was said to be a

'communication' game where a substantial amount of information was exchanged through individuals. Conversations over coffee or drinks were perceived to facilitate regular updates on market trends and created opportunities to exchange information on client requirements. A broker not known by clients or other brokers would find it difficult to elicit market or client information (JNB-BR-3, LON-BR-4). Clients would only give out information if they had a good perception of a broker's credibility, status or firm background. Though clients were amiable to discussing opportunities, information was more likely to be exchanged between coalition members than outside partners (See LON-IV-03 in 7.2.2 ii above). Henneberry and Mouzakis (2014), referring to the concentration of institutional investors and service providers in London commercial real estate investment markets, point out that networks could dominate local transactions in certain spheres of clients. Lizieri and Mekic (2015) also allude to the concentration of closely connected institutional business houses and intermediaries in commercial real estate markets of global cities, including London.

Relations as indicated before were resources which brokers relied on to access and disseminate private information in off- and quasi-market transactions. As Baryla et al. (2000) indicates, a broker's search duration relates to the introduction which could be made and ability to quickly make a match. Hence, brokers would use formal or informal business interaction to build social capital and enhance performance.

Formal business interaction tends to be driven by equivalence in business roles (See Nahapiet and Ghoshal, 1998). The constituent expectation would be to gain insight of potential exchange opportunities. There are a number of ways brokers that used to gain insight of the market. the first was by canvassing a local market area to understand what stock would be available and interact with unfamiliar market players. Business network functions would be also used to keep abreast with client requirements and maintain contact. Thirdly, clients would organise business events to promote opportunities and facilitate interaction with role players in a relaxed environment. Formal interaction developed cognitive proximity (See Broekel, 2015) for information exchange and understanding each other's requirements.

Informal business interaction involved social episodes in non-business environment. Though the constituent expectation was equally to gain insight on transaction opportunities, interaction depends on social proximity (See Broekel, 2015) attained through prior ties. Informal interaction provides direct access to strategic information source through bond networks developed from prior education, employment and/or social background. Network members were more likely to call on each other when an opportunity arose before disseminating the information to the wider mailing list.

8.3.2 Developing network homogeneity

Networks were perceived to be used to enhance social conformity evolving from preferential treatment through lucrative partnership to network prestige (See BarNir and Smith, 2002). Social conformity is a

normative network component which addresses possible opportunism by rewarding compliance or imposes sanctions on non-compliant network members (See Borgatti and Everett, 1992)

Preferential treatment could be viewed as an early stage in relationship building in which a focal actor, who for this research is the listing broker, would seek to earn identity through proven track record of successfully completing transactions. LON-IV-06 underscored how relations led to preferential treatment by stating that, "*... if you are responsive, ... polite, ... engaging with what they ring you, they will keep ringing you up ...*"

Lucrative partnerships directed resources exchange to network members with inter-organisational proximity. Brokers strived to demonstrate specialised services or branding aligned with client interests. Clients would also develop confidence that brokers who demonstrated prominence in certain market spheres would have early access to inside information on imminent transaction opportunities of interest to them. JNB-BR-8 stressed how social interaction led to lucrative partnerships by stating as follows: "*My objective is to conclude on the sale ... to ensure that the time frames are met and that I'm presenting a palatable opportunity ... by doing so I'm creating a relationship which I can use at a later stage again for the next opportunity*". The statement demonstrates the convergence aspect of collaborative networks (See Borgatti and Halgin, 2011).

Network prestige indicated a broker's instrumentality (usefulness) to a network primarily through a combination of cognitive and social proximities. It was important for brokers to demonstrate an understanding of the market, as well as the ability to add value to a network by providing opportunities to clients in a way that other brokers would not (JNB-BR-1). Secondly, trust was developed by embedded friendships and experience, reinforced with inter-organisational proximity. It helped overcome barriers to accessing 'inside' information (JNB-BR-3). A trusted broker with proven track record and access to highly connected clients was, hence, deemed to be instrumental and earns prestige in that network.

Social conformity, therefore, provides a broker with leverage to network members by employing cognitive proximity to earn preferential treatment, demonstrating value alignment through inter-organisational proximity and exploiting social proximity to achieve value-adding network prestige.

8.3.3 Social networks and real estate market liquidity

The association of social networks to liquidity in commercial real estate markets is addressed from a process rather than variance point of view. A process question focuses on how things happen rather than how much the variables explain a relationship (See Maxwell, 2012 pp.82). Liquidity is, therefore, understood as the effort required to accomplish a transaction mandate. Hence, time on market is captured in categorical discrete terms describing the immediacy of completing a sale transaction process. Respondents from both Johannesburg and London maintained that they concluded transactions much quicker through networks than without networks. The research design acknowledged the

constraint to observing how brokers went about handling sale transactions since transaction activity involved several discrete episodes integrated in an actor's daily activities. Hence, evidence was sought through respondent's descriptions of their lived experience. Information sought through this method was subject to secondary interpretive, and descriptive validity, that is, whether the respondent's interpretation of the question and descriptions reflected an accurate account of what happened. Apart from using low inference descriptors, the researcher relied on respondents' roles to indicate their credibility and trustworthiness of the claimed accounts.

Evidence from both Johannesburg and London respondents indicated that the primary role of networks was to facilitate early access to strategic information and to introduce appropriate opportunities to potential buyers.

Box 8-1: Respondent Claims of social network association with Time on Market - Johannesburg

"*... if I need some information asap that [networks] means the difference between me doing the deal or not doing the deal*" (JNB-BR-2)
"*… relationship is the first thing. ... I can circumvent pew of tech people and go straight to that source which makes my deal turnaround time and succession to what the client wants a lot quicker, which outstrips my competition …*" (JNB-BR-3)
"*… If the seller doesn't give you an exclusive mandate for this transaction, speed is of the essence, you need to identify your potential buyers quicker than your opposition will identify potential buyers in the hope of getting a sale agreement on the table with the seller fastest …*" (JNB-BR-4)
"*… I think the stronger the business relationship, the easier it is to fulfil the mandate either set up by the landlord or by the tenant or the client ...*" (JNB-BR-6)
"*… It [networking] has helped a lot. It has helped in the sense that I have got ready investors almost on speed-dial. So, if I get a mandate from a client wanting to sell a portfolio, there's already two or three people off top of mind that I'm able to call because I have a relationship with them, and I have an idea of the type of assets that they are looking for. So, it allows me to have a high response rate and to present a client with at least two or three bidders on transactions ...*" (JNB-BR-8)

Source: Author field survey 2015

Box 8-2: Respondent Claims of social network association with Time on Market - London

"*… I would think the off-market is a lot quicker to sell [than an advertised property] because you made a direct approach to that person ... whereas for some properties ... some of the properties on the market go through an advertisement ... if we do not get the price they [vendor] wanted they may not sell. Whereas with off-market, it is one-to-one. It is much quicker [and] easier …*" (LON-BR-1)
"*… with relationships, I have disposed an asset much quicker with relations than without them. And I would say on the acquisition side, it just makes the information flow faster …*" (LON-BR-2)
"*… I think to get a deal fast, you rely on the networks. I definitely think that is important …*" (LON-IV-1)

"… *I think relationship is key to reach the communication going now … to have that reach through our relationships to Middle East and South Africa, Australia, China, Hong Kong … information can be exchanged in certain varying times, and those are efficiencies that will begin to come in as those relationships [integrate] globalisation [of] commercial [markets]* …" (LON-IV-2)

"… *perhaps where you might consider [networks] relevant is the quality of work produced by an agent if they are selling an asset for you* …" (LON-IV-3)

"… *when deals happen quickly, it tends to be because there is a relationship there and some deals might appear to happen quickly perhaps they have been working for months behind the scenes teeing it up* …" (LON-IV-4)

Source: Author field survey 2016

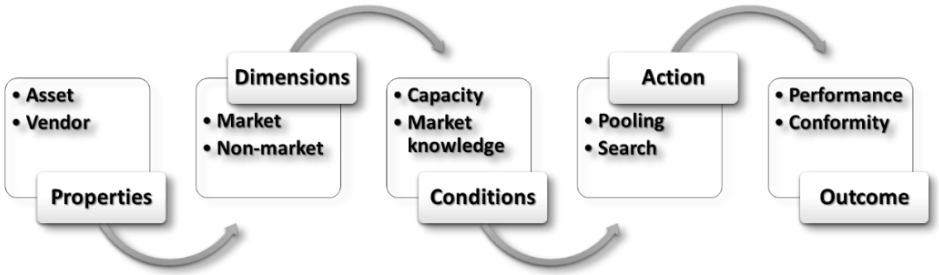
Respondents seemed to perceive the outcome of sale mandate to be linked to how relations facilitated early access to information. In other words, relations were associated with effort, that is, search costs required to access information on opportunities and requirements. Studies on search intensity and duration such as Baryla et al. (2000), Jud et al. (1995), Salant (1991) indicate that brokers with higher search cost are likely to have longer search duration and more likely to intensify search. This may be interpreted that brokers who perceive an imbalance between demands (mandate) and ability (resources including individual knowledge of market and relations) are likely to have longer search durations. Hence, claims that relations facilitated deals to happen quickly suggest that social networks were associated with search duration.

Social networks could thus be described as channels for accessing strategic private information to enhance broker performance. However, access to information would be earned when a broker demonstrated conformity with the expected behaviour of instrumentality to a network. Brokers, hence, exploited co-evolving cognitive, inter-organisational and social proximities to maintain access to private network information and enhance performance in sale transactions.

8.4 OVERVIEW OF FINDINGS

Since real estate sale transactions are socially constructed economic exchange activities, this research used ethnomethodology to understand contingencies (See Maynard, 2012, Charmaz and Smith, 2003) which would be perceived in a search process (Figure 8-1 below). Vendor broker assumed a central role of the process in consistence with the assertion that vendor-side brokers in commercial transactions actively participated in search.

Figure 8-1: Contingencies to commercial real estate sales transaction



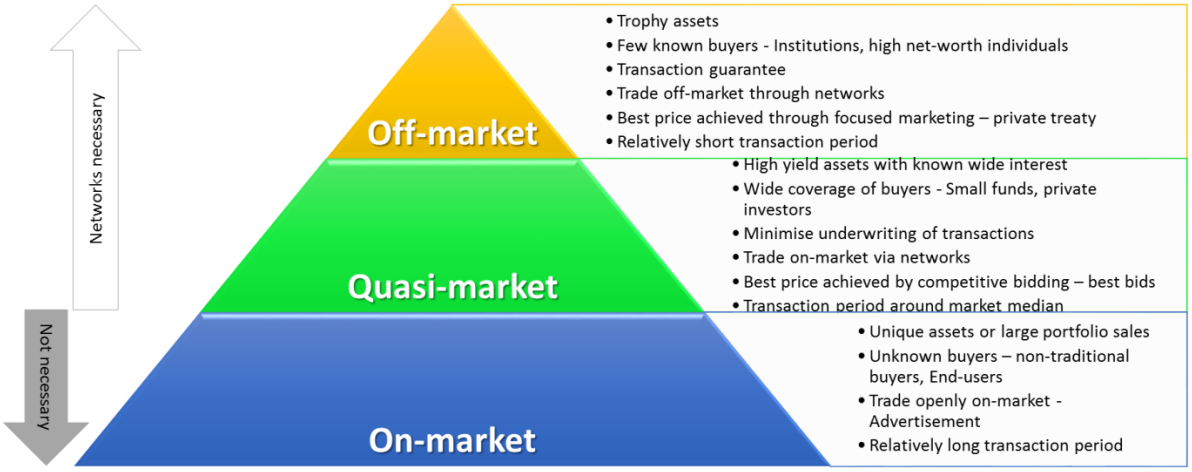
Source: Author 2016

Properties comprised identities (Vendor) and objects (Asset) of a transaction. Dimensions were how the nature of transaction was perceived. Conditions indicated the resource constraints around a transaction. Actions were implementations of resources, and, finally, outcomes indicated consequences of actions, which would be the identification of a buyer with whom heads of terms would be negotiated, the remarketing of the opportunity or the withdrawal of an asset from the market.

Conventional studies on real estate liquidity (see 2.3 above) have focused on asset attributes such as size and location, and performance of a sale transaction as in the transaction volumes, price impact or time on market. These two attributes address the properties component, a beginning point of understanding a process, and the outcome component the end of the process. Some studies have further identified stages (2.2.2i above). This research isolated the pre-marketing and marketing stages influenced by social relations from closing stages affected by the political economy of institutions and focused on the search process in the former stages. The research revealed that search outcomes are not only contingent on the traded asset's attributes, but also on the embedded social attributes which facilitate exchange of private information. Rangan (2000) question of when social networks would be necessary in economic action would be pivotal at this stage. The searcher would assess whether information on the identity and quality of the asset, vendor, and potential buyer was important to the transaction, but not readily available. Figure 8-2 below presents how search strategies would be associated contingencies to the search process, particularly identifying when networks would (not) be necessary. Relations seemed to be necessary in off-market and quasi-market strategies which require broker knowledge of buyer-side requirements. Unlike formal on-market strategy where often the bid closing date is known but bidders may not be known, non-market strategies hinged on early introductions to known potential buyers, but the date for agreeing on the price would not be known in advance.

Search strategies presented in Figure 8-2 below are seemingly consistent with fixed-sample size sampling (on-market), optimal sampling (quasi-market) and sequential sampling (off-market).

Figure 8-2: Decision pyramid for asset marketing strategies



Source: Author 2016

However, there seem to be inconsistences between findings on perceptions about search strategies and search durations, and the expectations suggested in literature (See chapter 3). Research findings suggested that non-market approaches were associated with shorter search durations than on-market strategies. A possible explanation could be the search theory assumption that a searcher accumulates information from random observations within a search episode (see Kohn and Shavell, 1974, Morgan and Manning, 1985). Social networks theory, however, assumes that a searcher would have prior access to relevant information through social interaction. It could probably be for this reason that brokers exhibit economies of scale in information and asset searching by acting on prior network information.

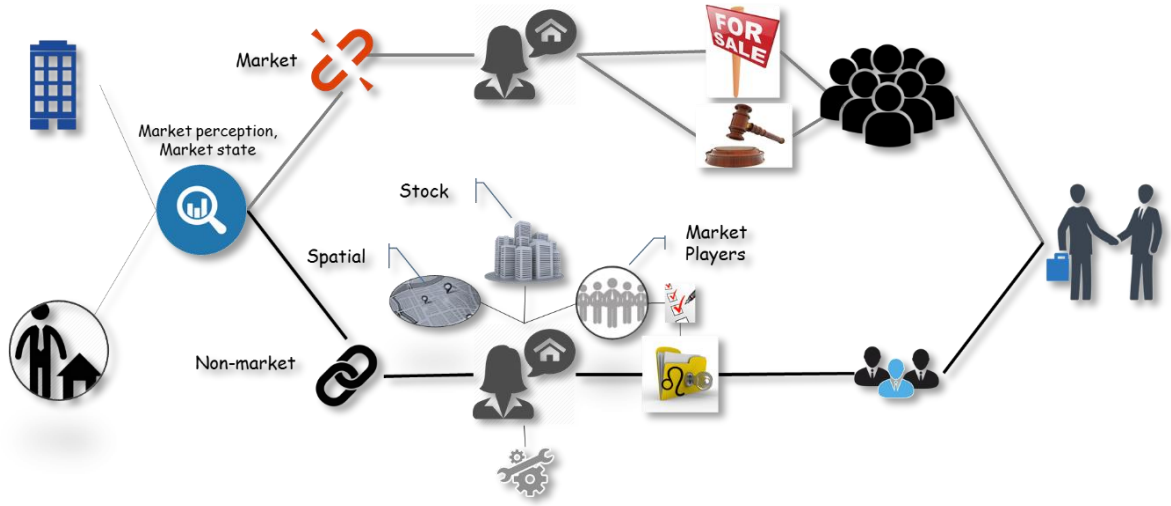
Searchers in commercial real estate markets seemed to gain non-redundant market and client information through interaction with potential exchange partners prior to search episodes. Search episodes would therefore be purposeful activities intended to identify a potential buyer from a pool of clients with known and matching requirements. This research did not extend to reviewing how non-market search strategies would be associated with transaction prices, but it is prudent to consider the price impact of search duration (Lin and Vandell, 2007) as well as price anomalies in auctions (Gan, 2013) in future research. The research, however, demonstrated that performance would be reinforced by how iterative relationships shaped proximities and hence access to information in subsequent searches.

