

# **Investigating the importance of non-financial determinants of owning or leasing industrial real estate in Gauteng.**

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in partial fulfilment of the requirements for the degree of  
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Management.**

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## Declaration by Student

I Dorica Daka Muchengwa (Student number: 1234326) declare that the research work reported in this research report is my own, except where otherwise indicated and acknowledged. It is submitted for the degree of Masters in Property Development and Management at the University of the Witwatersrand, Johannesburg. This research report has not been submitted either in whole or in part, in any previous application for a degree or diploma to any universities.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## Abstract

Corporate real estate is required by firms to operate business and this can either be owned or leased. Either option requires substantial amounts of money. Despite this fact most studies conducted have focussed on tangible corporate assets in general and not corporate real estate in particular, the reason put forward being that this asset type has diverse intangible aspects which makes the own or lease equation a complex one.

South Africa is the second largest economy on the continent and has a real estate market rivalling that of European countries by size; these facts are reason enough to support investigating the real estate market in detail. Gauteng Province accounts for 34.4% of the country's GDP and 23% of this is from the industrial sector.

This study, which is based on a 2011 UK study by Barkham and Park, sought to establish whether non-financial factors play a key role in the decision to own or lease industrial real estate in Gauteng Province.

The study used an empirical approach using Thematic Network analysis to explore the non-financial determinants of owning or leasing industrial real estate from data obtained from 4 firms.

Findings reveal that both financial and non-financial determinants are considered in the LVB decision for industrial CRE in Gauteng. Ranking of these factors showed that 3 of the four respondents ranked the non-financial ones first followed by some financial ones.

It is suggested that further research be conducted to cover a larger population i.e. industrial firms in the major cities with a large industrial presence country wide. Additionally one which includes different firm sizes and a mixed method for data collection and analysis.

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## List of acronyms

CRE	Corporate Real Estate
GDP	Gross Domestic Product
LVB	Lease versus Buy
NOI	Net Operating Income
NPV	Net Present Value
RE	Real Estate
TCA	Thematic Content Analysis
UK	United Kingdom

## CHAPTER ONE - INTRODUCTION

### 1.1 Background

The use of land, as part of business operations and associated activities is known as Corporate Real Estate (CRE) (Brueggman and Fisher, 2001 as cited in Ali, et al., 2008). This CRE can either be owned or leased. Since this is a factor of production in the general sense, it is important to know how a firm makes the decision whether to own or lease this resource. This is important because owning CRE involves substantial amounts of capital which the firm may source from its savings or from financial institutions. Leasing also comes with its own costs as it accounts for 40 to 50% of net operating incomes (Zeckhauser, 1983; Bell, 1987 as cited in Ali, et al., 2008).

The size of the South African property market rivals that of European countries such as Spain's Madrid, Italy, Brussels and Russia and hence warrants investigating (Jones Lang LaSalle, 2012). South Africa, at \$341.2 Billion is the second largest economy on the continent after Nigeria (Africa Ranking, 2016). Gauteng Province contributes 34.4% to the nation's Gross Domestic Product (GDP). 23% of this is from the Wholesale and manufacturing sectors forming part the industrial sector; this brings the total contribution to the country's GDP to 8% (Statistics South Africa, 2016).

### 1.2 Statement of the research problem

According to Barkham and Park (2011) a number of studies have been done to examine the financial as well as non-financial determinants of the own or lease decision for tangible corporate assets in general. However, corporate real estate is peculiar in that it has diverse intangible aspects which makes the lease or own decision a more complex one compared with the common tangible assets. These diverse intangible aspects cannot easily be incorporated in the lease or own decision making equation and this has resulted in little research with respect to the corporate real estate. These non-financial determinants include corporate strategy, locational analysis and real estate economics. Some of these characteristics relate to cost (involve large sums of money), illiquid (not easily exchanged for cash), take long to build, may have a long life span, immovable and heterogonous in nature (Mourouzi-Sivitanidou, Unpublished). The South African real estate market is of considerable size comparable to some in Europe; despite this important fact no research in this area has been conducted.

### 1.3 Research Questions

The following are the research questions which the research will attempt to answer:

- Are non-financial factors taken into account in making the decision to own or lease industrial real estate?
- What factors play a key role in the decision to own or lease industrial real estate?
- What strategic factors are considered in making the decision to own or lease industrial property?

- What level of importance is placed on strategic non-financial factors on the decision to own or lease industrial real estate?

#### 1.4 Research objectives

The purpose of this research is to explore the importance of strategic non-financial determinants of the lease versus own decision within the industrial sector in Gauteng province.

#### 1.5 Research Hypothesis

The hypothesis is as follows:

- Strategic non-financial factors do not play a significant role in the decision to own or lease industrial real estate in Gauteng Province.

#### 1.6 Structure

The proposal commences with a review of the previous research which identifies gaps as well the hypothesis to be tested in empirical study. This is followed by the research methodology to be used in the proposed study.

## CHAPTER TWO - REVIEW OF PREVIOUS RESEARCH

### 2.1 Introduction

The literature review will highlight various areas of research into the topic at hand. The discussion commences with theories behind the lease versus own decision; the link between corporate strategy and corporate real estate strategy will then be explored as well as the pros and cons of leasing or owning corporate real estate.

### 2.2 Corporate Real Estate Management

The management of CRE or Corporate Real Estate Management (CREM) as defined by Brown and Arnold refers to the optimum use of all real estate assets used by a firm in the pursuit of its primary mission (Ali, et al., 2008). Various studies have highlighted the importance of aligning CRE strategy to that of the firm so as to ensure that CRE supports the goals and objectives of the firm; this requires that various arms of a firm must work in tandem rather than in isolation as is the case in most firms (Bon, et al., 2002; Singer, et al., 2007; Gibler, et al., 2002; Lindholm & Leväinen, 2006; Carn, et al., 1999; Heywood & Kenley, 2008). These studies found that CRE is still considered as a mere cost of production albeit a costly one at that.

Then (1996) identifies four types of operational asset management models based on perceptions of senior management as being; the indifference response, reactive, proactive and finally the business resource. The last model views real estate as a resource which can create business opportunities. Roulac (2001), as cited in Ali, et al., (2008), proposes five evolutionary eras of CRE which are custodial, entrepreneur, administrative, managerial and finally the strategic era. The strategic era requires CRE to be more proactive and creative through support for the firm in order to aid it in achieving its business objectives. These views indicate the need to take a holistic approach in the management of all the firms' resources as it is only by doing so that the firm will achieve its corporate objectives. Hence all factors which have an impact on the firm must be aligned so as to achieve the firm's goals; this is achieved through formulation of corporate strategies.