Having analysed experiences from the Johannesburg and London studies, the substantive theory that is drawn from these findings and which this research has contributed is as follows:

> *Brokers' uncertainty is associated with a perceived imbalance between transaction demand (mandate) and broker ability (resources) to undertake the task (fulfilling mandate).*

The central contingency to a search process is the dimension of marketing strategies. It is the lens through which a searcher perceives the demand-resource imbalance. Figure 8-3 below illustrates potential search contingencies in commercial real estate sales transactions. The best price for unique assets which would appeal to non-traditional buyers is perceived to be achieved by on-market search. Since potential buyers are likely to be unknown, a broker only needs to understand the asset's characteristics. Where potential buyers are known – whether few or many – the best price is perceived to be achieved through network-based (non-market) search strategies. Knowing client requirements is essential and relations provide vital access to that information.

Figure 8-3: Contingencies in sales transaction



Source: Author 2016

A searcher would adopt a search approach perceived to provide a relevant pool of potential buyers. In addition, he/she seeks to address uncertainties about the preferred modes of disseminating vendor intentions, accessing private information on buyer requirements and managing clients' interests. The following propositions have thus been drawn.

a. *Broker choice of search strategy is associated with the nature of identities (properties), market perception (dimensions), resources (condition), search pool (action/interaction) and performance (outcome).*
b. *Brokers social networks resolve uncertainties through*
    i. *social capital to address information asymmetry by using social interaction to access private information and enhance performance*
    ii. *social homogeneity to ensure conformity with client expectation by engaging in formal or informal interaction which engrains social behaviour*

A broker with high search costs would rely on flow networks to enhance performance and demonstrate conformity to market norms. Such a broker would draw on cognitive and inter-organisational

proximities through formal business interaction with clients or brokers less known to them to acquire local information. Capacity to perform to clients' expectations would be demonstrated by membership with known professional practices. However, evidence from the research indicates that clients in both the Johannesburg and London studies seemed to not be persuaded by professional affiliation as much as brokers did. In the Johannesburg study, brokers seemed to be less inclined to interact with each other in professional forums. Hence, flow networks were useful to gaining novel market information, but seemed less relevant than bond networks for enhancing social conformity.

A searcher with low search costs relied on bond networks to sustain access to network by demonstrating a proven track record and by developing relationships through social interaction. Such interaction largely relies on social proximities to enhance performance on transactions through providing access to private information through trust. In the Johannesburg study, social proximity seemed to have been developed through business interaction over a considerable period, but in the London study, it appeared to evolve around education background. By developing inter-organisational proximities, a broker would be deemed to be able to control risks and hence be elevated from preferential treatment through lucrative partnerships to network prestige status. Uncertainty was, therefore, resolved through informal but exclusive social interaction. Table 8-2 below illustrates how a broker would resolve market uncertainty.

Table 8-2: Resolving contingencies in sales transaction through social networks

	Social capital - Performance	**Social homogeneity - Conformity**
Network flows	**Capitalisation** Information asymmetry Business interaction visit clients, introduce opportunities	**Contagion** Professional identity Professional events meet other brokers, investors
Network coordination	**Cooperation** Information control Social interaction invite client for coffee/lunch, golf, they begin to talk	**Convergence** Behaviour Business events get invited to meet 'right role players' in less formal environment, build social side

Source: Pain et al. (2016)

Getting back to the research sub-questions, the following can be stated with respect to the research findings:

- *Broker uncertainty in commercial sales transactions could stem from perceived demand-ability balance regarding requirements of a client's instruction.*

Asset and vendor identity: As noted in 8.2.1(i) and 8.2.2 (ii above the private nature of commercial sales transactions affects visibility of trading assets and the identity of vendors. Unless an asset was perceived to attract non-traditional buyers, broker knowledge of a transaction opportunity hinged on network information.

Access to information on client requirements: Knowledge of client requirements and behaviour is often not in the public domain, but it is accessed through conversations. In an environment where promptness is of essence, knowledge of client requirements that match an opportunity, as indicated in 8.2.2 (i above, matters to performance. Social networks were channels of information on buyer requirements as well as behaviour. Knowing client behaviour and capacity was essential for controlling the risk of a failed transaction which could affect the future marketability of an opportunity and the broker's reputation.

- *Broker uncertainty in a transaction opportunity could be resolved by adopting optimal search strategies, building social capital and developing social homogeneity*

Optimal asset marketing strategies: It was demonstrated in 8.2.1(iii above that market effectiveness hinged understanding asset fundamentals, vendor requirements and broker resources including local market knowledge and relations. Broker marketing approaches were not prescribed routine processes, but were embedded in their systems of social relations – a typical demonstration of an ethnomethodology approach to understanding disruptions in 'taken-for-granted' processes. The best asset price would be achieved by introducing an opportunity to the right audience.

Building social capital to enhance performance: The first role of social networks was identified as seeking to achieve success by addressing information asymmetry. As already indicated, the commercial real estate sales market was associated with privacy of information; success in the market hinged on accessing private information to enhance cognitive proximity through flow networks, or to exploit exclusive collaborative networks driven by social proximities in bond networks.

Develop social homogeneity to ensure conformity: The second role of social networks was managing behaviour choices of network members. In Chapter 4, networks were described to have structure, resource and reciprocity components. Social homogeneity relates to reciprocity in a network – the norms that governed access or barriers to network resources. A broker was expected to demonstrate predictable behaviour – trustworthiness – of managing client information and interests, as well as adding value to the network by contributing non-redundant information. Findings of this research indicated that brokers tended to identify themselves with client-driven convergence norms of how market and client information was exchanged such as ensuring privacy of information and addressing client interests in marketing or participation. Interestingly, professional affiliations, which are actor-driven contagion networks, though seemingly important to actors, did not appear to be critically considered as demonstrating inter-organisational proximity.

- *Uncertainties to transactions associated with asset duration on market:*

Social capital and homogeneity influence on access to information: It need not be overemphasised that privacy of information and broker role underlies commercial real estate sales transactions hence

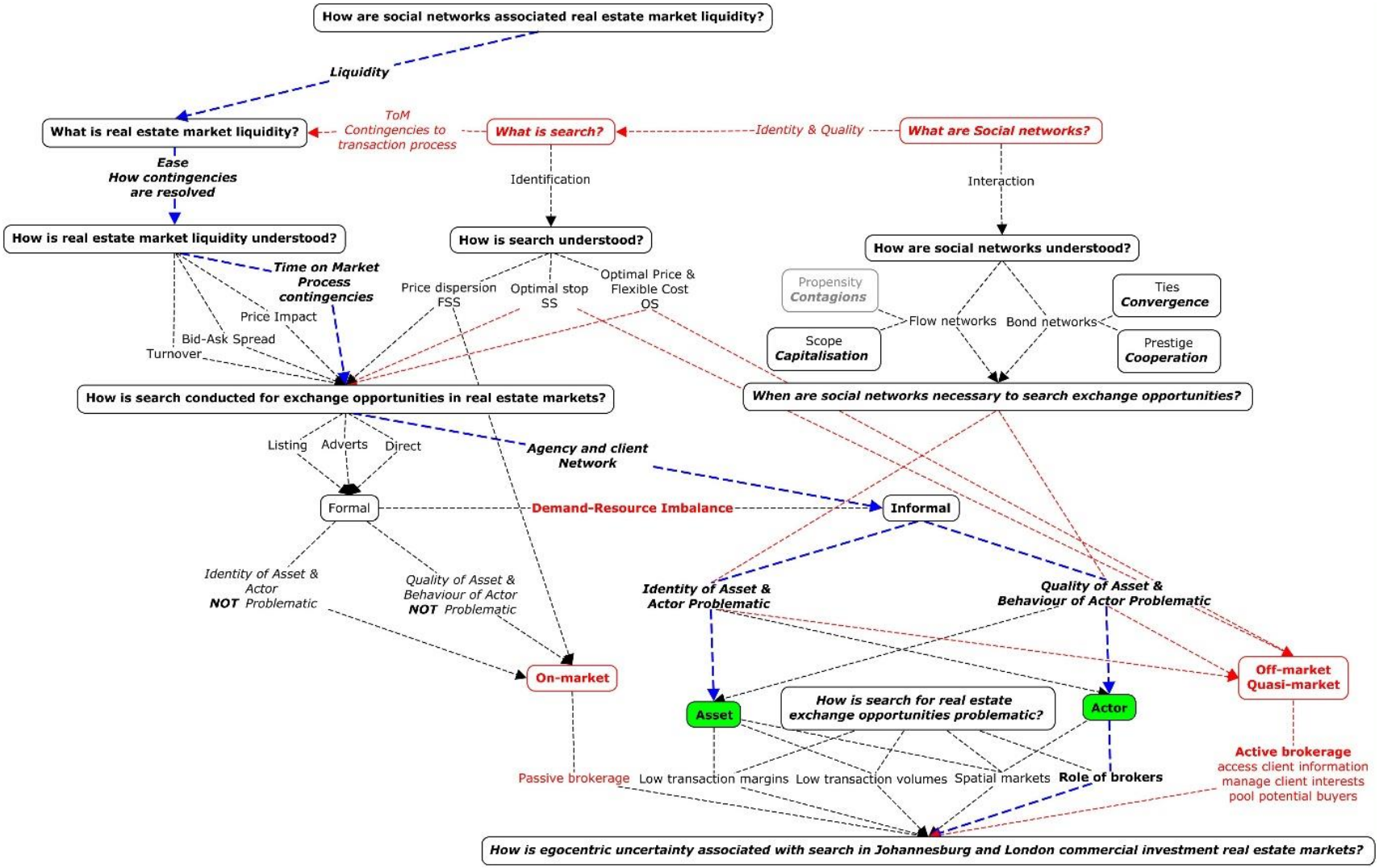
information asymmetry is typical. The role of social capital in network is to enhance performance by addressing information asymmetry through network ties (range of connections), or bonds (leverage on connections). Social homogeneity could be viewed as a network reward system that associates the quality of information benefit to behaviour choices. A broker's ability to act on an opportunity – also known as search intensity – relies on the quality of accessed information to minimise search costs as in search duration. Through consistent demonstration of conformity and value-adding to a network, a broker would earn network prestige that would facilitate access to high-status network members with instrumental information.

Access to information is inversely related to search duration: Further to the above description, a broker with low search costs would be one with access to quality information, hence, requiring less intensive search to match an opportunity to a potential buyer. The associated search duration would, therefore, be lower than that of high search cost broker with weak ties.

In closing, this research posits that social networks contribute to explaining liquidity in commercial real estate markets by highlighting the way private information on transaction opportunities and client requirement is exchanged when the identity of traded assets and vendors as well as the quality of assets and behaviour of potential buyers are important but problematic to establish (See Figure 8-4). Search for information through social networks is informal. It relies on relationships with clients and brokers who hold private, but strategic, information. Hence, search through social networks is relevant in off-market and quasi-market transactions where information circulates through agency and client networks.

Brokers may also use social networks to manage client interests regarding privacy of information and preference of market participation. With the foregoing borne in mind, the key purpose of social networks in exchange situations is to identify a pool of potential buyers whose known requirements match the available opportunity earlier than competing brokers.

Figure 8-4: Review of thematic questions



Source: Author 2017

Broker performance can be enhanced by reaching out to a wide range of unconnected potential buyers through capitalisation networks. Alternatively, a broker may exploit a closed network with exclusive access to instrumental private information on clients' requirements through cooperation networks. However, access to performance-enhancing information requires brokers to demonstrate conformity of their behaviour with that of the client or agency network.

Capitalisation networks comprise unconnected clients/agents and so tend not to have defined behavioural norms. Hence, the onus is on the broker (ego-actor) to demonstrate conformity to industry norms through professional affiliations. Incidentally, capitalisation networks operate like on-market search, and the ensuing demonstration of conformity seems not to matter. It appears that flow networks, which are networks which enhance performance through capitalisation and demonstrate conformity through contagions, may not be relevant to search in commercial real estate markets.

Broker performance through cooperation networks demands demonstration of instrumentality to a client or agency network as well as behaviour convergence with the network norms. Broker access to information is contingent on reciprocal contribution of non-redundant information to the network as well as reduced risk of disseminating information to those who should not have access to it. Given the private nature of client information, bond networks, which enhance performance through exclusive cooperation and demand convergence of behaviour with client or agency network norms, seem to be relevant to off-market and quasi-market search in commercial real estate markets.

Therefore, liquidity in commercial real estate markets reflects in part the effort of dealing with contingencies is identifying a potential buyer given the social embeddedness of the potential transaction. At the core of the relevance of social networks in explaining liquidity in commercial real estate transactions is the broker's perception of demand-resource imbalance with respect to the mandate. Brokers' cognitive proximity (contribution overlaps), inter-organisational proximity (logic of similarity in values) and social proximity (embedded friendships and experience) differ according to the context of a transaction, hence, performance and conformity vary accordingly.

Drawing on experiences from Johannesburg and London, there are a number of market attributes which are similar, but there are also some contextual differences. Table 8-3 below outlines a summary of how respondents in South Africa and the United Kingdom seemed to perceive the importance of emerging attributes in understanding the main themes about understanding the operational nature of commercial real estate markets.

Table 8-3: Relative importance of attributes in explaining themes – Johannesburg and London office markets

Theme	Attributes	Johannesburg	London
Understanding nature of real estate markets	Privacy of information	↗	↗
	Participation preference	↗	→
	Marketing effectiveness	↗	↗
	Socio-economic nature of transactions	↗	↗
Role of networks	Access private information	↗	↗
	Manage client interests	↗	→
	Pooling	↗	↗
	Building social capital	↗	↗
	Developing social homogeneity	↗	↗
Effect social networks on liquidity	Trophy assets	↗	↗
	High yielding assets	↗	↗
	Unique assets	↘	↘

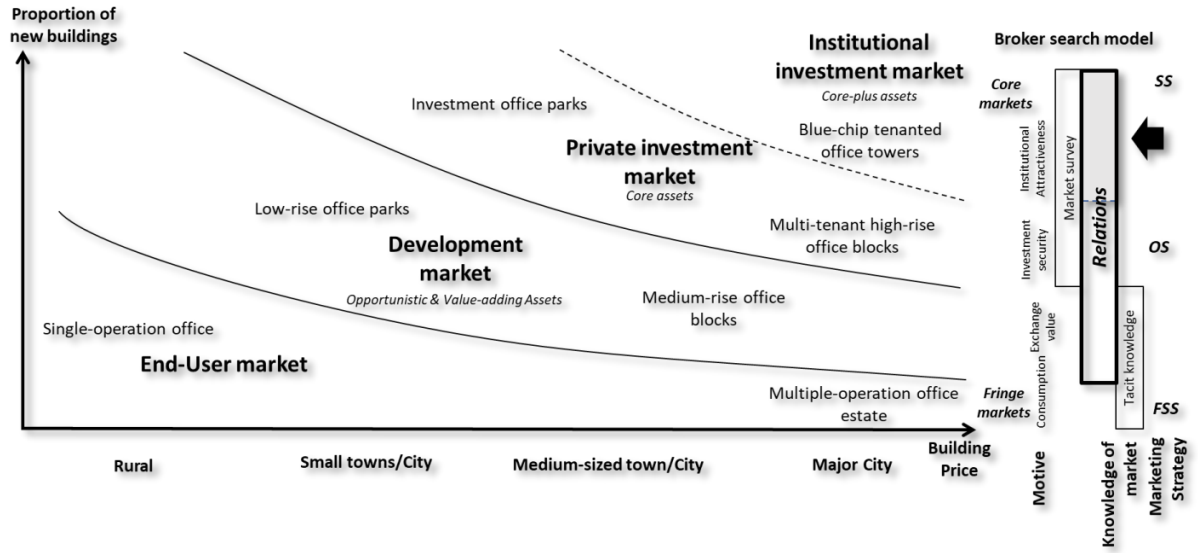
Importance: ↗ relatively high, → moderate or indifferent, ↘ relatively low

Source: Author 2017

Notably, respondents from the United Kingdom seemed to place less emphasis on client participation preferences, and consequently managing client interests, than their counterparts in South Africa. Another key highlight, which would fall under building social capital, was that informal networks in South Africa seemed to evolve around prior business interaction. In the United Kingdom, it appeared that prior interaction at education institutions seemed to also be instrumental to informal business interaction.

Findings that search outcomes are not only contingent on the traded asset's attributes, but also on the embedded social attributes which facilitate exchange of private information (See Figure 8-2, Table 8-1 and Table 8-3 above) extend the understanding of broker search models (Figure 8-5 below). Theurillat et al. (2015) also indicated that relations seemed not be relevant 'self-production' end-user markets and in 'financialised' institutional markets. Findings from both markets explored in this research were consistent with the former, but indicated that relations were relevant to institutional markets to have insight of private information for focused marketing even though investors relied on market statistical models to price assets.

Figure 8-5: Broker search model in office markets



Sources: Theurillat et al. (2015), Author 2017

A review is necessary to have deeper insight of how social networks of local coalitions (See Halbert and Rouanet, 2014) and financialisaton (See Lizieri and Mekic, 2015, Lizieri and Pain, 2014) business real estate shape brokerage models (See Devaney et al., 2016) in other global cities.

8.5 SUMMARY

This chapter sought to highlight learning points that would contribute to understanding contingencies in sales transaction processes from a social network point of view. It reflected on research findings from South Africa and the United Kingdom on how contingencies to the search process were identified, and how social network approaches would be used to resolve ensuing uncertainties. These findings, confined to search approaches in commercial real estate markets, indicated that there were at least three optimal search approaches – on, quasi-, and off-market. Social network approaches were necessary in quasi- and off-market transactions were the identity of assets on market and the vendor were essential but difficult to establish through conventional market mechanisms. It was also established that the way commercial real estate sales markets operated influenced the role of social networks in related transactions. Social networks were fundamentally used to address information asymmetry and potential opportunism. On the overall, broker search actions were perceived to be embedded in their system of social relations and not prescribed routine search processes hence choices of search approaches hinged not only on the asset characteristics or vendor preferences, but also their perception of resources to address information asymmetry and the reciprocal demonstration of predictable behaviour.

CHAPTER 9: CONCLUSIONS AND RECOMMENDATIONS

9. INTRODUCTION

This study explored the operational nature of real estate transactions with a view to realising a better understanding of real estate market liquidity. It investigated how brokers and their clients in office sale transactions perceived and addressed uncertainty about information asymmetry and possible opportunistic behaviour. Despite early identification that these markets had inherent institutional constraints, existing research has focused on the outcomes of the transaction process such as transaction volumes, price impact and time on market rather than understanding the processes that underlie operational nature. This chapter presents a summary of how the operational nature of real estate markets can be understood from a process point of view.

The thesis began with a literature review on the nature of real estate markets to establish how real estate markets have earned the 'illiquidity' status. The review indicated that not only was search important to real estate market liquidity, but search approaches also differed between residential and commercial markets. Differences in buyer types, transaction volumes, asset prices, geographical dispersion and the role of brokers influenced how search was conducted. Though there has been substantial research on search in residential markets, there is not much research in non-residential real estate markets. Non-residential markets typically trade extremely heterogeneous assets of high value but with low transaction volumes in geographically dispersed markets and for which there are few buyers and sellers. Vendor-side brokers actively participate in search for potential buyers, unlike in residential markets where their role is passive.

The study explored search concepts from existing literature to understand fundamental search approaches, since search appeared to be crucial to real estate market liquidity. The study further explored social network concepts to understand broker behaviour in search processes. Finally, the study applied ethnomethodology to establish contingencies in the search process. The study focused on commercial office markets because, in both study areas, the office market was the largest non-residential market. The scope has further been confined to office sales to maintain equivalence with the saleability concept of liquidity. The study areas of Johannesburg, South Africa and London in the United Kingdom were purposefully selected contexts to understand the operational nature of real estate markets in an emerging as well as a developed market of otherwise global cities.

The key highlight of this research is that exploring the process constraints in real estate transactions is essential to explaining liquidity in real estate markets. Secondly, real estate markets are unique; liquidity in these markets depends not only on asset characteristics, but also on interaction among market players and intermediaries, who are match-makers and not market-makers, for exchange of private information. Finally, this thesis paves a way for further research to understand global commercial real estate market

by holistically untangling relations, institutional and calculative complexities of local market processes which create liquidity.

The chapter comprises seven sections which are an overview of the real estate liquidity and social networks literature, the research design, the findings and finally an outline of practical implications, contribution to theory, limitations and areas for further research.

9.1 NATURE OF REAL ESTATE MARKETS AND LIQUIDITY

Literature reviewed in this research provided a conceptual framework for understanding the operational nature of real estate markets. It included a review on the nature of real estate markets covering real estate market characteristics, efficiency, and liquidity (Chapter 2), and search concepts including search models, search duration and search intensity as well as the role of brokers in commercial real estate markets (Chapter 3). The purpose for this literature review was to establish the conceptual dimensions of real estate market liquidity relevant to understanding it in a manner that demonstrates the operational nature of the market.

Real estate markets facilitate transactions of various types of real estate assets for a myriad of purposes, among them the pursuit of investment interests. Real estate markets compete for resource allocation with other public and private financial assets as well as commodity markets. Central to resource allocation decisions is the investor's ability to shift resource allocation between investment assets to maximise returns and/or minimise risks. The ease with which assets can be converted into a medium of exchange for re-allocation to alternative assets is a simplified description of liquidity which is contingent on the asset's characteristics and the nature of the market in which it trades. Real estate markets are, however, becoming complex arenas, attracting players from diverse business and geographical backgrounds. Investors hold property asset portfolios in global markets which operate in different and probably unfamiliar ways from those where capital is originated. Hence understanding liquidity dynamics is vital.

Liquidity is understood in several ways. Some common, though not limiting, indicators of liquidity are transaction activity, price-impact of trading, bid-ask spread, holding periods, and time on market. Studies such as Chan et al. (2011) and Liow (2006) are among the numerous ones which have investigated liquidity in financial and real estate markets predominantly based on the first three approaches. These studies have categorised real estate markets as 'illiquid' compared to financial markets due to low efficiency in transmitting market information. Researchers such as Keogh and D'Arcy (1999) and Byrne et al. (2013) have argued that there are institutional structures in real estate market processes which are not captured by financial models. Hence, the fourth approach, time on market, has been considered as one that takes account of the operational nature of real estate assets. However, the quest to understand the operational nature of real estate markets has been focused on descriptive attributes such as low transaction volumes, non-homogeneous assets, and dispersed markets.

These unique real estate market characteristics have been associated with the private nature of transaction information and necessity of intermediation.

Liquidity studies have largely been conducted in residential markets (See for instance Salant, 1991, Turnbull and Dombrow, 2007, Genesove and Han, 2012). However, mobility drivers in housing markets are predominantly inclined to owner-occupation. Commercial real estate markets are largely investment driven. Hence, transactions in the two markets are shaped by marketing strategies motivated by different mobility drivers. There have been a few studies in commercial real estate markets focusing on liquidity measures (See Ametefe et al., 2015). Furthermore, Devaney et al. (2016) review international experiences in brokerage services highlighting similarities and contrasts in such attributes as brokerage services, models and transaction processes in commercial real estate markets. These and many other studies have conceived liquidity as the duration a real estate asset remains on the market until it is sold, and exchange is completed.

There are six key stages which lead up to time on market in commercial real estate transactions (See Crosby and McAllister, 2004, McNamara, 1998), which are grouped broadly into pre-marketing, marketing and closing stages (See Devaney and Scofield, 2015). Due to the heterogeneity of traded assets, the spatially decentralised markets in which they trade, and the low transaction volumes, search is crucial to transactions in private real estate markets. Consequently, both the pre-marketing and marketing stages matter to real estate exchange processes, and so the role of brokers is significant. Against this background, there is need for deeper insight beyond these real estate transaction stages into the processes involved in accomplishing the stages to better understand the operational nature of the markets. This study thus focused on exploring how brokers adopt certain search strategies.

Conventional search strategies have been associated with the time a skilled worker remained unemployed in labour studies, and the duration that merchandise remained unsold in commodity markets. Notable search strategies include fixed-sample size sampling (Stigler, 1961), sequential search (Kohn and Shavell, 1974) and optimal search strategies (Morgan and Manning, 1985). Elder et al. (1999) acknowledge the relevance of these search strategies to residential market search cost, but fall short of linking them to [within-] search cost. Search in residential market is arguably considered to be formal, involving non-personal intermediaries (Huffman and Torres, 2001) Properties are advertised through various media and buyer arrival is assumed to be natural (See for instance Jud et al., 1996) and Wong et al. (2012). Hence, brokers play a passive search role and mainly contribute to the closing processes. Asset visibility in commercial markets is less prominent. Rarely are traded assets advertised publicly, hence brokers actively search the market and tend to rely on informal connections (Davern, 1997) to provide search and advisory services. Few studies have explored how brokers use informal search and, again, in residential markets (See for instance Röper et al., 2009 and Crowston et al., 2015). The role of the broker as a searcher on behalf of the investor is an important aspect of the operation of

connected real estate markets, but it inevitably has an inherent agency problem of incentive misalignment at the search or negotiation processes. There have been concerns about broker behaviour in relation to upholding the fiduciary duty of acting in the best interest of the principal. Some markets have introduced legislation to regulate broker activities including disclosure requirements (See Wiley and Zumpano, 2008 and RICS UK, 2017). Studies such as Kadiyali et al. (2014) and Hollinger (2016) maintain that the impact of the agency problem on price was too benign to warrant regulation and it should rather be treated as an ethics matter.

Current studies on time on market are highly directed at examining longitudinal and cross-sectional variations in durations of stages in real estate transactions. In the UK, the Investment Property Forum (IPF) 1998, 2004 and 2015 reports for instance have substantial emphasis on the stages or phases in commercial property transactions, and the analysis of duration variations. Time on market conceived as duration, however, does not seem to provide insight into real estate markets' operational nature. Hence, there was need to take another step back to understand what goes on whilst an asset remains on the market. The essence of the research, therefore, was to understand search friction – prevention of instantaneous meeting of potential exchange partners (Mortensen, 2011) – in private commercial real estate sale transactions. Existing research does not seem to have addressed how search friction integrates with a search problem – drawing the rules for search sample size and termination – and search strategies, nor how the inherent agency problem in brokerage is resolved. Therefore, exploring search friction in the pre-marketing and marketing periods as well as cultural framing which shape agent behaviour form the core of understanding time-based real estate liquidity. In the absence of conventional market mechanisms to address search friction, this research turned to social networks studies.

9.2 SOCIAL NETWORKS CONCEPTS FOR REAL ESTATE MARKETS

Social networks researchers such as DiMaggio and Louch (1998), Rangan (2000), and Baker and Faulkner (2004) suggest that social networks matter in economic transactions which involve high risk and uncertainty to resolve gaps in such information asymmetry, as the case is for direct real estate markets. As discussed in Chapter 4, social networks are likely to be used in the absence of publicly available market solutions (Baker and Faulkner, 2004). These social networks relations would be information 'channels'. They provide means for identifying opportunities, obtaining access to, or facilitating utilisation of resources or emotional support (BarNir and Smith, 2002). They would also be 'prisms' which distinguished actor behaviour and access to instrumental information by virtue of reward positions in a network (Podolny, 2001). Social networks, therefore, employ non-market methods to resolve uncertainty regarding information asymmetry and opportunism. Subsequently, it was cardinal to consider how real estate transactions in commercial markets would be associated with social interaction.

Callon (1998) emphasise that to participate in the market, agencies needed information to identify actor and goods, and the possible distribution of goods among actors. Slater (2002), however, maintains that the impurity of market behaviour which mixes economic and cultural reckonings within some basic structural form was essential to understanding the delineation of markets. Marketing could thus be understood as a process involving understanding customer needs, devising marketing strategies, building profitable relations and delivering value which creates not only profits but customer equity as well (See Kotler et al., 2013).

Podolny (2001) identified two types of information sets that tends to be sought in an exchange transaction, namely, information a vendor needs to ascertain the marketability of a trading asset, and information the purchaser requires to be sure of the utility of the asset. Rangan (2000) asserted that social networks were relevant in explaining economic action and outcomes in such markets where identity and quality of potential exchange partners are important and problematic. In private real estate asset markets, ascertaining the identity and quality of trading assets and vendors would be problematic as market mechanisms are either costly or are simply not available. Search is problematic; information on the identity of assets and potential transaction partners is important; a less informed exchange partner would be uncertain about the quality of the exchange asset; and the intentions of a potential counterparty in discharging a mutual obligation, and the potential downside effect of the transaction could be large and costly to reverse.

The social network approach is an informal search approach with potential to capture search frictions among social actors in dynamic networks of economic exchange of real assets. Studies such as Röper et al. (2009) and Yinger (1981) on how buyers use social networks to find houses to buy, provide a plausible foundation of understanding the role of social networks in real estate markets, though focused on residential markets in which buyers are many and intensively search for houses. In commercial real estate markets, vendors, buyers, brokers and investment opportunities would be few. Vendors actively search for buyers. Transactions often involve separate brokers representing vendors and buyers (See McAllister et al., 2008) in highly regulated codes of practice (See Kadiyali et al., 2014). Lizieri and Pain (2014), David and Halbert (2014) and Halbert and Rouanet (2014) are some recent studies on how financial capital flows in global commercial real estate markets have been shaped not only by performance attributes but also by coalitions in local markets which have demonstrated the importance of understanding the influence of local social networks on success in international investments. The review of existing literature found no evidence of research on understanding how brokers used social networks to resolve uncertainties in commercial real estate markets, or how they [brokers] made choices on search strategies when interaction was core to achieving these tasks.