According to Nourse and Roulac (2009) the vast majority of firms fail to explicitly consider how a specific real estate transaction relates to their real estate strategy, in worse cases they actually do not even have a formal real estate strategy. Findings by Lindholm and Leväinen (2006), however, found that executives believe that property and facilities decisions can create value for the core business in a number of ways such as providing a pleasant and productive physical workplace, providing responsive and high quality property services to internal customers. The challenge faced by these CRE executives was how to easily illustrate how CRE affects a firm's profitability either directly or indirectly. The study presented a practical way of showing how CRE can add value to a firm by using seven CRE strategies in various combinations. These are:

- Increasing the value of the asset
- Promoting marketing and sales
- Increasing innovation

- Increasing employee satisfaction
- Increasing productivity
- Increasing flexibility, and
- Reducing costs

In attempting to establish the reasons why CRE is not given the serious consideration it deserves by executives in non-real estate firms, some researchers argued against the traditional measurement of performance of using the Weighted Average Cost of Capital (WACC) insisting that CRE performance must be measured against the real estate industry performance indicators (Krumm & de Vries, 2003). The authors highlighted the peculiarities of real estate which make it different from other forms of investments.

### 2.3 Corporate Real Estate Decisions

As earlier indicated, the decision to own or lease CRE is an important one because of the amounts of finance involved. In the case of owning, CRE costs substantial amounts of money likewise with respect to leasing as research has shown that occupancy costs represent 40-50% of net operating income (Nourse & Roulac, 2009).

The issues of how decisions involving CRE are made by a firm depend on how the particular firm views CRE with respect to its overall objectives and goals. The way a firm regards CRE with respect to the support it provides, or lack thereof, to its core objectives and goals determines how CRE is treated. This is according to Park & Glascock (2010) who found that CRE can be taken as an operational commodity or strategic resource. A study by Singer et al (2007) which analysed the CRE strategies against competitive strategies in non-real estate firms showed that those firms which required that their CRE enhance their competitive advantage in the market made careful considerations when making decisions regarding their CRE. The study identified three competitive strategies (lowest cost, differentiation and focus) against which four CRE strategies (incremental, valued-based, standardisation and competitive) were matched. The incremental strategy uses *spaces in bits and pieces* or as needs arise and the primary concern is the provision of space requirements. The value-based strategy uses the RE to express the firms' values and strategic direction i.e. the physical setting of the RE will symbolise values and in turn influence employees and customers' behaviour while the buildings communicative power expresses the corporate image. This strategy thus considers the firms' relationship with its employees, customers and the community at large and this is expressed in its corporate objects. The standardisation strategy seeks to control and coordinate facility design and RE operations across the entire organisation. As such one of the basic characteristics of this strategy is the predictable use of RE and its focus is on the control of business effectiveness, costs and employees' behaviour. The competitive strategy (based on Porter's work on the subject) is based on the tenet of "*sustainable competitive advantage*" which is based on the premise that such firms have capabilities and competencies which enable them to produce goods and services which the market is willing to buy (Porter, 1996, 2004a-b, cited in Singer, et al., 2007)

It was found that the incremental CRE strategy which viewed CRE as a cost of production and thus acquired either by leasing or owning as required in bits and pieces, did not support any of the three competitive strategies; the standardisation strategy on the other hand supported all the three competitive strategies.

Some authors have explored the theory that firms must focus solely on their core business in order to achieve success in their chosen field. Consequently, non-real estate firms should not own real estate because they are not in the business of managing real estate (Ghyoot, 2003; Deng & Gyourko, 1999). This is also highlighted by Willis (2008) whose study in Australia found a lack of emphasis on CRE in non-real estate firms; this had the subsequent result of there not being a defined method of determining the value of said properties which resulted in under-use of the CRE. Nourse and Roulac (2009) also echo this theory in their study which revealed a lack of interest in relating a firms real property assets to the overall strategies guiding their business; the firms in question were solely focussed on their core business and thus saw CRE as a resource rather than an asset. Porter's framework on how competitive forces impact strategy does not specifically include issues of how CRE as a resource is treated but some authors have made connections in discussing the paradigm shifts within the overall thinking of management regarding corporate real estate (Nourse & Roulac, 2009).

## 2.4 Factors considered in the Lease versus Buy Analysis Model for Corporate Real Estate

### *Financial Factors*

According to Barkham and Park (2011) financial considerations take the upper hand when a firm needs to take the decision whether to lease versus buy CRE. It is precisely because of this finding from their review of literature that they were prompted to research into the importance of non-financial determinants of the lease versus own decision by non-real estate firms. Their review of literature shows that non-financial determinants of leasing or owning have been done for corporate real assets in general but not specifically for real estate. Real estate cannot be easily incorporated in the lease or own decision-making equation due to its peculiar nature i.e. it possesses intangible aspects. This differentiation may be the reason for lack of inclusion. Gyhoot (2003) has advanced similar findings regarding the issue of financial considerations taking precedence in a lease or own decision-making scenario.

The financial factors bearing on the lease versus buy decision include wealth creation for the firm and its shareholders through increased net operating income, risk reduction, as well as tax incentives (Edward Graham, et al., 2014 & Allen, et al., 1993). Arnold and John (1991) in their research to establish the financing methods used by executives in the lease versus own decision as well as the appropriateness of said methods used found the following as the top three analytical methods being used:

- (a) Net advantage of leasing
- (b) Comparison of cashflows
- (c) Comparison of net income

An important variable used in the above methods is the discounting rate as use of a wrong rate can make a viable investment appear unfeasible hence methods used to estimate it are critical; the top four discount rate estimating methods found in the study, in order of popularity, are as follows:

- a) Weighted average cost of capital
- b) After tax cost of debt
- c) Before tax cost of debt and
- d) Rate of return on new investments

Another option considered was the sale and leaseback; this is where a firm sells its RE and simultaneously enters into a lease contract with the new owner (Fisher & Webb, 1992). The top three evaluation methods were found to be:

- a) Comparison of present values of proceeds and costs
- b) Cash flow from sale lease-back
- c) Estimation of net income from sale leasebacks

Whichever of the two options (between leasing and owning) yielded a higher NPV would be chosen.

Another financial consideration is the wealth creation propensity of a particular decision (lease or own). According to Allen et al (1993) leasing creates value by increasing current cash flows or reducing the firms overall risk where value is determined by Net Operating Income (NOI) divided by the cap rate; the cap rate being affected by the level of risk such that the higher the risk the higher the cap rate and vice versa; hence any actions by the firm which reduce this risk, keeping the NOI constant, reduces the risk and consequently increases the value of the firm. The topic of wealth creation with respect to leasing has also been investigated by Redman and Tanner (1989) who reviewed the own versus lease decision-making procedures followed by corporate executives; their research sought to determine the popular mathematical methods used. Sharpe and Nguyen (1995) investigated the capital market imperfections and the incentive to lease and concluded that the share of total annual fixed capital costs attributable to either capital or operating leases is substantially higher at lower-rated non-dividend-paying, cash poor firms; those likely to face relatively high premiums for external funds.

Other authors have looked at corporate real estate's impact on shareholder value and found that conglomerate discounts and abnormal returns are achieved by firms selling off their real estate holdings thus supporting leasing; consequently it was found that firms holding significant amounts of real estate assets significantly under-perform compared with benchmark thus making them possible take-over targets (Ekberg & Evensen, 2007). They, however, do not explain the reason for this under-performance but theorised that it could be attributed to the under-management of CRE by firms whose core business is not real estate. Similar findings were made by Nourse (1994) and Liow (2004). Ezzell and Vora (2001) in their research to determine the relationship between a lessees' economic gains from leasing and his effective tax rate as well as his external financing costs found that average announcement period returns are positive for sale and lease-backs and zero for

direct leases. On the issue of tax they found that in sale and lease-backs the lessees' tax rate is significantly negatively related to lessees' return (the lower the lessees tax rate the greater the return from the sale and leaseback). Seiler et al (2001) in testing the modern portfolio theory of diversification, found that firms did not derive significant benefit through diversification by owning significant amounts of real estate. It must be noted that the authors included a caveat to the effect that more research was required before generalised statements could be made on their findings. Sale-lease backs have been found to provide benefits for the seller thereby supporting leasing (Slovin, et al., 1990 and Rutherford, 1990). Another study into the wealth effects of CRE was conducted by Fisher (2004) to investigate the phenomenon of sale and lease-backs as one way in which firms may contract to rearrange their organizational architecture revealed that firms may use sale and leasebacks to optimize their claims to real estate. The model they produced predicted that firms would choose shorter lease terms when positive wealth gains existed relative to continued ownership of an asset.

Lasfer (2007) put forward other financial determinants which include debt reduction, growth financing and conservation of liquidity. The issue of debt reduction presupposes financing of the purchase through loans while conservation of liquidity refers to a situation where the firm uses savings to finance the purchase. It is suggested that firms use the financial resources for expansion and growth rather than having it held in the CRE which is an illiquid asset. Grenadier (1995) in a paper which provided a unified framework for determining equilibrium lease rates found that the rental payments made by firms were substantial even when compared with the interest expense incurred on all debt.

Golan (1999), in exploring the myths surrounding the own versus lease decision discusses various reasons surrounding the decision finally made; he discusses both financial and non-financial determinants. These include tax incentives of leasing over owning where amounts paid are fully deductible under this option unlike owning; gives an advantage of owning in that in the long run owning was cheaper than leasing which starts out cheaper; synthetic leases which are seen to take into account the advantages of both ownership and leasing; accounting issues which could be adopted by owner-occupiers to make full use of owning the CRE; the use of ownership as a hedge against inflation because whilst rentals will most likely continue increasing due to inflation effects, this is not the case when one owns the asset. Glascock et al (1989) in their analysis of the acquisition and disposition of real estate assets found that ownership did not offer the market any unique opportunity to earn excess return while dispositions only offer weak positive returns. Louko (2004) in his study concluding that by restructuring corporate RE holdings and asset management, firms can usually cut costs, decrease risks related to RE functions and increase revenue streams by creating better support to the core business. Manning (1991) researched leases with residual equity interests with respect to the lease versus own decision and also focussed on the financial aspects. The research involved interviewing a number of executives within the real estate industry; one of the findings was that there was a general agreement among the interviewees that occupancy costs could be reduced through leases with residual equity interests.

The issue of tax with respect to advantages of leasing over owning has also received academic attention. Graham et al (1998) investigated debts, leases taxes, and the endogeneity of corporate tax status. One of their findings was that the propensity to lease (use debt versus a firm's own financial reserves) increases with the expected costs of financial distress and that low-tax rate firms tended to lease more than own CRE. Additionally, due to complicated tax regulations the benefits resulting from tax incentives were not normally realised by corporations. Benjamin et al (1998) in their study propose that there must be some advantage accruing to the lessor who continues to lease property despite the existence of asset abuse by tenants as well as under-maintenance of the asset; they theorised a number of advantages accruing to the tenants which include taxes, differential access to finance, economies of scale asymmetric information as well as other agency factors. Smith and Wakeman (1985) highlighted the importance of eight non-tax determinants of leasing. These included non-financial determinants such as a short period of use, lessor possessing market power, lessor having comparative advantage in disposal of the asset and if the asset is not specialised to the firm.

Slovin, et al (1990) in their study to establish the effect of corporate sale-and-leasebacks on shareholder value found that significant savings can be achieved from tax when a firm is leasing its CRE where the direction of the tax effect depends on the specific asset life and relevant depreciation and capitalisation rates. Yet another tax-related finding is that low tax rate firms lease more than high tax rate firms; this may also be understood to mean that smaller firms are more likely to lease than own (Graham, et al., 1998).

#### *Non-financial factors*

One of the studies carried out by Ghyoot (2003) to investigate whether theory matched practice with respect to factors influencing the lease versus own decision found financial determinants carried more weight. Brounen and Eichholtz (2005) in their investigation of the international performance evidence of corporate real estate ownership implications found that both financial and non-financial factors have a bearing on the ownership decision. One of their key findings was that CRE ownership is driven more by industrial characteristics than the country of origin.

Barkham and Park (2011) highlighted the need to consider the non-financial determinants and found that factors such as corporate strategy, locational analysis and real estate economics need to be considered in the lease versus own decision. Their research was based on 1998 data on industrial real estate in the United Kingdom. This is the reference study which is proposed to be undertaken in South Africa specifically within the confines of Gauteng Province.