The relevance of the concept of search cost as the time and effort spent on searching (See Morgan and Manning, 1985, Elder et al., 1999 and Baryla et al., 2000) in extending the understanding of liquidity

in commercial real estate markets could be drawn from sociological stress. Stress refers to a phenomenon about a perception of demand-ability discrepancies with respect to expected correctness (Cox and Mackay, 1976, Aneshensel, 1992, Crane 2009). Search intensity would thus be understood as consequent activity equivalent to a searcher's perception of uncertainty about the demand to access information on potential exchange partners relative to the ability to sustain within-period search costs to achieve a match. It would ideally indicate an actor's perceptions of social capital. Hence, there was potential for a logical explanation of how vendor perceptions of the transaction process viz-a-viz a trading property's characteristics and the social relations with potential counterparties indicated the ease with which search would be conducted in the market.

9.3 RESEARCH DESIGN

Two fundamental and potentially interrelated concepts are identified in this research, namely real estate market liquidity and social networks. Real estate market liquidity is a concept insofar as its meaning is agreed to be the ease with which real estate assets can be exchanged for a consideration. It does not exist in direct readily observable form, but there are indicators that are agreed to point at various dimensions through which it is understood. The dimension of real estate liquidity investigated in this research is time on market indicated by across-search cost (duration) and within-search cost (psychic costs). Within-search costs are searcher perceptions of the balance of informational demands and ability to cope with demands. Granovetter (1985) and BarNir and Smith (2002) stress the importance of incorporating the social context in which economic activities are embedded. [Economic] agents do not behave in isolation of a social context nor do they strictly adhere to prescribed interaction of social categories they occupy. Their purposeful actions are embedded in a system of social relations (Granovetter, 1985). Hence the relevance social networks concept (Rangan, 2000, Podolny, 2001) to resolve uncertainty when information is problematic, but important.

Given this phenomenon, a qualitative approach was appropriate for the research. Qualitative research is relevant to studies of social relations when, to understand behaviour, a researcher must explore the defining process or develop sufficient appreciation for the process so that understanding is clear. Qualitative research is appropriate when researcher explores in detail the social contours (definitions and meanings) (see Berg and Berg, 2001) and processes people use to structure and give meaning to their daily lives (see also Denzin and Lincoln, 2011).

The appropriate ontology for the research question was where reality was understood as a social construction. Since reality was understood to be socially constructed by the perceiver, the fitting epistemology was constructivism. Assumptions were that human beings created realities to make the world intelligible to themselves and to others. Individuals would work together to create a shared reality which was a subjective construction typically created through interaction but capable of disappearing as soon as its members ceased to sustain it as such Morgan and Smircich (1980). The theoretical

perspective adopted was interpretivism, which argues that the researcher needs to understand the differences between human beings in our roles as social agents which we interpret according to the meaning we give to these roles, and interpret the roles of others according to our set of meanings (Saunders et al., 2009).

Ethnomethodology was the methodology adopted for the research. Corbin and Strauss (1990) stress the importance to build change of conditions by integrating process as a component in a method of investigating phenomena that involve interaction and practical actions. Charmaz and Smith (2003), referring to grounded theory, maintain that a researcher establishes theoretical connections not only through thick description but also by asking analytical questions about a [situated action] as a process to understand the properties, conditions, comparable processes, influence and actions. The development of ethnomethodology was set out in Chapter 5. Ethnomethodology is grounded practice interested in to penetrating normal situation and uncover how taken-for-granted rules that can be challenged by disruption of a person's conception of normal, or real (lived or work) life appropriate strategy for investigating socially constructed processes (Denzin, 1969, 2005, Morgan and Smircich, 1980). The researcher's interest is in the methods used by individuals in everyday life to create subjectively an agreed or negotiated social order (de Montigny, 2007).

Ethnomethodology has been applied in various fields of research involves interaction within ordered process such as education (Davidson, 2012), management (Plane, 2000), health studies (Bowers, 1992) to mention some. Commercial real estate transactions were considered to be situated in the moment where the composition of buyer-seller-broker team and trading asset was temporal. Interaction was necessary just to get the work done to achieve a temporal mutual goal - social interaction for economic exchange (Plickert et al., 2007).

This led to the research question, "*How does egocentric uncertainty influence search in Johannesburg, South Africa and London, UK commercial investment real estate markets*?" The research collected and analysed data on how actors identified when a transaction (situation) was (not) problematic, and how they deployed just the right routine at just the right time. The thematic areas were perception market information, search conditions, search strategy, and search duration. These areas corresponded to properties, dimensions, conditions, actions/interactions and consequences components in ethnomethodolgy (Maynard, 2012).

The study limited its scope to commercial office real estate sale transaction in Johannesburg, South Africa, and London, UK only and did not cover other geographic markets, nor sectors. The study did not include lease transactions either. As was shown in Chapter 2, the underpinning concepts of lease markets relate to space use whose dynamics of acquisitions and surrender are different from acquisition and disposal dynamics in asset markets. The market scope was purposefully selected. Johannesburg was considered an emerging real estate market, with a developing market information system and very

important global connectivity. Major players in the global real estate market had presence in South Africa. South African real estate investors have been involvement in niche markets on African continent. The London market in the UK was categorised as a mature global real estate market, with a well-developed market information system with outstanding global connectivity. Major players in the UK market invested in mature markets in Europe, Asia and America. The units of investigation were commercial real estate investment brokers and transactions managers.

9.3.1 Research Method

Interview methods were favourable as, among other reasons, the research goal was to understand attitudes, experiences, opinions, processes and values, and where opportunities for prompting are required (See Gray, 2013). They focused on the informants' understanding rather than the accuracy of the interviewees' account (Arksey and Knight, 1999). As explained in Chapter 5, face-to-face, semi-structured interviews were used to take advantage of the flexibility to modify the style, pace, or sequence of questions to induce deep response from the interviewee on information that may not have been previously considered as important by the researcher. Problem-centred questions were also utilised to gather objective evidence on human behaviour, and subjective perceptions of processing social reality (Witzel, 2000).

9.3.2 Research setting and participant selection

The foundation of this research was the premise that economic actions were social constructs of how vendors, buyers and brokers resolved market uncertainty through social interaction to exchange resources. Johannesburg interviews were conducted between early October 2015 to mid-November 2015, and London interviews from May 2016 to August 2016 and additional interviews between May 2017 and June 2017. In-depth interviews were conducted at the interviewees' work premises during normal working hours, a natural setting for the interviewee's everyday activity. A total of 19 interviews were conducted comprising nine interviews in Johannesburg (08 brokers and 01 institutional investor), and ten in London (04 institutional investors and 06 brokers). The researcher manually coded interview data guided by Glaser and Strauss (1968) ground theory coding principles. NVivo 11® was used to electronically organise data.

9.4 KEY FINDINGS

This research sought to establish how egocentric uncertainty – vendor-side uncertainty about the vendor and trading asset identity – was associated with search duration. In other words, it sought to understand how vendor-side concerns about information asymmetry related to how they would search for potential exchange partners and explain the time an asset would remain on market unsold. The findings presented in Chapters 6 and 7 highlight the underlying processes that are associated with the way search is conducted. A summary of key findings is presented below consistent with the sub-questions raised in Chapter 5.

9.4.1 Liquidity

The research sought to establish respondents' perceptions of real estate market liquidity. Respondents associated real estate market liquidity with transaction activity, price impact, and processes involved. They indicated that distinctions between the liquidity of real estate and of financial markets were associated with property fundamentals, market fundamentals and market transparency. This is consistent with views on the sources of illiquidity that information asymmetry on property and market fundamentals contribute to inventory holding risk (See Amihud et al., 2006, Lin and Vandell, 2007, Yinger, 1981). The role of adverse information risk, which is the likelihood that brokers could hold back information, not highlighted at this point, was established later under the role of networks in sales transaction. Respondents also identified marketing campaign, property viewing, managing bids and negotiating the price as processes that distinguish search in real estate markets from that in financial markets, consistent with literature (see Engel and Rogers, 1994, Maclennan and O'Sullivan, 2012, Wilhelmsson, 2002). Information on transaction opportunities was mainly exchanged through conversations in broker networks apparently because commercial real estate sales markets are a 'people business'. This confirmed the private nature of information and the role of broker networks.

9.4.2 Actor perception of uncertainty in direct office sales transactions opportunities

The first research sub-objective was how commercial real estate brokers perceived uncertainty in transaction opportunities. From the ethnomethodology specification, components that were identified to have contributed to perceptions of uncertainties to commercial real estate transactions were properties, dimensions and conditions of a sale transaction.

Properties: This component established identities of a transaction – actors and object - and constituent expectations. Respondents identified vendor categories ranging from institutional investors to unsophisticated private investors, high-net worth individuals and end-users. Assets properties were associated with the underlying property fundamentals, like quality, size, location, and market fundamentals such as growth potential, and proximity to transport hubs. These properties were essential to establishing the place of the asset on the market. High yielding value-adding assets, for instance, were identified with small private investors, while core assets were associated with institutional investors. Respondents did not explicitly identify search purposes as price dispersion (Stigler, 1961), least search cost (Kohn and Shavell, 1974) or maximising marginal benefits (Morgan and Manning, 1985). However, reference was made to the expectation in a sale mandate as one of achieving the 'best price' for the asset. The inferred best price was either a near-market value or highest bid relative to a broker's perception of the buyer behaviour, market state or preferred marketing approach. From a social network point of view, transaction 'properties' addressed uncertainties about vendor and asset identity and quality. Buyer behaviour and intentions are addressed later under interaction component in 9.4.3 below.

Dimensions: Broker's choice of marketing strategy was linked to the uncertainty of how to sell an asset with given fundamentals and owner attributes, and whether there was a pool of potential buyers in or outside the searcher's network. Three search approaches were identified from the research findings, and these were on-market, off-market, and quasi-market search.

On-market search: On-market search was understood as a formal and non-relational search to achieve the maximum favourable price achieved by public advertising to large unknown audience. The approach was perceived to be preferred for unique assets whose market value or potential buyers were unknown or non-traditional market players. It was deemed not necessary in markets with advanced advisory networks, deep knowledge of potential buyers, and communication with clients and other brokers mattered. On-market search was consistent with the fixed-sample size sampling strategy on how samples (offers) are observed. Research findings on both disposal and acquisition side were also consistent with literature (Benefield et al., 2011, Stigler, 1961).

Off-market search: Off-market search was conceived as an informal private treaty between exchange partners preferred to dispose of or acquisition 'trophy' assets for which there would be few, but known, participating buyers. The perceived benefit of off-market search was that it preserved the asset's value through focused and exclusive confidential marketing, consistent with Kohn and Shavell (1974) sequential search. Off-market approach also appealed to buyers who would be highly interested in securing a transaction even at a premium, but less inclined to competitive bidding because of bid preparation costs. Brokers' market knowledge of available assets and client requirements was vital.

Quasi-market search: This approach, equivalent to Morgan and Manning (1985) optimal search, used inside knowledge of client requirement to exclusively market high yielding assets with widely-known investor interest. The motive for quasi-market search was to achieve the best price and minimise transaction underwriting by multi-stage bid process.

Conditions: Condition was the third process component and it indicated resource constraints on a transaction. The central issue to a marketing campaign was the associated search cost in terms of time and effort. Uncertainties associated with search cost were identified as broker's perception of resources required to search which were capacity – the knowledge of client requirement and available stock in a spatial market – and relations which were the channels to non-redundant market information about investors' behaviour. An optimal search strategy was one which addressed a searcher's perception of the demand-ability imbalance (see Cox and Mackay, 1976). This imbalance essentially indicated a searcher's perception of task to resolve uncertainties around the identity of the trading asset and vendor, and that of the resources with respect to individual or brand capacity and relations required to access information on client requirements. This observation was consistent with Rangan (2000) who maintained that networks were relevant where the identity of assets and vendor was problematic, and information on the quality of the potential buyer was important.

9.4.3 Resolving uncertainties in direct real estate sales transactions

Having identified the uncertainties in a transaction, which were asset and vendor identity, expectations, potential sale approaches, tasks and resources required, the next stage was to resolve the identified uncertainties and it addressed the second research sub-question. This aspect tackled an identified and significant gap on the operational nature of real estate markets, which was how searchers resolved the information gap regarding identified uncertainties. Resolving uncertainties around a sale transaction hinged on how problematic and (yet important) it was to access quality information on asset and vendor identity, and the quality and requirements of a potential buyer. Hence, in the absence of a market mechanism to do so, brokers addressed contingencies to interactions and subsequent actions to identify a potential exchange partner.

Interaction and action: This component addressed how resources were deployed to disseminate or access problematic but useful asset, vendor and potential buyer information. Real estate markets were known for their unique characteristics – spatial dispersion, asset heterogeneity, and localised market information - which are associated with privacy of information. Though Rangan (2000) identified social networks to be relevant to real estate markets, this research established that they were not relevant for on-market transactions. Buyer information would be problematic, but not important to vendor or broker ability to sell the asset. Vendor and asset identities were not problematic since the trading asset were visible through public advertisements. Social networks were relevant to quasi- and off-market search strategies because asset, vendor and buyer information was important but problematic. Hence, social networks seemed to use relations for the following three roles:

To access information on client acquisition criteria: Social networks were used to access private information on property fundamentals, and market fundamentals, client requirements. As LON-BR-6 stated, deals were largely circulated in client/agency networks.

To manage information flow in clients' interests: Three types of client interest were identified. Operational interest related to managing information dissemination so that property operations are not disrupted by potential negative occupier perceptions. Participation interest referred to how public knowledge of transaction opportunities influences investor interest to pursue them. Negotiation interest sought to maintain a bargaining advantage by controlling information exchange to exclude some categories of potential buyers. Managing operational and participation interests seemed to have been critical in Johannesburg, befitting Keogh and D'Arcy (1994) description of an emerging market as one with limited information flow and market openness.

To pool potential buyers: Social networks facilitated ring-fencing of potential buyers with known matching requirements and credentials to an available opportunity. Clients also appreciated social interaction as it led to brokers introducing relevant opportunities to them.

Relationship building was critical to succeeding in a market that fundamentally operates on such private communication. Being well-connected in the market was essential as people tended to do business with people they knew (Burt, 2002, 2009) and liked (LON-BR-4). Clients, therefore, expected brokers to demonstrate trustworthiness that they would perform as expected to deliver on their service as well as conform to expected confidentiality of clients' information. Social networks, hence, seemed to enhance performance through social capital, and ensure conformity through social homogeneity.

i. Building social capital

The commercial property market was said to be a '*communication'* arena where information was exchanged often between familiar individuals through conversations not only to catch-up with market trends, but also create exchange opportunities. It was perceived that clients would only give out strategic information if they had a good perception of a broker's credibility, status or firm background.