## 2.5 Intangible Aspects of Corporate Real Estate

A discussion of the intangible aspects of CRE requires looking at the characteristics of the particular real estate, the firm in question as well as the external market forces directly impacting on the firm. This is important because although these aspects have no physical form they add or can dissolve value from real estate; examples include view(s), neighbourhood or location, proximity to transportation, leases, access to the site etc.

(AICPA, 2015). This analysis gives insight into the factors that influence the lease versus own decision.

Brueggeman et al (2006) and O'Mara (1999) as cited in (Barkham & Park, 2011) put forward the following aspects as having an effect on the decision to own or lease real estate property.

#### *Characteristics of the firm*

Firms that require high levels of customisation, of their premises, relative to the value of the building are more likely to own rather than lease. Additionally, if a long term operation is envisioned a firm is more likely to own rather than lease. This position is also supported in the findings by Ghyoot (2003) in his research on the theory and practice of the lease versus own decision.

#### *Size of the firm*

If a company's space requirements are relatively small, leasing is most probable because they will not be able to make efficient use of the increased space; larger firms will then be more likely to own as they can use all the space within a building and may even lease out the remaining portion to smaller firms. Ghyoot (2003) also found this to be the practise in his research.

#### *Financial position of the firm*

Another aspect dealing with firm size is with respect to risk of capital investment as larger firms (by value) are likely to be better able to absorb the impact of the required capital needed for the purchase of real estate. This might not be the case for smaller companies who may need to resort to borrowing from financial institutions at high financing costs. Additionally, firms with a more widespread operational base are likely to lease as they can easily close shop should the local economy no longer be favourable and move to another location.

#### *Maturity of firm*

The more mature a company is, by way of stable sales, demand and established production lines the more likely it is to own corporate real estate than those who are just entering the market.

#### *Local market conditions*

These refer to the supply and demand as well as cultural dynamics of the local market. A market perceived as hostile will not encourage ownership as firms will not have the required security of business. The firm may feel the need to be ready to pack and leave should any hostilities breakout; this will be easily achieved if the corporate real estate is leased rather than owned as it will reduce any losses suffered. This theory was also highlighted by Ghyoot (2003)

The foregoing theories indicate that both financial and non-financial factors need consideration when making the lease versus own decision, however, studies on what the current practise is shows that financial factors are more heavily weighted.

## 2.6 Research Gap

The foregoing has shown the weighting given to financial determinants on the lease versus own decision of CRE despite theory suggesting the importance of taking into account non-financial considerations since they have a critical bearing. Studies identified reveal that despite academic literature proposing the need to take a holistic view, research has not been done to conclusively determine whether this is actually being carried out in practice. Some research questions which can be asked would be whether non-financial determinants are considered when making the decision to lease or own CRE in the industrial sector. Additionally whether there are any non-financial barriers to owning CRE by those leasing?

## 2.7 Conclusion

The foregoing has highlighted the various research on the topic of leasing versus owning CRE. It has been found that academic literature suggests the importance of firms to consider CRE strategy which supports the overall corporate strategy of the firm; such a strategy will ensure that decisions to lease or own CRE will take into account its impact on the overall corporate strategy. Research into theory and practise reveals that the financial motivations most frequently determine whether a firm leases or purchases its CRE.

Further, most of the research considering non-financial determinants of leasing versus owning has been of a general nature i.e. no specific focus on a real estate market. Additionally, recent research has indicated that for firms to maintain competitive advantage it is important to ensure that all the resources are aligned to meet the overall corporate goals and objectives. There is thus a need to establish CRE strategies that work in tandem with the firms competitive strategies.

The industrial sector in Gauteng Province of South Africa contributes 8% to the country's GDP. Further, the fact that the country has the second largest GDP on the continent makes an investigation into the non-financial determinants of the lease versus buy decision worth conducting.

It is proposed that following identification of the gap in knowledge as well as establishing the importance of the industrial sector in South Africa as a whole and Gauteng Province in particular, research should be done to determine the importance attached to strategic non-financial factors when making the lease or own decision. Additionally to establish whether there are challenges present which prevent the industrial firms from taking into account these non-financial determinants as part of their decision-making process with respect to either leasing or owning CRE.

## CHAPTER THREE - METHODOLOGY

*“Qualitative analysis transforms data into findings”*

Michael Quinn Patton (2002 in Schutt, 2014)

### 3.0 Introduction

The methodology chapter explains how the research questions presented in the preceding chapter shall be answered (Rudestam & Newton, 2007). The design of the research is aimed at answering the research questions. Since this research is a replication of one conducted in 2011 by Barkham and Park on Industrial property in the United Kingdom; the approach used in the study referred is adopted for this research. This study used a cross sectional survey methodology with the purpose of determining which strategic non-financial factors play a role in the decision to own or lease industrial real estate as well as the relative importance placed on these factors. The chapter is organised as follows: The first section discusses the subjects or participants, followed by the instruments to be used after which the procedures to be followed were explained.

### 3.1 Research Methods used in this Problem Area

Previous research, which has covered financial factors affecting the decision to own or lease corporate real estate, in this area, have mostly used quantitative methods of analysis. Edward Graham, et al (2014) used proprietary data for the years 1995 – 2010 for closely held firms with which they created a regression model. Their findings did not reveal any continuing positive benefit of CRE for the value of a closely-held firms. Barkham & Park (2011) collected data using questionnaires and also created a logistic regression model; their findings were that non-financial factors play an important role on the LVB decision. Lasfer (2007) collected data from a total of 2343 UK quoted firms which resulted in 14101 time pooled series and cross-sectional observations which were analysed descriptively. Their findings were that large and high growth firms were likely to lease rather than own CRE. Ezzell & Vora (2001) obtained data from the Dow Jones Interactive Service for the period 1984 – 1991 which they then used to create a regression model. They provided evidence on the possible sources of lessee equity value changes when leasing contracts are announced. Sharpe & Nguyen (1995) empirically analysed compustat data from Standard and Poor for the years 1985 – 1991. They argued that firms facing high costs of external funding can economise on such costs by leasing rather than owning.