Social capital could be enhanced through formal business interaction based on equivalence of business roles (See Nahapiet and Ghoshal, 1998) to exchange information and understand each other's requirements. Some ways of formal business interaction were canvassing a local market area to interact with unfamiliar landlords and tenants, meeting clients at business network functions, or attending clients sponsored business events to interact with role players in a relaxed environment. The objective of formal business interaction was to connect with unfamiliar clients not only to gain insight of market opportunities but also to demonstrate competence to fulfil client requirements.

Informal business interaction took place between peers in non-business environment to gain insight on transaction opportunities. Such peer networks developed from similar education, employment and/or social backgrounds circumvent formal barriers and directly access strategic information outstripping competition. Peers were more likely to contact each other first before others when an opportunity arose – a form of Morgan and Manning (1985) optimal sampling. These networks provided a large collective market knowledge base and channels for collaborating exclusive strategic information exchange to enhance network members' performance.

This aspect of how exploiting structural holes and network bonds influence performance has not been captured in real estate research, yet it seems to be instrumental to the way real estate markets operate. Quasi- and off-market search strategies seemed to rely on prior knowledge of client requirements which was problematic but important, hence developing social capital was crucial as indicated by a respondent that, *"… [networking] has helped a lot … in the sense that I have got ready investors almost on speed-dial … So, it allows me to have a high response rate and to present a client with at least two or three bidders on transactions …"* (JNB-BR-8).

ii. Developing network homogeneity

Network homogeneity referred to similarity of values, beliefs, and practices within certain settings. Social conformity was understood as a normative network characteristic which rewards or reprimand

network members' behaviour. Network rewards would range from preferential treatment, through lucrative partnership to network prestige (See BarNir and Smith, 2002). Preferential treatment would be earned identity associated with impressive track record as well as having a relationship with the client. Respondents claimed to have used competence to develop clients' confidence, build relationships and access private information. Such interaction contributed to defining cognitive proximity which showed non-overlapping competencies which a broker would contribute to a client or agent network.

Lucrative partnerships directed resources to network members who demonstrated essential specialised services or branding capable of managing client interests indicated above. It helped establish inter-organisational proximity which related to sharing similar values between broker and client firms. Network prestige showed a broker's instrumentality (usefulness) in adding value to a network by providing non-redundant information to clients in a way that other brokers would not. Such status would often be established through social proximity arising from friendship and experience. It would appear that concerns about the agency problem of brokerage were also addressed by social homogeneity. Consistent with McAllister et al. (2008), brokers aimed at network prestige for long term gain of business prospects.

What was drawn from social homogeneity was understanding the effort required to earn access to information starting with relationship building, demonstrating ability to manage client interests and, eventually, providing non-redundant instrumental information. The position in a social homogeneity hierarchy changed according to the way proximities evolved in relation to the context of a traded asset and, therefore, could be associated with search cost – the psychic cost –identified as perception of the balance between task and resources for a sale transaction.

While the forefront role of social networks in sales transactions was to provide access to information, manage client interests and pool potential buyers, resolving these uncertainties to these transactions also relied on leveraging social homogeneity in each transaction context. This is consistent with recommendations by David and Halbert (2014), Halbert and Rouanet (2014) and Lizieri and Mekic (2015).

9.4.4 Uncertainties to sales transactions and liquidity

The third and final research sub-question was on how uncertainties were associated with the way brokers searched, hence liquidity. The association between social networks and broker search in commercial real estate markets was addressed from a process approach – how things happen (See Maxwell, 2012 pp.82). Information sought through this approach was, however, subject to secondary interpretive, and descriptive validity.

Evidence from both Johannesburg, South Africa, and London, UK, respondents indicated that networks were associated with accessing information and introducing potential buyers earlier than competition. Studies on search intensity and duration such as Baryla et al. (2000), Devaney and Scofield (2013), Jud

et al. (1995) and Salant, 1991 indicate that brokers with higher search cost were likely to have longer search duration and more likely to intensify search. This would be interpreted that brokers who perceived an imbalance between task and resources – individual knowledge of market and relations – were likely to have expended more effort like setting up formal business meetings than ones with strong relations who could get an agreement on a golf course. This raised the question on how we understood liquidity in real estate markets. The findings of this research bring out the fundamental issues that reconcile the need to understand real estate market liquidity in terms of the operational nature of the market with a relevant methodology that addresses the process rather than the variance question in the conventional duration understanding of real estate market liquidity.

Therefore, the operational nature of commercial real estate markets could be understood as the way contingencies to a sales transaction process namely the transaction properties (identities, expectation), dimensions (marketing perceptions), conditions (market knowledge, resources including relations – social capital and homogeneity), interactions (information access, managing client interests, pooling) and outcomes (performance, conformity) were associated with the ease with which an asset converted to an exchange medium.

9.5 MAIN ORIGINAL CONTRIBUTION

The fundamental motivation to undertake this research was to contribute to extending the understanding of the nature of real estate markets from earlier works of such contributors as Byrne et al. (2013), D'Arcy and Keogh (1999) and Keogh and D'Arcy (1999), but also taking a step back from contributions Haurin (1988), Kiefer (1988), Salant (1977), Jud et al., (1996), Miller (1978), Orr et al. (2003), Clayton et al. (2008), Crosby and McAllister, (2004), and Devaney and Scofield (2015) which have undertaken extensive research on duration of real estate sales transactions. Though the former opened the challenge to examine how real estate institutions 'defined' liquidity in real estate markets, the latter focused on how much real estate characteristics influenced durations on market. This research reverted to the process question and addressed it using a process model combining social networks approaches and ethnomethodology. The gap in research that was identified was how to understand the underlying processes that explained the operational nature of real estate markets.

The study placed the broker in a central role because of the acclaimed influence of reducing the time on market when engaged. The study formulated a conceptual framework which combined search, social networks and ethnomethodology. This was used to develop sufficient appreciation of processes that underlay broker search behaviour in commercial office sales transactions. The substantive theory that this research has contributed regarding the understanding of the operational nature of real estate markets is as follows:

i. Brokers uncertainty is associated perceived imbalances between transaction demand (mandate) and broker ability (resources) to undertake the task (fulfilling mandate).

ii. Broker choice of search strategy is associated with identities (properties), market perception (dimensions), resources (condition), search pool (action/interaction) and performance (outcome).
iii. Brokers use social networks to resolve uncertainties through
    - social capital to address information asymmetry by using social interaction to access private information and enhance performance
    - social homogeneity to ensure conformity of behaviour with client expectation by involving cognitive, inter-organisational and social proximities.

9.5.1 How social networks resolved transaction uncertainty

Social networks concepts were applied in this research because they acknowledge the role of social relations in economic exchange where information on the identities and objects to a transaction is problematic, but important, and there are no market mechanisms that would resolve such uncertainty without incurring large costs. Social network applications in real estate studies have largely been explored in residential market research such as DiMaggio and Louch (1998), Röper et al. (2009) and Crowston et al. (2015). This research drew from these social network concepts as well as Rangan (2000) and Podolny (2001) to understand the nature of commercial real estate markets. The following are the attributes of the nature of commercial real estate markets that this research identified:

i. **Privacy of transaction information:** Baryla and Zumpano (1995) argue that privately held information and heterogeneity are likely to increase broker's information advantage by reducing availability of comparable sales information. This suggests that information privacy is an incentive to broker performance. This research found that privacy of transaction information was associated with the importance of protecting client interests. In Johannesburg, operational interests mattered to large institutional funds as they preferred their disposal activities not to be known to the public.

ii. **Participation preference:** The preferred mode of participation seemed to be associated with the client's perception of the best way to secure an acquisition opportunity. Considerations include cost of preparing bids, sophistication of potential competitors or potential impact of transaction knowledge on asset marketability. Large listed funds, for instance, were inclined to acquire assets which were likely to trade exclusively. They viewed on-market sales as 'cleaver and dagger' arenas.

iii. **Marketing effectiveness:** Brokers adopted marketing strategies that took account of transaction privacy and participation preference in a way that was consistent with not only asset qualities and client interests, but also the brokers' resources – relations – at their disposal. The choice between focused and exclusive marketing was associated with brokers' perception of the interest in an opportunity of that nature drawn from conversations with clients and/or other brokers.

iv. **Socio-economic nature of real estate transactions:** Relations mattered in commercial real estate transaction. Commercial real estate sales were perceived to be a people business where information was mainly exchanged through communication. As LON-IV-1 stated, '*it is who you know [and how you know them] and not what you know that matters.*' Basically, what this implied was that competence alone was not sufficient to succeed in the commercial real estate market. It needed to be supplemented with network ties to access information and enhance performance, and [predictable] behaviour to gain client confidence (trust) and enhance reputation.

9.5.2 How ethnomethodology approach contributed to understanding real estate markets

Ethnomethodology has been used in studies that sought to establish how actors dealt with disruptions in bounded processes that involved interaction such as in health (Bowers, 1992) and education (Davidson, 2012). However, there is no evidence of its application to understand real estate processes. This research not only extended the application of ethnomethodology, but contributed to better appreciation of tacit dynamic real estate market processes which shaped information flow and access in executing a sale instruction which are bounded processes typified with 'disruptions'. Ethnomethodology provided a logical framework for identifying contingencies which confront brokers and shape their search behaviour. The approach facilitated a clearer way of understanding how brokers operated at various stages of the search process to resolve uncertainty.

9.6 IMPLICATIONS ON UNDERSTANDING THE OPERTATIONS NATURE OF REAL ESTATE MARKETS

This research was designed to better understand the operational nature of real estate markets and the processes that underlie their operational nature. A literature gap was identified concerning commercial real estate sale transactions which, unlike residential sales, were associated with information asymmetry and on entrenched broker role. Financial literature on market efficiency in transmitting transaction information considers these attributes to contribute to real estate market inefficiency, hence illiquidity. Real estate literature has sought to address this interpretation of market liquidity by re-orienting the focus from 'how much transaction information' was transmitted in each search duration, to 'how long' it took to transmit transaction information. Though this re-oriented focus acknowledged the operational nature of real estate markets by emphasising duration as an indicator of liquidity and identified stages that constituted the duration, it still fell short of explaining the operational nature of activities – the processes – that were associated with these stages. The findings of this research have provided a clearer framework to identify areas of contribution and gaps in existing research in understanding the operational nature of real estate markets.

The following are implications of this research's findings to understanding the operational nature commercial real estate markets:

9.6.1 Understand properties of real estate transactions

Research on principal attributes such as owner-occupier choices and motivations for housing consumption (Henderson and Ioannides, 1989), rent-saving (Sinai and Souleles, 2005), or borrowing constraints (Genesove and Mayer, 1994) (albeit in residential markets) principal-agent relationships (McAllister et al., 2008) or agency influence (Guy and Henneberry, 2000) can be associated with actor properties. Contributions by Maclennan and O'Sullivan (2012) and Sayce et al. (2009) on real asset characteristics, and Geltner (2001) and Kaiser (2005) on stylised investment assets contribute to understanding object (asset) properties. Lin and Vandell (2007) review of holding and marketing period on transaction prices or Goetzmann and Peng (2006) on transaction prices and valuation bases contributes to understanding expectations on transaction outcomes. The contributions of these and future studies can now be identified with properties of a search process. Hence, the interpretation of relationships between these asset or vendor characteristics and process outcomes can now be qualified by acknowledging limitations of not including one or more of the other process components.

9.6.2 Dimensions of real estate transactions

This arena of research focuses on perceptions about how transactions could be handled. The implication to the body of knowledge is that research on marketing approaches for commercial real estate sales should go beyond focusing on asset and/or vendor characteristics, as has been the case in residential research, to including not only broker engagement but also the system of social relations necessary for actively searching. Real estate market cycles, though not reviewed in this study, were an unexpected outcome of the research associated with the marketing approaches – a fundamental attribute of dimensions of real estate transactions. Dimension of real estate transactions relate to perceptions about different approaches to marketing trading assets. Research in residential markets has reviewed such marketing approaches as Multiple Listing Services (Turnbull and Sirmans, 1993) photo depictions (Benefield et al., 2011) or broker search intensity (Elder et al., 1999) referring to fixed-sample size, sequential sampling and optimal sampling are examples of research that has focused on transaction dimensions. There is research potential on how real estate cycles shape perceptions of suitable marketing approaches. As Granovetter (1985) states that actors – brokers in this case – do not strictly adhere to the 'scripts' of social system, but their purposeful actions are embedded in a system of social relations, broker choices of marketing approaches are not shaped not only by asset and vendor characteristics, as suggested by studies indicated in 9.6.1 above, but also the system of social relations discussed in 9.6.3 below.

9.6.3 Conditions to real estate transactions

This component of real estate transactions is central to the role of a broker. It addresses the broker's resource (demand/ability) perception of what Amihud et al. (2006) refer to as sources of illiquidity – exogenous transaction costs, inventory holding risk, and adverse information risk. Two resources identified were broker capacity and broker relations. Findings from this research highlight broker

capacity, that is, individual (human capital) and firm (brand effect) was essential but subtle to sales transactions. Rather broker capacity was associated with local market knowledge – spatial market, stock and market players. Studies by Lambson et al. (2004) and Turnbull and Sirmans (1993) on out-of-town buyer knowledge of local market information and paid price, though focused on buyers and not brokers, are examples of research which fall in this component. The second identified attribute of broker resources was relations. The introduction of social networks approaches (Podolny, 2001, Rangan, 2000) facilitated better understanding of how network position and status shaped perceptions of search cost, which included financial cost (across-search cost or transaction costs (Devaney and Scofield, 2013) and psychic or within-search cost (Elder et al., 1999). This research extends the framework of understanding of Morgan and Manning (1985)'s psychic cost or Elder et al. (1999)'s within-search cost to how demand-ability perceptions are shaped and inform marketing perceptions 9.6.2 above and search strategies 9.6.4 below.

9.6.4 Interactions and actions in real estate transactions

Two fundamental purposes of social interaction in economic exchange were to enhance performance and to ensure conformity to acceptable practice in a sales transaction. Broker performance was associated with access to non-redundant information. It could be achieved by either exploring 'structural holes' such as formal business interaction with 'loose' ties, or exploiting exclusive networks like peer networks. Findings from this research suggest that social capital – network knowledge - was essential to success in the market. There does not seem to be evidence in research on how brokers build social capital. Deep-seated attributes of access to information like peer networks and gender that were acknowledged in the field survey are potential areas for research.

Social conformity is about earning clients' trust that one would perform as expected of acceptable practice. This appeared to be a social network approach to addressing opportunism. Both the Johannesburg and London studies indicated that social conformity was driven by behaviour convergence through network coordination – bond networks, rather than behaviour contagion throw network flows – flow networks. Brokers seemed to be expected to demonstrate competence to deliver tasks within expected timeframe and has capability to manage clients' interests regarding how information on transaction activities was disseminated.

Areas of emphasis, however, are likely to differ between international markets and, probably, between levels of market maturity. Whichever the case might be, the underlying point is that conformity seems to be associated with rewards or sanctions to accessing strategic information. Studies like DiMaggio and Louch (1998) and Röper et al. (2009) show how networks reward members. The research potential provides a base for exploring how relations are used to ensure conformity in commercial real estate sales transactions.