Others have done desktop studies with qualitative analysis. Golan (1999) does a desktop analysis of the myths surrounding the own versus lease decision while Benjamin, et al. (1998) reviewed existing research on the topic and later formulated a model that characterised the conflicts of interests between landlords and tenants and ultimately demonstrated the incentive on the tenants part to under maintain and over use the leased property. Grenadier (1995) carried out a desktop study after which he developed a unified framework for pricing a wide variety of leasing

contracts. Fisher & Webb (1992) conducted a desktop review of current literature with one of the issues being the rationale for ownership of CRE. Smith & Wakeman, (1985) also conducted a desktop analysis of existing literature on incentives affecting the LVB decision as well as explain the observed variation in corporate leasing policy.

Others, still, have used interviews and case studies (Ghyoot, 2003;Manning, 1991). Ghyoot (2003) discussed the qualitative aspects of LVB decision as well as general considerations during the financial analysis. Manning (1991) reported informal findings from over 30 interviews with corporate real estates executives regarding leasing corporate operating space while retaining an equity interest in the residual value of the leased property.

### 3.2 Research Paradigm

Bhattacharjee (2012) defines a paradigm as a belief system or a cluster of beliefs guiding the way things are done and can range from thought patterns to action. These thought patterns influence what and how research should be done as well as how analysis of the results should be done. He presents three research paradigms as being (1) positivist. (2) Post-positivist and (3) Interpretivist. The positivist paradigm is concerned with the application of natural sciences to the study of reality through manipulation and observation with its main tenet being that knowledge creation is limited to that which can be observed and measured scientifically. The post-positivist view is completely opposed to the positivist approach, having its main tenet as that reasonable inferences can be made about a phenomenon through a combination of empirical observation and logical reasoning. An alternative approach to the positivist thinking is the interpretivist paradigm which considers that people and their institutions are fundamentally different from that of natural science. Its main theory is that the best way to study is through subjective interpretation of participants' responses and perceptions; it adopts a more personal and flexible research structure unlike the positivist approach which uses a rigid structure.

The proposed research seeks to observe the phenomenon and then scientifically measure the findings; additionally, it is not concerned with the creation with theory but rather the testing of theory. In light of the foregoing the research paradigm appropriate for this research is positivist in nature.

### 3.3 Methodology

According to Bhattacharjee (2012), the research process is made up of three phases which are iterative in nature; these are observation, rationalization and validation. The observation phase involves the selection and observation of a particular area of interest; during the rationalisation phase a researcher endeavours to logically make sense of the phenomenon under consideration by carefully studying its various components, this process may lead to the creation of new theories; the validation stage involves the testing of existing theory using scientific methods and may lead to the modification or extension of existing theory.

In this research the process of observation began with the selection of an area of interest, being factors having a bearing on the decision to own or lease industrial real estate in general. The finding was that theory suggests that both financial and non-financial factors are important in the decision-making process; however, literature review revealed a lack of empirical evidence with respect to the importance of strategic non-financial determinants in the decision-making process. Subsequent to this, a problem statement was identified following which research questions and objectives were identified; answering the research question will guide the rest of the research process.

The research design which is described by Bhattacharjee (2012) as the blue-print of the activities to be done in order to answer the research questions, comprises the overarching processes of rationalisation and validation. The rationalisation stage involves designing instruments which were used to collect data as well as identifying the specific phenomenon i.e. the population to be studied. Additionally, data collection methods need to be identified. The validation phase involved the application of scientific methods to analyse the data collected. This process culminated in the preparation of the research report which explained the findings and conclusions of the study.

The original research was intended to be a replication of the one conducted by Bharkham and Park in the United Kingdom in 2008. As such it was to culminate in the formulation of a mathematical model – a logistic regression model with the dependant variable being the LVB (lease versus buy) decision of industrial properties in Gauteng province. However, due to poor responses from participants this approach was abandoned as the sample size for a regression model needs to be sufficiently large to enable generalisation of results. Collecting an insufficient number of responses may impact on the predictive power of the model. It was then decided that a qualitative approach would be used; interview questions were prepared which meant increasing the original number of questions for the original study. Some of the questions were modified so that they were more open-ended. Proponents of qualitative research argue that data collected in this way is often richer as it does not limit the participants responses to those provided by the researcher i.e. the participants are able to provide more information on the subject than would be the case if they were only give optional answers which would be limited by the researchers own knowledge (Olorunjuwon, 2016)

In light of the foregoing, the sampling as well as data analysis had to change to embrace the new strategy. The following discussion on sampling and data analysis is a result of the changed circumstances to the methodology of the research.

### 3.4 Sampling

The process of sampling is concerned with determining a portion of the population about which one wishes to make inferences. This is important because due to time and cost constraints as it is not possible to select each and every member of the population (Berenson, et al., 2012).

The first step in the process is to define the frame, which is a list of items making up the population; a sample is then drawn from this frame. Berenson et al (2012) identify two types of samples as Probability and Non-probability. The former entails the selection of items based on known probabilities while in the latter, selection is done without knowing the probabilities. Despite having the advantage of convenience, speed and low cost, non-probability sample have the glaring disadvantage of a lack of accuracy due to selection bias as well as the fact that findings cannot be used for statistical inference. The advantage of probability sampling is that generalisations can be made from findings (Bhattacharjee, 2012).

The systematic sample, which falls under the probability sample type, was used to create the sample.

#### 3.4.1 Target Population

The target population are industrial firms who are either owner-occupiers or leasing real estate based in Gauteng Province regardless of size.

#### 3.4.2 Accessible Population

Due to the absence of a reliable registry of industrial firms in the province the study was open to all industrial firms who qualify to be in the target population.

#### 3.4.3 Limitation of Sampling Method

Bhatterjee (2012) notes that surveys maybe subject to respondent biases where by subjects choose socially desirable responses rather than true ones. This is due to the non-temporal nature of field surveys.

These are limitations placed on the study by the researcher (Rudestam & Newton, 2007). The study is limited to industrial firms who are owner occupiers or tenants. This delimitation is important so as to make the data collection possible within the available resources of time and cost.

### 3.5 Data Collection

The research design is essentially the framework for data collection and explains the method/s to be used. The choice of method depends on the research paradigm chosen for the study. Bhattacharjee (2012, p. 38) states that positivist designs seek to test theory through objective views of reality while interpretivists “*seek subjective interpretations of social phenomenon from the perspective of the subjects involved*”. Positivist methods include (1) Laboratory experiments (2) field experimental (3) Field Survey (4) secondary data analysis and (5) case research while those used for the interpretivist paradigm include (1) case research (2) phenomenology and (3) ethnography.