Social interaction is expected to facilitate understanding client requirements, which is essential to identifying a pool of potential buyers. In markets where early introduction of opportunities matters, it is crucial to quickly match potential buyers to the right opportunities as Yinger (1981) states. This research provides a framework of understanding how network knowledge (social capital) and behavioural choices (social homogeneity) are associated with buyer-seller matching. In developing markets, there could be need for extending the role of interaction to managing client interests, which could influence the propinquity of disseminating and/or accessing information, affecting search intensity, which is the effort required to access private information.

The implication for research is to incorporate the way systems of social relations address information asymmetry and opportunism to understand how brokers disseminate information on transaction opportunities and access information on client requirements.

9.6.5 Outcomes of real estate sales transactions

This area has been the focus in this study of what has been described to be an operational approach to understanding real estate market liquidity. This is a stage that indicates the termination of activities from a process viewpoint and measurement of the duration of activities from a variance viewpoint. Studies on price-impact, bid-ask spread, transaction activity, and time-on-market analysis can be placed in this category of the transaction process – the outcome.

From this outline, it can be noticed that research on understanding the operational nature of real estate markets has focused on the properties, outcomes and somewhat on dimensions. There is still scope for research on conditions and interaction components.

9.7 LIMITATIONS AND FUTURE RESEARCH

This research introduced a social networks concept and ethnomethodology to understand the operational nature of commercial office sales transactions using Johannesburg, South Africa and London, United Kingdom as study contexts. There is no evidence of where else this approach has been applied. Consequently, the study sought in-depth understanding of real estate transaction processes within this conceptual framework.

The first identifiable limitation is on the research design. Real estate processes are not sequentially ordered, but involve discreet activities within an actor's daily schedule of activities. Process data could not be collected through observation techniques. Alternatively, respondents were presented with questions or situations to comment on how they would go about doing their business. Disruptions would be suggested when the researcher sought responses to such situations if the respondent did not voluntarily refer to such. The validity of accounts hinged on the respondent's factual accuracy and interpretation of circumstances.

The second limitation is on the transferability of findings. The sample size was sufficient for in-depth studies. The researcher sought deep insight of the social relations and process phenomena in sales transaction. The interpretation of findings is limited to the views of the 19 respondents, but provides a framework for further research on the subject using wider structured approach to establish transferability of concept. The sample size was constrained by the availability of respondents. The interviews in Johannesburg coincided with investors' end-of-year financial reporting, hence the sample was skewed towards brokers. The London sample was constrained by responses to interview requests.

There are research opportunities that can be explored using this framework in any sphere of economic activity where information is problematic, but important, and actors use social relations to identify competences, and challenges, deploy resources, and sustain group actions to accomplish taken-for-granted everyday activities. The following are but some potential areas for further research that would extend the understanding of the operational nature of real estate markets:

i. *Economic sociology in real estate markets:* There is large scope for exploring how human interaction affects economic action in commercial real estate markets. Studies such as (Scofield, 2011) have explored the institutional and performative theories in real estate markets, while this study focused on relations. This research has highlighted that actors' purposeful actions to resolve information asymmetry and opportunism are embedded in systems of social relations. The outcome of this research indicated that bond networks were influential in enhancing performance and adhering to market norms. The outcome suggests that there is need for a holistic approach to understanding the economic sociology of real estate market which should encompass relations, performative and institutional theories. There is also potential for research extension to how culture, education, and gender shape the complexity of relations which contribute to real estate processes. Such spheres as concentrations of international capital flows to global cities or governance of local real estate development in emerging markets are areas which have drawn interest in the recent years but have not been widely explored.

ii. *Real estate transactions*: Real estate transactions, as highlighted in the findings, are people-centred such that communication and interaction seem to be just as important as economic rationale. Access to private capital could hinge not only on economic or financial viability but also on investor confidence regarding protection from moral hazards. Social relations could contribute to knowing client requirements and circumvent detailed credibility checks. The same framework could also be used to review how relations could be associated with adverse selection in lending or investment decisions. It could also extend studies on understanding business property investments in global markets to help transnational investors understand how to identify contingencies to local investment processes and ways of navigating access into local coalitions.

iii. *Commercial leasing market*: Leasing of commercial spaces, whether office, retail or industrial, could benefit from this research framework. As was demonstrated in the Johannesburg case, networks in the sales markets benefited from interaction in leasing market. There is a growing phenomenon of tenant representation through which brokers act on behalf of tenants to identify spaces for renting and enhanced tenants' business potential.

iv. *Retail property sales transactions*: Retail properties vary in the types of owners, and asset attributes, as well as the types of potential buyers. While small corner shops are likely to be traded between non-traditional family investors, regional shopping centres attract sophisticated buyers.

v. *Industrial property sales*: as the industrial market is expanding from the traditional product manufacturing to logistic distribution centres, it is also attracting more sophisticated buyers but non-traditional property investors with varied investment and operational requirements.

vi. *Duration studies in commercial markets*: Chapter 3 presented three approaches to duration analysis highlighting their areas of application and limitations. With the established commercial marketing approaches – on-market, quasi-market, and off-market, there is potential for research into the appropriateness of exponential, Weibull, and log-logistic duration analysis in commercial real estate markets.

In concluding, it could be said that there is great potential for better understanding the operational nature of real estate markets when the social framings of economic action are acknowledged and considered. Understanding the operation nature of the two markets was the very essence of this research. The scope this research being confined to the relations aspect of the sociology of economic markets. As Fligstein and Dauter (2007) point out that the sociology of economic markets can be explored from institutional arrangements, calculative performances and relations all of which shape the embeddedness of social behaviour in economic activity (See also Granovetter, 1992, 2005) and tend to feed into each other. There is scope for future research on how social relations are bound by the coordination and integration of incentives and/or internally connected capabilities of producing commercial real estate services and guarding against the risk of opportunistic behaviour fall under institutional and performative aspects of economic sociology. Research in this direction could contribute to understanding how market maturity (See Keogh and D'Arcy, 1994), brokerage models (See Devaney et al., 2016), local coalitions (See Halbert and Rouanet, 2014) and financialisaton (See Lizieri and Mekic, 2015, Lizieri and Pain, 2014) explain the way that brokerage utilises social networks in global and world cities.

THE END

APPENDICES

Appendix 1: Sequential search model formulae

Pay-off determinants	$Pay-off\ k_i(X_i) = \begin{cases} \sum \frac{k_i(X_i)}{(1+r)^i} & inspection\ case \\ \frac{max[u(X_1)\ \dots\ u(X_i)]}{(1+r)^i r} & experience\ case \end{cases}$
	$Pay-off\ k_i(X_i) = \begin{cases} \sum \frac{k_i(X_i)}{(1+r)^i} & inspection\ case \\ \frac{y}{(1+r)^i r} & experience\ case \end{cases}$
When there is no search,	there is no search cost so $\frac{k_i(X_i)}{(1+r)^i} = 0$. Pay-off is simply $\frac{y}{r}$
In continuous search that terminates in infinity	y cannot be determined search costs extend to infinity such that $\frac{k_i(X_i)}{r}$
Value of search policy	$net\ pay-off = \sum_{i=0}^{n} \frac{k_1}{(1+r)^i} + \frac{max\left(P_i^T, U(X_1)\ \dots\ U(X_i)\right)}{(1+r)^i r}$
Functional equation of value in search and stop is	$v(y,F) = max\left(\frac{E_j[k_i(X_i)]}{(1+r)^i} + \frac{v\left(max\left(y_1, u(x_i)\right), F^{x_i}\right)}{(1+r)^i}, \frac{y}{r}\right)$
in financial markets with no search costs	$w\left(P_i^T, F, d=0\right) = \frac{P_1^T}{(1+r)^1} + \dots + \frac{P_i^T}{(1+r)^i} + \dots = \frac{P_i^T}{r}$

These formulae as well as the ones presented in Appendix 2 have been added to the appendices mainly to show the quantitative approach to demonstrate how searchers make decisions in the sequential and optimal search choice respectively, but they are not intended to contribute to the analysis in this thesis. The quantitative approach focuses on cost and benefit analysis of search approaches to establish how variations in search costs and utility from sales as inputs explain the pay-offs and search choices. This approach, however, does not explain the processes which generate variations in inputs, which this thesis does using a qualitative approach.

Appendix 2: Optimal search model formulae

Initial knowledge	$y_t = \begin{cases} y_t, & t = 1 \\ y_{t-1}, & 2 \le t \le T \text{ and } n_t = 0 \ (no\ observations\ available) \\ (y_{t-1}, x_{t-1}), & 2 \le t \le T \text{ and } n_t \ge 1 \ (observations\ available) \end{cases}$
The searcher has knowledge at *t* of all observation requested before *t*	$y_t \in Y_t = \begin{cases} Y_t, & t = 1 \\ Y_{t-1}, & 2 \le t \le T \text{ and } n_t = 0 \\ (Y_{t-1}, X_{t-1}), & 2 \le t \le T \text{ and } n_t \ge 1 \end{cases}$
	At *t*, the searcher uses: • the initial knowledge y_t, • a sample function v_t: $Y_t \longrightarrow I^+$, and • stopping rule ξ: $Y_t \longrightarrow \{0,1\}$ to decide i) $n_t = v_t(y_t)$, number of observations to demand if search takes place in t^{th} period, ii) $\xi_t(y_t) = \begin{cases} 0, & if\ search\ occurs\ in\ period\ t \\ 1, & if\ search\ stops\ in\ period\ t \end{cases}$
The searcher's wealth at t, w^t, given initial wealth w^1 and search costs $c(n^t)$	$w_t = -\sum_{t=1}^{t-1}\big(c(n_t)\big) + w_1 > 0$
Expected utility	$w_t^T(y_t, \rho) = -k[v_t(y_t)] + \beta E_{F_1}\left[\xi_{t+1}(y_{t+1})\, u_{*t+1} + \left(1 - (\xi_{t+1}(y_{t+1}))w_{t+1}^T(y_{t+1}, \rho)\right)|y_t\right]$ $t = 1, \dots, T-2$ Or simply $w_t^T(y_t, \rho) = -k + \frac{1}{(1+r)} E_{F_1}\left[u_{*t+1} + \left(1 - w_{t+1}^T(y_{t+1}, \rho)\right)|y_t\right]$

Appendix 3: Research Questions – Liquidity of Commercial Real Estate Markets: A Social Networks Analysis

Goals (4)	**Research questions (11)**	**Interview questions (21)**	***Potential response***	**Validity threats**	**Action**	**Ethics Issues**
Rapport		How would you describe your role in the firm you represent?	Owner, Deal team, vendor agent, introducing agent, principle	Descriptive	Low inference descriptors	None
How do characteristics of commercial real estate markets **affect** how search for real estate assets takes place?	How is market liquidity understood?	What do you **understand** market liquidity to be?	facilitation of ease to convert to cash, or to exchange, availability of market information	Interpretive	Low inference descriptors	None
	How is real estate market liquidity understood?	How would you **describe** real estate market **liquidity?**	Turnover, Bid-spread, price impact, time on market	Interpretive	Low inference descriptors	None
		How would you **relate** real estate market liquidity to that of other asset markets?	Less liquid	Interpretive	Low inference descriptors	None
		What are the common and distinguishing **factors** between liquidity in real estate markets and their asset markets?	relate to transaction costs, inventory holding risk, adverse information, role of brokers	Interpretive	Participant feedback	None
	How is search in real estate markets understood?	What do you aim to achieve when **searching** for **exchange opportunities** when	price dispersion (favourable price), Optimal price (least cost), optimal search cost (maximise marginal benefit)	Theoretical	Pattern matching	None

Goals (4)	Research questions (11)	Interview questions (21)	*Potential response*	Validity threats	Action	Ethics Issues
		you are selling and/or when you are buying?				
		How would you **decide** to **stop** searching?	large sample to off-set cost, bid matches expected price, no incremental benefit)	Theoretical	Pattern matching	None
		What would **influence** the **time** it takes to decide to stop searching?	pool of known potential, access to unknown potential, market and rating information	Interpretive	Participant feedback	None
		How would you **resolve** influences on the time it takes to stop searching?	method and frequency of advertising (formal), referrals, direct contact, networks (informal)	Theoretical	Pattern matching	None
	How is search conducted for exchange opportunities in real estate markets?	How **do** actors **search** for exchange opportunities in commercial real estate markets?	Adverts, auctions, head-hunting, pitching (open or selective)	Descriptive	Participant feedback	None

Goals (4)	**Research questions (11)**	**Interview questions (21)**	***Potential response***	**Validity threats**	**Action**	**Ethics Issues**
		Why would an actor **search** using **these** approaches?	price dispersion (favourable price), Optimal price (least cost), optimal search cost (maximise marginal benefit)	Interpretive	Pattern matching	None
How do social networks **influence** commercial real estate trading activity?	How are social networks understood?	Considering an **economic exchange situation**, how would you describe **social networks**, and how they operate?	relations used to resolve market uncertainty, influence of unconnected opportunities and position in network in accessing potential exchange partners and implementing transactions	Interpretive	Data triangulation	None
	When are social networks necessary to search exchange opportunities?	In what **situation(s)** would actors consider social networks to be necessary to search for exchange opportunities?	identity and quality of asset and exchange partner are problematic, when market mechanisms cannot resolve uncertainty of ditto	Interpretive	Low inference descriptors	None
	When is Identity of Asset & Actor (search) Problematic?	If selling, how do actors **expose** potential exchange opportunities?	Adverts, auctions, open pitching (formal), head-hunting, selective pitching (Informal)	Theoretical	Triangulation	None

Goals (4)	**Research questions (11)**	**Interview questions (21)**	***Potential response***	**Validity threats**	**Action**	**Ethics Issues**
		If selling, how do actors **identify** potential exchange partners?	Adverts, auctions, open pitching (formal), head-hunting, selective pitching (Informal)	Theoretical	Triangulation	None
	When is quality of Asset & Behaviour of Actor Problematic	If buying, what are the potential **risks** in the exchange opportunity?	asset quality, behaviour of vendor	Theoretical	Triangulation	None
		How would the actor **deal** with them?	Due-diligence - technical reports, rating, insurance, warranties, internalisation, Social networks - professional or other voluntary affiliation, scope (size, diversity, domain), strength of ties, social position	Theoretical	Triangulation	None
	How is search for real estate exchange opportunities problematic?	How would you describe your **experience** of searching for exchange opportunities?	(not) problematic	Descriptive	Participant feedback	None

Goals (4)	**Research questions (11)**	**Interview questions (21)**	***Potential response***	**Validity threats**	**Action**	**Ethics Issues**
		With what would you **associate** your experience in searching for real estate exchange opportunities?	information on transaction volumes and margins, spatial dispersion of market, privacy of market information, role of brokers	Descriptive	Participant feedback	None
How does the nature of a social network **affect** time on market of commercial real estate investment assets?	How do social networks influence search for exchange opportunities relate to real estate market liquidity?	How would you **use** social networks in your role as a commercial real estate broker?	resolve market uncertainty - identity and quality of asset and exchange partner	Descriptive	Triangulation	None
		How would (not) involving social networks **influence** brokerage?	influence on time to stop searching, influence on time on market	Interpretive	Low inference descriptors	None
		How do you **understand** social networks and real estate market liquidity?	non-market methods of resolving market uncertainty, has (no) influence on real estate market liquidity	Interpretive	Low inference descriptors	None
How do the nature and influence of social networks on commercial real estate transaction **compare** between developed and emerging markets?	How would the experience of how actor use of social networks and real estate market liquidity in the case studies be described?			Interpretive	Negative case sampling	None

Appendix 4: Research Project Description

Henley Business School
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Real Estate and Planning

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This is a qualitative study on how actors in commercial real estate transactions perceive the influence of networking on identifying and verifying exchange opportunities. The study could lead to better understanding of how the operative nature of real estate transactions explain the duration on market of assets – a common measure of market liquidity in real estate.