As this research falls under the positivist paradigm, the field survey method will be used. This method “*captures a snapshot of practises, beliefs and situations from a random sample of subjects*” (Bhattacharjee, 2012, p. 39).

### 3.5.1 Instrument

The instrumentation in the original study allowed for a quantitative analysis to be made but since this one is qualitative in nature amendments were made. These amendments relate to inclusion of some open-ended questions which solicit opinions of the participants and thereby allow for a qualitative analysis of the data.

The research tool which was used was a questionnaire survey which is described by Bhattacharjee (2012) as consisting of a set of questions intended to capture responses from respondents in a standardised manner. Bhattacharjee writes that the survey method is best suited for data collection where individual people are the unit of analysis. It is appropriate in this research because the questionnaire was filled in by a specific company representative.

The response format had a combination of closed and open-ended questions. Open-ended questions provided the respondents the opportunity to structure their answers in their own way.

### 3.5.2 Distribution Procedure

A Participation Information Sheet or introductory letter was written to the participants. The purpose of this letter is to summarise what the research is about, outlines any promises (anonymity and confidentiality) and what is required of the participants (University of the Witwatersrand, 2016). This introductory letter was prepared to accompany the questionnaire link and emailed to the participants. Phone calls, which were kept short, were made to the respondents within a few days of emailing the questionnaire link as an additional way to request their participation. The questionnaire link allowed the participants to open it in the data collection application called Qualtrics where they were able to answer the questions. This method has the advantage of being cost effective and has been proven to have a higher response rate over mailed surveys (Bhattacharjee, 2012).

### 3.5.3 Dealing with Non-Respondents

Bhattacharjee (2012) notes that response rates for survey studies tend to be notoriously low giving a range of 15-20% for mail surveys even when two to three reminders are made. He suggests a number of strategies to improve the response rates as follows:

- (a) advance notification
- (b) Relevance of content
- (c) Short respondent content questionnaires
- (d) Endorsement by senior executive with respect to firms.
- (e) Follow-up requests, either by email or telephone.
- (f) Confidentiality and privacy

The above strategies were used to improve the response rate.

### 3.5.4 Limitation of Data Collection Instrument

Proponents of the mixed method methodology state that one of its advantages is that it eliminates the short comings of the independent methods i.e. qualitative or

quantitative methods (Olorunjuwon, 2016). Some of these limitations include the rigidity of the questionnaires which limit contributions from the respondents i.e. they are not allowed to share their views on a subject beyond the questions in the data collection instrument; this may lead to a narrow view point as research questions are limited to the researchers' knowledge. Further, as quantitative methods yield numerical results, details about attitudes, emotions and behaviour are not established i.e. binary responses in the instrument will not give reasons why a 'yes' or 'no' response was given; this suppresses discovery which is needed to add to the body of knowledge or the subject. Additionally, it is difficult to establish truthfulness in the respondents' responses.

However, by using open –ended questions it is hoped that the data collected provides a richer description of the phenomenon rather than purely the measurement of specific variables

### 3.6 Data Analysis

Bhattacharjee states that positivist methods which include laboratory test and surveys are aimed at hypothesis testing while interpretive ones are for theory building. Additionally, positivist methods rely on quantitative data while the other on qualitative data. Consequently, the nature of the research objectives determines the data collection and analysis methods used.

In order to establish which method to use it is important to understand the objectives of the research.

- Objective 1: determine which strategic non-financial factors play a role in the decision to own or lease industrial properties.
- Objective 2: Determine the relative importance placed on these strategic non-financial factors.

The objectives suggest an existence of a relationship between said strategic factors and the overall decision to own or lease industrial property. Additionally, the study aims to establish whether other factors are prevalent in the market.

#### 3.6.1 The logistic regression model

##### *The tested model*

The 2011 study by Barkham & Park identified 27 variables of which 13 were significant at 6% significance level. This means that these 13 variables explained the behaviour of the dependent variable which is, the decision to either own or lease industrial real estate. The model is presented in Table 1 below:

Table 1 Predictor variables in the tested logistic regression model

Variables	B	SE	Wald	df	Sig.	Exp (B)
Step 1						
LocSouth	-0.568	0.157	13.123	1	0.000	0.567
LocPurch	0.467	0.172	7.377	1	0.007	1.596
LocSkill	0.344	0.151	5.202	1	0.023	1.410
LocPubTrans	-0.261	0.137	3.625	1	0.057	0.770
LocProminent	0.736	0.14	27.583	1	0.000	2.089
SiteEmployees1	0.339	0.195	3.027	1	0.082	1.403
SiteEmployees2	0.843	0.274	9.447	1	0.002	2.323
SiteEmployees3	1.245	0.34	13.371	1	0.000	3.473
SiteEmployees4	2.415	0.455	28.22	1	0.000	11.194
SiteSecurity	0.521	0.175	8.844	1	0.003	1.684
SiteMultiTenant	-1.392	0.275	25.701	1	0.000	0.249
CompEmployees1	0.368	0.196	3.516	1	0.061	1.445
PrefOwn	1.968	0.16	151.886	1	0.000	7.159
Constant	-2.349	0.479	24.003	1	0.000	0.095

Source: (Barkham & Park, 2011)

Where:

LocSouth - refers to the location of the site (in this case in the south of the United Kingdom)

LocPurch - whether the site is located close to key purchasers

LocSkill - whether the site is located close to a source of skilled labour.

LocPubTrans - Whether site provides easy access to public transportation.

LocProminent - whether a site's location is visibly prominent.

SiteEmployees1-4 - indicates the number of employees working at the site.

SiteSecurity - indicates the existence of high security requirement at the site

Multitenant - whether the company is situated on a multi-tenant site.

CompEmployees1 - indicates the size of the entire company

PrefOwn – Indicating the existing preference of companies with respect to tenure.

### 3.6.2 Data interpretation

The logistic regression model of the original study found that locational characteristics, size of operations, as well as physical attributes of the real estate, were significant in indicating a relationship with the LVB decision. This study aims to test whether this holds true for Gauteng province. Additionally, the study seeks to establish whether there are other factors which have a bearing on the LVB decision which were not established in the original study. This was achieved through use of open-ended questions where the respondents were given an opportunity to indicate their experience.

The aim of this analysis is ultimately to answer the research questions based on the chosen research design. The analysis will be by way of Thematic Content Analysis (TCA) which is a tool in qualitative analysis (Attride-Stirling, 2001). She defines TCA as a simple way of organising a thematic analysis of descriptive data and that it seeks to unearth themes salient in a text at different levels as well as facilitating the structuring and description of said themes. Additionally, TCA is a technique useful for 'breaking up' text and finding within it explicit rationalisations and their implicit significance.

Attride-Stirling (2001) goes on and identifies three classes of themes i.e. basic, organising and global. The basic theme is the lowest order and is a statement of beliefs anchored around a central notion which contributes towards the signification of a super ordinate theme. These are simple premises of characteristics of the data which on their own say very little and thus need to be read within the context of other basic themes; at this stage they represent the organising themes which are of the middle order and organise the basic themes into clusters of similar issues. These summarise the principal assumption of a group of the lower order themes and reveal more of what the text is saying. Their role is to enhance meaning and significance of broader themes and ultimately constitute a global theme. The global theme is the highest order and encompasses the principal metaphors in the data as a whole. They group sets of organising themes to present a position of assertion about a given reality. They thus explain what the text, as a whole, is all about.

Attride-Stirling (2001) further explains how a thematic network is developed from basic themes working inwards towards global themes in the following way:

- Once a collection of basic themes has been derived, these are then classified according to the underlying story they are telling thus becoming organising themes. These organising themes are then reinterpreted in light of their basic themes and brought together to illustrate a single conclusion: the global theme.

The author goes on to state that thematic network serves as an organising principle as well as an illustrative tool in the interpretation of the text thus facilitating disclosure for the researcher and understanding for the reader.

#### Thematic network analysis

Analysis is done using the following analytic steps:

1. Data reduction
2. Text exploration
3. Text Integration

These steps are further divided into additional steps as indicated in Table 1 below:

*Table 2 Analytic steps for thematic network analysis*

<b>Data reduction</b>	<b>Text exploration</b>	<b>Text integration</b>
Coding the material	Description & exploration of	Interpretation of patterns

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	thematic network
Identification of themes	Summary of thematic network
Construction of thematic network	

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### 3.6.2.1 Data reduction

#### *Coding the material*

Data is dissected into manageable and meaningful text segments by using a coding framework in two steps:

- a. Devise a coding framework on the basis of the theoretical interests guiding the research questions or on salient issues arising in the text or both. This may be based on the research and thus may be centred on pre-established criteria (through specific topics/words), on recurrent issues in the text or a set of theoretical constructs. These should be explored in a systematic way.
- b. Dissect text using the coding framework by applying codes to the textual data thereby dissecting it into segments such as passages, quotations, single words or other criteria; these should be meaningful and manageable chunks of text. This dissection should be done with great rigour and attention to detail. Codes within the framework must have explicit boundaries (definitions) so that they are not interchangeable or redundant. Additionally, the codes must be limited in scope focusing explicitly on the object of the analysis.

#### *Identifying themes*

At this stage, themes are abstracted from the coded text segments in two steps:

- a. Extract salient or common or significant themes in the coded text (done by going through the text segments). This allows for the reframing of the reading of the text and enables the identification of underlying patterns or structures.
- b. Refine themes by going through them and further refine them into themes which are:
  - Specific enough to be discrete (non-repetitive)
  - Broad enough to capture a set of ideas contained in numerous text segments.

This exercise reduces data into even more manageable sets of significant themes succinctly summarising the text.

#### *Constructing the networks*

The themes identified provide the fountain-head for the thematic network.

Construction of the networks is done in the following six steps:

- a. Arrange themes into similar coherent groupings i.e. themes about X and ditto about Y etc. Decisions about how to group themes should be made on the basis of content and when appropriate, theoretical grounds.
- b. Select the basic themes – this involves re-naming of the original sets of themes.
- c. Rearranging into organising themes – clusters which are centred on larger shared issues are created.
- d. Deduce Global themes – the main claim argument or assumptions are summarized. Should more than one grouping of themes been made in (a) above, the procedure is repeated for each grouping and a distinct Global theme constructed for each set.
- e. Illustrate as a thematic network – these are shown as non-hierarchical web-like representations
- f. Verification and refining of the networks – text segments are revisited for each Basic Theme to ensure that (i) the Global Themes, Organising Themes as well as Basic Themes reflect the data and (ii) That the data supports the Basic Themes Organising Themes and Global Themes, adjustments being made as necessary.

### 3.6.2.2 Text Exploration

#### *Describe and explore the thematic networks*

This stage requires the researcher to return to the original data to interpret it with the aid of the constructed networks. This is done by:

- a. Network description – the contents of the networks are described
- b. Explore the network – Exploration is done and underlying patterns which begin to appear are noted

At this point the text is read through the Global, Organising and Basic themes hence the Thematic Network becomes a tool for both the researcher and reader; the latter is now able to anchor the researchers' interpretation on the summary provided by the network. Text segments from the original transcripts can be presented in order to support the analysis.

#### *Summarize the thematic network*

The objective here is to summarize the principle themes that begin to emerge in the description of the network as well as begin to make explicit the patterns emerging from the exploration.

### 3.6.2.3 Integration of Exploration

#### Interpret patterns

The aim here is to return to the original research questions and the theoretical interests underpinning them: the research questions are now addressed with arguments grounded on the patterns that emerged in the exploration of the texts. This is done by bringing together the deductions in all the network summaries and

the relevant theories. The summaries and theory are then used to explore the significant themes, concepts, patterns and structures that arose in the text.

### 3.7 Reliability and Validity

Bhattacharjee (2012, p. 55), states that *“reliability and validity are the yardsticks against which adequacy and accuracy of the measurement procedures are evaluated”* and jointly calls them the psychometric properties of measurement scales.

Reliability simply explained is the *“extent to which data collection procedures would produce similar results every time under the same conditions and are free from random error”* (South African Council For The Quantity Surveying Profession, 2013, p. 34). According to Bhattacharjee (2012) reliability only implies consistency but not accuracy. He proposes methods of ensuring reliability in instruments as (1) using data collection techniques less dependent on researcher subjectivity and more on objectivity like questionnaires (2) ensuring that the questions included in instrument are those to which respondents have answers (3) avoiding ambiguous questions and (4) simplifying wording to avoid misinterpretation by some respondents. He adds that although these strategies improve reliability there is need to test the instruments for reliability.