The study is being conducted by NALUMINO AKAKANDELWA, former lecturer in Property Studies at Wits University, and a doctoral researcher in the School of Real Estate and Planning, Henley Business School of The University of Reading, Whiteknights, Reading, RG6 6UD, United Kingdom, under the supervision of Dr Steven Devaney and Prof Kathy Pain.

This interview will take approximately 30 minutes of your time.

Participation in this study is voluntary. Withdrawal from participation can be made at any stage of the interview. Information can be withheld if in the participant's opinion it may infringe on right of privacy, or anonymity. Data obtained will be used for academic research purposes only and any publications stemming therefrom. Personal details will be kept during the data collection phase for tracking purposes only and will not form part of the disseminated information. Data will be managed in compliance with the University of Reading Research Data Management Policy, and University Code of Good Practices in Research.

The results of the research could be made available if requested.

This project has been subject to ethical review, according to procedures specified by the University Research Ethics Committee, and has been granted favourable ethical opinion for conduct: http://www.reading.ac.uk/internal/res/ResearchEthics/reas-REthicshomepage.aspx

If you have any questions about the study, contact the following:

Researcher:
NALUMINO AKAKANDELWA
n.akakandelwa@pgr.reading.ac.uk

Supervisors:
Dr STEVEN DEVANEY
s.devaney@henley.reading.ac.uk

Prof KATHY PAIN
k.pain@reading.ac.uk

Thank You

[redacted]

Appendix 5: Research interview cover letter

LIQUIDITY IN COMMERCIAL REAL ESTATE MARKETS: A SOCIAL NETWORKS APPROACH

This research is being conducted by Nalumino Akakandelwa, a doctoral researcher in the School of Real Estate and Planning, Henley Business School at the University of Reading, United Kingdom, supervised by Dr Steven Devaney and Professor Kathy Pain. The research explores how search strategies for direct sales transaction opportunities are associated with real estate market liquidity. The research is conducted in South Africa and United Kingdom to understand search strategies in emerging and developed real estate markets. The following are thematic areas covered in the research:

- **Perception of commercial real estate market liquidity**
- **Private commercial real estate market characteristics that influence search methods**
- **Access to private market information on commercial real estate opportunities**

Primary data is sought through 30 – 40 minute face-to-face interviews from individuals willing to participate in the study such as transaction managers, and investment agents involved in direct commercial office real estate sales (vending or acquisitions) transactions. South Africa data was collected from October to mid-November 2015. UK data collection is planned for April – June 2016, and the final report is expected to be produced by end of Q1 2017. The results of the research will be made available if requested.

Contact details:

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Appendix 6: Consent for research interview

Consent to Participate in Research Interview

You are invited to participate in a research study on *"Liquidity in Commercial Real Estate Markets: A Social Networks Approach."* The study is being conducted by **NALUMINO AKAKANDELWA,** a doctoral researcher in the School of Real Estate and Planning, Henley Business School at University of Reading, Whiteknights, Reading, RG6 6UD, United Kingdom, under the supervision of Dr Steven Devaney and Prof Kathy Pain.

The purpose of this research study is to explore perceptions, experiences, and expectations of how seller, buyer, and agent interactions in private commercial real estate markets influence the way they search for transaction opportunities and how search strategies influence market liquidity. Your participation in the study will contribute to a better understanding of the operative nature of commercial real estate exchange transactions, and how liquidity in commercial real estate markets may be construed. You are free to contact the researcher or supervisors at the below addresses.

Research data is obtained through an interview (about 30 minutes)

Risks/Benefits/Confidentiality of Data

Effort has been made to protect your personal identity. Your name and email address will be kept during the data collection phase for tracking purposes only.

Participation or Withdrawal

Your participation in this study is voluntary. You may withdraw from participation at any time during or after the interview. You have the right to withhold information that in your opinion may infringe on your right of privacy, or anonymity.

Data Management

Data will be managed in compliance with the University of Reading Research Data Management Policy, and the University Code of Good Practices in Research. Data obtained will be used for academic research purposes only and any publications stemming therefrom. The results of the research could be made available if requested for.

Contacts

If you have any questions about the study, contact the following:

Researcher:	NALUMINO AKAKANDELWA	n.akakandelwa@pgr.reading.ac.uk
Supervisors:	Dr STEVEN DEVANEY	s.devaney@henley.reading.ac.uk
	Prof KATHY PAIN	k.pain@reading.ac.uk

The project description is attached. If you agree to participate, and for the researcher to audio-record and take notes of the interview, please sign the consent form on page 3 of the Project description.

Thank you.

School of Real Estate & Planning | Henley Business School |
University of Reading | Whiteknights | Reading | RG6 6UD | United Kingdom |

HENLEY
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Appendix 7: Interview research questions

My research on "*Liquidity in Commercial Real Estate Markets: A Social Networks Approach*" investigates perceptions, experiences, and expectations of how seller, buyer, and agent interactions in private commercial real estate markets influence the way they search for transaction opportunities and how search strategies influence market liquidity. Information availability is critical to market liquidity and yet it is challenge in private real asset markets. The social networks approach I am applying is a technique that is claimed to explain how information is accessed in private markets where conventional mechanisms of dissemination are considered inefficient. I am investigating how one's perception about availability of relevant private information affects the choices one makes on how to search for potential exchange partners in commercial real estate market (direct investment) sale transactions. The study is conducted in two separate global markets (South Africa and United Kingdom). Your participation in the study will contribute to a better understanding of the operative nature of commercial real estate exchange transactions, and how liquidity in commercial real estate markets may be interpreted. The main issues I am investigating are:

How liquidity is perceived in private commercial real estate markets

- How market liquidity is understood
- How commercial real estate market liquidity is understood

How private commercial real estate markets characteristics influence the way search for real estate assets takes place

- How search in real estate markets is understood
- How search for transaction opportunities is conducted in commercial real estate markets

How information relevant to commercial real estate trading activity is established

- How real estate market information is perceived and accessed
- How assets, vendors, buyers and/or agents are identified
- How quality of a trading asset on the market is ascertained
- How a vendor's transaction conditions/preferences are ascertained
- How demanding it can be to search for transaction opportunities

How interaction among vendors, buyers and agents is associated with time on market of commercial investment assets

- How business interaction (networking) is understood
- How networks are utilised in commercial real estate transactions
- How networks influence commercial real estate transactions

Any other pertinent issues to commercial real estate transactions (direct investments) that may not have been covered in the discussion.

I would like to find out how you organise information on exchange opportunities and identify potential exchange partners in commercial real estate sales transactions to better understand potential contingencies in the pre-marketing and marketing stages of transaction process.
Thanking you in anticipation.

Nalumino Akakandelwa

School of Real Estate & Planning | Henley Business School |
University of Reading | Whiteknights | Reading | RG6 6UD | United Kingdom |

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Appendix 8: Research participation consent form

ANNEX C

Research Ethics Committee

University of Reading

Consent Form

1. I have read and had explained to me by .....the accompanying Information Sheet relating to the project on liquidity in commercial real estate markets: a social networks approach

2. I have had explained to me the purposes of the project and what will be required of me, and any questions I have had have been answered to my satisfaction. I agree to the arrangements described in the Information Sheet in so far as they relate to my participation.

3. I understand that participation is entirely voluntary and that I have the right to withdraw from the project any time, and that this will be without detriment.

4. I understand that my right of privacy is upheld, and that my identity shall be anonymous.

5. This application has been reviewed by the University Research Ethics Committee and has been given a favourable ethical opinion for conduct.

6. I have received a copy of this Consent Form and of the accompanying Information Sheet.

7. I confirm that I am over 18 years of age, and have legal capacity to consent.

Name: .....

Signed: .....

Date: .....

School of Real Estate & Planning | Henley Business School |
University of Reading | Whiteknights | Reading | RG6 6UD | United Kingdom |

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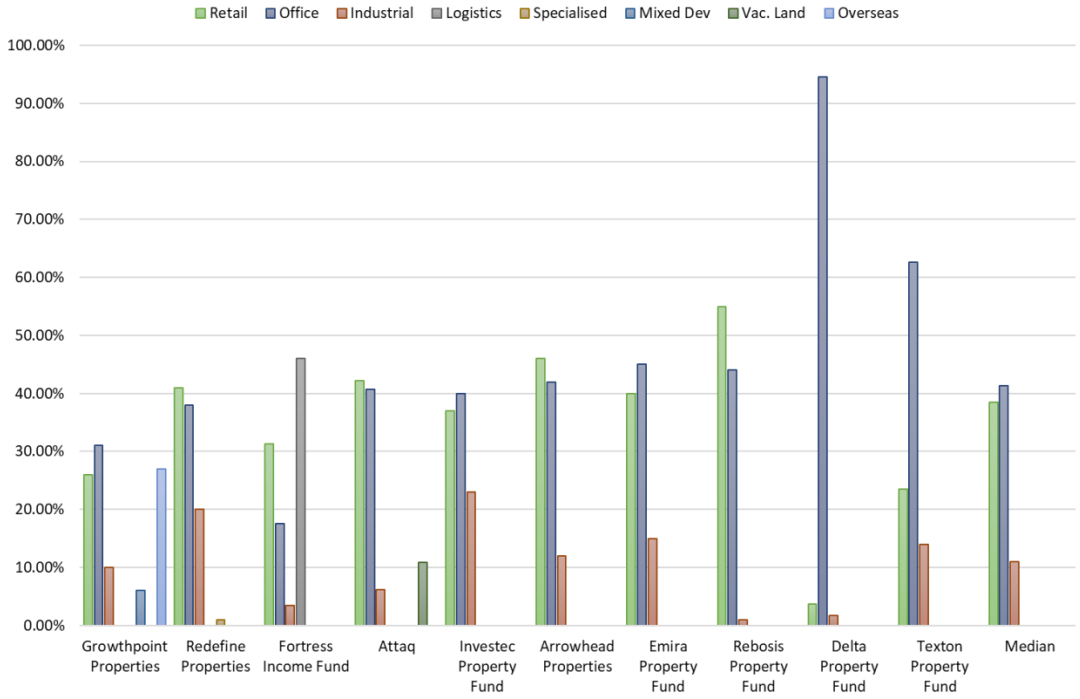
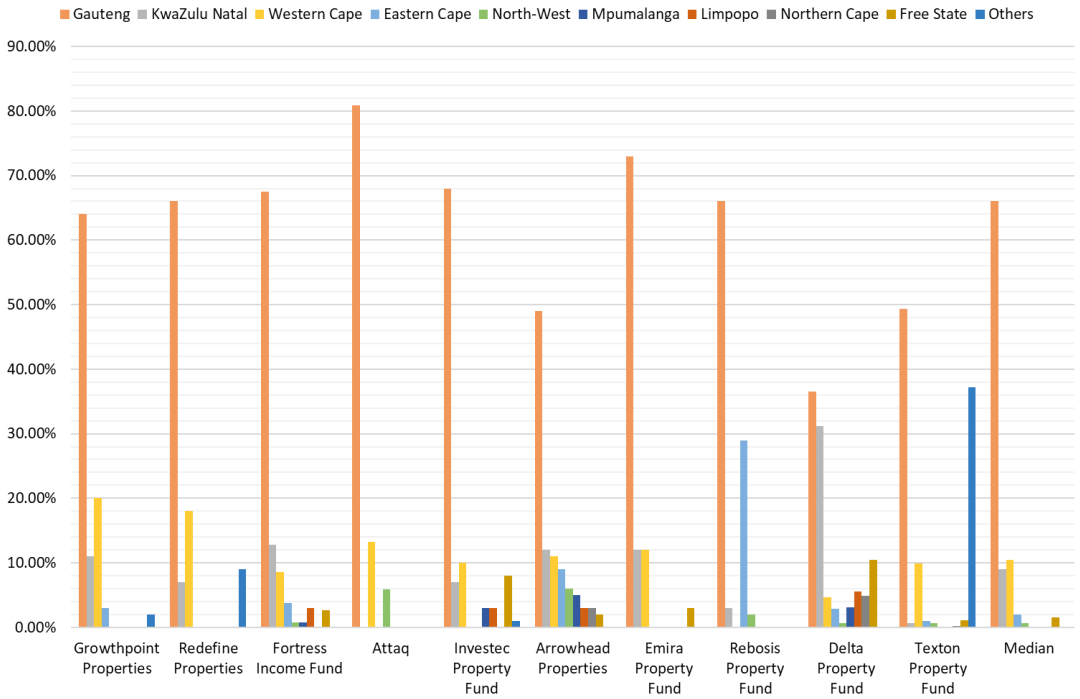
Appendix 9: Sector Distribution of SAREITS with Office Portfolios



Source: Financial Mail (2016)

Appendix 10: Geographic Distribution of SAREITs with Office Portfolios



Source: Financial Mail (2016)

Appendix 11: GaWC Descriptions of City Connectivity

Connectivity	**Description**
alpha++ cities	stand out as clearly more integrated than all other cities and constitute their own high level of integration – London and New York
alpha+ cities	Other highly integrated cities that complement London and New York largely filling in advanced service needs for the Pacific Asia
alpha & alpha- cities	Very important world cities that link major economic regions and states into the world economy
beta level cities	These are important world cities that are instrumental in linking their region or state into the world economy
gamma level cities	These can be world cities linking smaller regions or states into the world economy, or important world cities whose major global capacity is not in advanced producer services
Cities with sufficiency of services	These are cities that are not world cities as defined here but they have sufficient services so as not to be overly dependent on world cities. Two specialised categories of city are common at this level of integration: smaller capital cities, and traditional centres of manufacturing regions

Source: GaWC (2017a)

Appendix 12: Open coded interview script

Appendix 13 Coding frame:

Search model data analysis

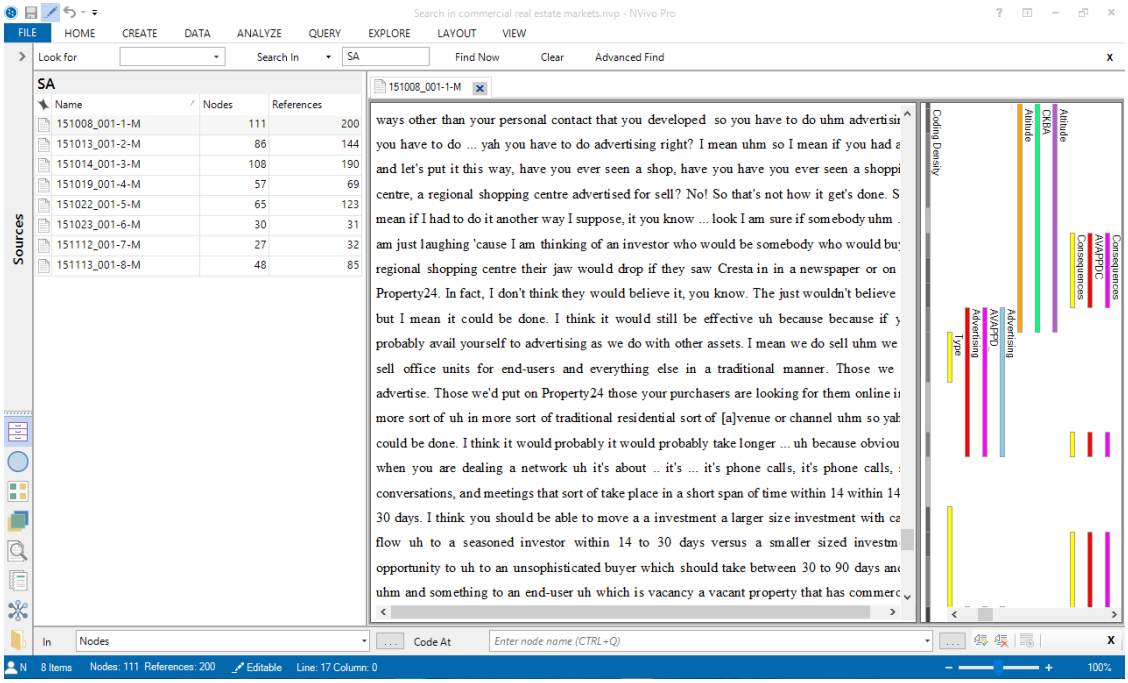
Respondent	Prime Grade		Low Grade	
	Sample rule	Search rule	Sample rule	Search rule
RB-SA-1	8/218-226, 8/236-241, 8/241-248, 10/303-309	4/116, 5/128-140, 5/150-151, 6/157-164,	10•309-11/313, 11/322-331	4/116
RB-SA-2	3/95-98, 4/102-104, 6/181-187, 6/194-196, 7/198-201, 8/230-239, 8/247-252	5/163-6/167, 6/196-7/197, 7/208-212,		
RB-SA-3.1	6/170-175, 6/177-182, 6/184-185,6/188-191, 7/194-203, 7/210-224, 8/228-235, 8/237-239,	5/124-127, 5/140	5/127-130, 5/133,	
RB-SA-3.2	4/105-111,			
RB-SA-4	2/41-52, 2/60-3/67, 4/121-5/129	1/24-29,	1/31-2/37,	
RB-SA-5	2/41-49, 2/53-54, 2/57-3/65, 3/67-3/76, 5/130-142, 5/151-152, 5/153-155, 5/157-160, 6/162-172, 6/183, 6/185-190, 6/193-7/200,			
RB-SA-6	2/45-48, 3/70-73, 5/123-127,	3/66, 3/69,		
RB-SA-7	4/120-126, 4/129-5/133, 5/140-144, 5/145-149,	5/152-6/165,		
RB-SA-8	3/65-73, 4/96-109, 4/111-115, 5/130-135, 6/181-184, 7/195-202,	4/119-5/125, 5/135-137, 5/141-146,		

1

Appendix 14: Code re-examination

Respondent	Prime Grade
	Sample rule
	8/218-226 If I were really smart I would have uh I would have used my brand and gone and knocked on and knocked on the doors uh of investment portfolios, listed funds, uh situations like that and uh and I would have sat down with them and uh and uh worked with them but if you have a networks of individuals that you know are constantly buying and selling properties, my belief is if you identify fifteen of them ... and you just ... truly understand their investment strategy and what they want and you go out and you network uh and you find things ... and and find you canvas and you find things for them and just work for them, just work for those fifteen. You do not need a lot of people. If you have a small network of people that uh that are constantly wanting to buy properties you sp.. you should be spending your time not waiting for properties to roll in but going out and find the properties for them. 8/236-241 so I have access with a lot of other agents in other branches of my brand as well, but now I deal I deal predominantly with a small short list of uh of investors in the Johannesburg community who I know are financially well connected and able to do uh and able to do deals and I have associated myself with uh with other players in the market that know [how to ...] but also when deals so of come through my door uh uh uh there are things that I can put together and package for my network. 8/241-248 But it's also I think is very important to pick a relatively a I mean you need to play two ways, you need to pick a geographically uh specific area well not ex.. euphemistically everybody but me that's what works for me. I picked a small area like a couple of suburbs where there is a couple of strong commercial nodes and I have made myself extremely well known in those nodes so that if people have commercial properties they generally will come to me and I can package those and sell them off to my investors and then I make myself available in channels where opportunities from all over Joburg which may not be uhm exclusive to me uhm will will come across my desk. 10/295-315 I would have to do it differently. Uhm I would have to do it differently and I have to say that the way the Johannesburg and South African inv.. investments generally work uh I have done it the way it needs to be done in order to be most effective. To do it in another way, it would be less effective, to do it in a traditional marketing sense would be less effective uh. Let's put it this way: nobody ... I ... I mean if you worked outside of a network you would have to you would have to do traditional marketing. I mean if you did traditional marketing you would need to find ways other than your personal contact that you developed so you have to do uhm advertising, you have to do ... yah you have to do advertising right? I mean uhm so I mean if you had and and let's put it this way, have you ever seen a shop, have you have you ever seen a shopping centre, a regional shopping centre advertised for sell? No? So that's not how it get's done. So I mean if I had to do it another way I suppose, it you know ... look I am sure if somebody uhm ... I am just laughing 'cause I am thinking of an investor who would be somebody who would buy a regional shopping centre their jaw would drop if they saw Cresta in in a newspaper or on on Property 24. In fact, I don't think they would believe it, you know. The just wouldn't believe it. but I mean it could be done. I think it would

Appendix 15: Open coding using NVivo ®



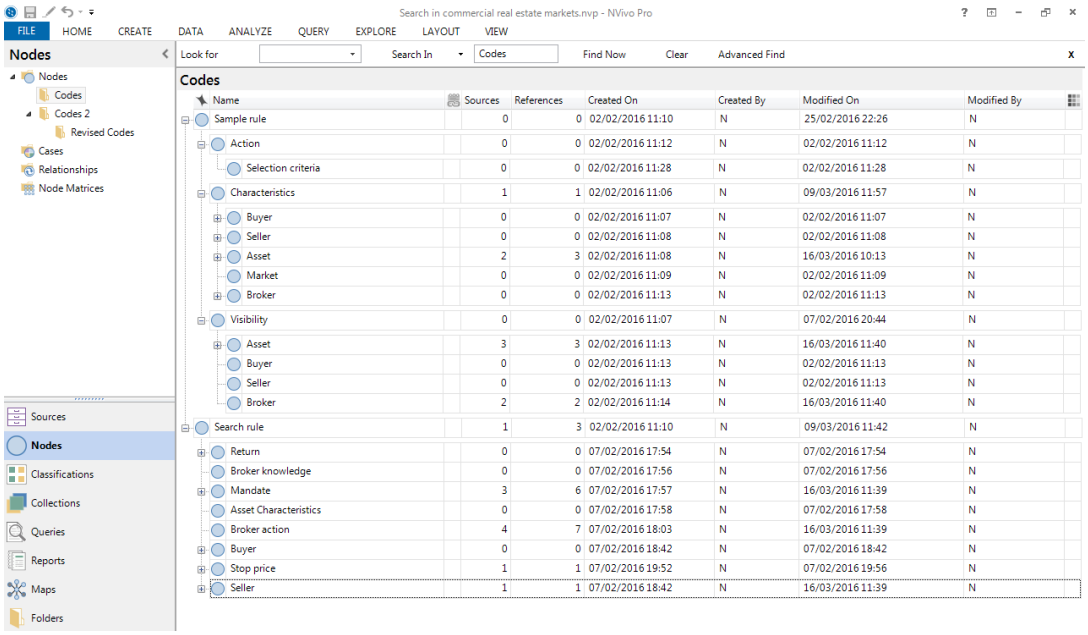
Appendix 16:Initial axial coding

Sample Rule

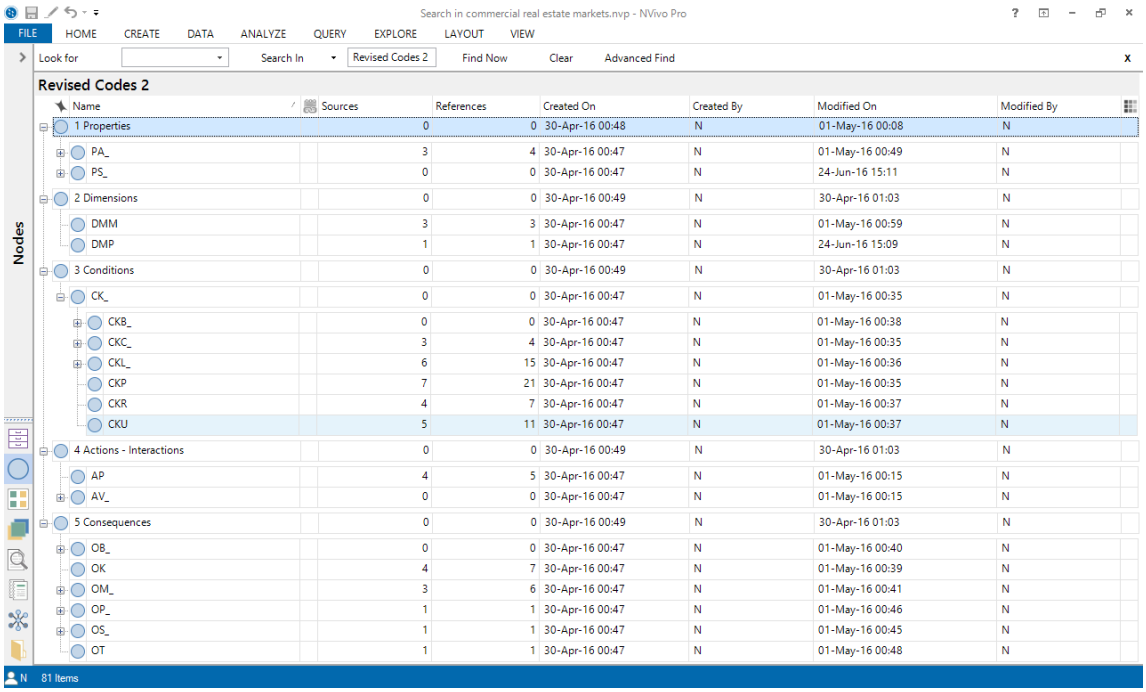
Code	Source	Indicator
Sample rule	<Internals\\151008_001-1-M> - § 2 references coded [1.57% Coverage]	
	Reference 1 - 0.42% Coverage	
	The owner would normally give you a net number that they want that they want to get or they will give you a cap rate ok.	Amount Cap rate
	Reference 2 - 1.15% Coverage	
	yes normally when I normally when I get what I believe to be an offer for market value uhm I will I will present it to the owner and normally I've normally what I believe to be market value because I mean I mean frankly investors ... it's rare for you to have an investor in your database who is gonna pay more than market value.	
Asset characteristics	<Internals\\151014_001-3-M> - § 1 reference coded [0.98% Coverage]	
	Reference 1 - 0.98% Coverage	
	If then we talk about the actual asset itself Bryanston, for argument's sake, A-Grade building, less than 5 years old, blue chip tenant in it. If it's 5 or 10,000 square metres, it's a very easy sale. Because most landlords who're private or listed property funds are geared for those kinds of transactions, and that's where their bread and butter is.	-Grade -Age -Tenant type -Size (lease)
	<Internals\\151022_001-5-M> - § 1 reference coded [3.50% Coverage]	
	Reference 1 - 3.50% Coverage	
	"How do we get assets if they want to sell them?". It again, we understand say the bigger listed funds, some we know, assets under [R]50m are considered non-core or office assets is something they don't like at the moment, and they're focusing more on retail and industrial. Therefore, if we bring them an offer on offices there's a strong likelihood that they might dispose of that. And it's .. working around meeting somebody who says, "I am looking for a B-Grade industrial asset" ok fine, or "4,000sqm in the south of Jo'burg." We then go back to that fund that we know mentioned, "we're moving out of industrial now, look at the financials, see .. do they have anything in that area the class bracket, that size and we go to them and say, "would you try on this?". You know, so when you look at it it's a dance.	-Investor Threshold -Investor Criteria -Matching
Class	<Internals\\151014_001-3-M> - § 1 reference coded [0.98% Coverage]	
	Reference 1 - 0.98% Coverage	
	If then we talk about the actual asset itself Brynastone, for argument's sake, A-Grade building, less than 5 years old, blue chip tenant in it. If it's 5 or 10,000 square metres, it's a very easy sale. Because most landlords who're private or listed property funds are geared for those kinds of transactions, and that's where their bread and butter is.	Grade

1

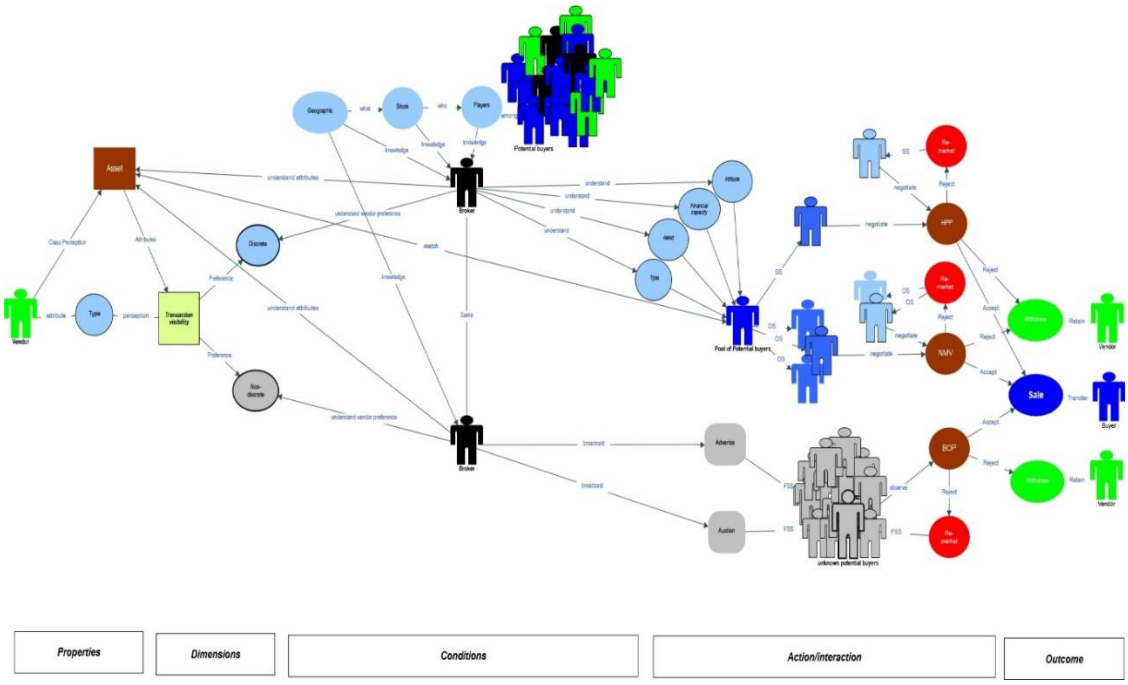
Appendix 17: Code management using NVivo 11 ® - Axial Coding



Appendix 18: Code management using NVivo 11 ® - Selective Coding



Appendix 19:Concept mapping using NVivo 11 ®



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