Validity refers to the extent to which data collected measures what it is supposed to measure (South African Council For The Quantity Surveying Profession, 2013). Bhattacharjee (2012) states that validity can be assessed using both theoretical and empirical methods but should ideally be tested using both methods. He explains that theoretical assessment deals with *“how well the theoretical construct is represented in an operational measure”* while the empirical method examines how well a given measure relates to the external criterion based on the observations (2012, p. 58). He stresses the importance of using both methods to ensure instrument validity in social science research.

The foregoing has explained the significance of reliability and validity in data collection instrument.

### 3.8 Ethical Considerations Specific to the Research Design

Ethics is described as *“rules of behaviour based on ideas about what is morally good and bad”* (Merriam-Webster, n.d.). According to Bhattacharjee (2012), research ethics is important because in the past science has been manipulated by researchers in order to advance their private agendas and activities which were contrary to the norms of scientific conduct. The author gives four tenets of ethical behaviour as being; (1) Voluntary participation and harmlessness; (2) Anonymity and confidentiality, (3) Disclosure and (4) Analysis and reporting.

Data collection will not proceed without obtaining ethical approval from the university's Ethics Committee which has guidelines on ethical issues.

### 3.8.1 Harm

Possible sources of harm in research can stem from data collection itself, data storage and the consequences following publication of the studies (University of Tampere, 2013). The participants will be advised that no harm will come to them by participating, or withdrawal from the research. This will be achieved by following the guidelines given by the university.

### 3.8.2 Informed Consent

Informed consent is defined as “*permission granted in full knowledge of the possible consequences*” (Oxford University Press, 2016). In this study the respondents will be given an Informed Consent Form indicating their right not to participate as well as their right to withdraw from the research at any time. These consent forms will be kept for a period of three years as suggested by Bhattacharjee (2012).

### 3.8.3 Deceit

According to the California State University East Bay (2016) deception includes, but is not limited to (1) intentionally misleading the participants (2) giving false information about the research purpose (3) omitting information about the real purpose of the research.

This research avoided any falsehood as this jeopardises the integrity of the informed consent. Further deception in research goes against the ethical guidelines of university.

### 3.8.4 Confidentiality and Anonymity of the Participants

The concepts of confidentiality and anonymity deal with the respondents “*interests and future well-being*” (Bhattacharjee, 2012, p. 138). The issue of anonymity, which implies that readers of the final document that did not identify a response with a particular respondent, was dealt with by not including the respondent’s names in the report. The respondents were designated codes to ensure anonymity. Additionally, should the respondents require disclosure prior to data collection, this was provided.

The data collection and reporting followed the guidelines given by the University of the Witwatersrand’s Guidelines for Completion of Applications to Human Ethics Nonmedical Committee (2016) which required advising the participants of the fact that the research respected their right to anonymity and confidentiality.

## CHAPTER FOUR – FINDINGS AND ANALYSIS

### 4.0 Introduction

This chapter contains the findings as well as analysis of these findings. The analysis focused on themes as explained in the preceding chapter. This chapter thus linked the findings with the aims and objectives of the research to establish whether these have been met.

The aim of the study as outlined in Chapter One was to explore the importance of strategic non-financial determinants of owning or leasing industrial real estate. The research questions were as follows

- Are non-financial factors taken into account in making the decision to own or lease industrial real estate?
- What strategic factors are considered in making the decision to own or lease industrial property?
- What is the relative importance of the different strategic non-financial factors on the decision to own or lease industrial real estate?

### 4.1 Participants

Respondents were drawn from industrial firms operating from owner occupied or leased properties within Gauteng province using the telephone directory Yellow pages. The participants were called and later the link to the questionnaire was emailed to them. The questionnaire itself was prepared using the *Qualtrics* © online survey platform. All the responses were thus received through the platform and later exported to a PDF file.

### 4.2 Responses

A total of 16 firms were approached but only 5 responded to the questionnaire; of these 1 opened the link but did not complete the 20-question questionnaire thereby giving a 25% response rate. The relatively low sample of 16 was chosen because the goal was to obtain rich descriptions of the phenomenon rather than the measurement of specific variables. The low response means that inferences can be made from the findings but these cannot be generalised.

### 4.3 Data Interpretation

As explained in the preceding chapter, data interpretation was by means of thematic network analysis as outlined by Attride-Stirling (2001). This is done in 3 major steps i.e. Data reduction, text exploration and integration of exploration.

It must be noted at the outset that some of the data which was collected was not used in the creation of the Thematic Networks as it provided very basic information such as:

- The position of the person completing the questionnaire
- The company annual turnover
- The number of employees on site and overall number employed by the firm
- Respondents' preference between owning and leasing.

- The existence of a formal unit within the firm dealing with CRE as well as its functions
- List of real estate management functional activities which are managed in-house and those which are outsourced

Responses on the respondents' position in the firm indicated that all were in senior managerial positions and dealing directly with CRE issues of the firm. This gives credibility to the findings in that it ensured that the person completing the questionnaire was well versed with the issues at hand.

With respect to the annual turnover and number of employees, findings revealed that the respondents were not small nor medium sized companies as defined by The Banking Association of South Africa (2018); The association classifies small and medium sized firms as those with an annual turnover of less than R64 Million and employing not more than 200 people. The respondents' annual turnover was over R100 Million and all employed over 500 and are thus considered to be large firms.

On the issue of preference to own or lease, all indicated a preference of leasing over owning supporting the theory highlighted by Ghoot (2003). This finding is inconsistent with that by Barkham & Park (2011) who found that 62% preferred to own despite that only 36% were actually owner occupiers.

All the respondents indicated the existence of a real estate unit; one however indicated that it was part of the Supply Chain department. The real estate unit carried out certain functions and outsourced others. Acquisitions and financing were carried out in-house by 3 of the respondents while 2 managed their own disposals and development functions. Only one respondent carried out management activities. These responses are in line with the finding that most of the firms consider CRE as a resource to support the core business; such was the finding of Nourse & Roulac (2009).

#### 4.3.1 Data reduction

##### *Coding and theme identification*

Data was reduced using a coding system based on a set of theoretical interests which guided the research; basic themes were then identified after reading through issues discussed by the participants. Colour coding was used for ease of reference i.e. issues which were used to establish a particular Basic Theme have been given the same colour as the said theme as shown in Figure 1:

Figure 1 Codes to Themes

<b>Code</b>	<b>Issue discussed (verbatim from Participants)</b>	<b>Basic theme</b>
Financial	<p><i>Keep transportation costs low</i></p> <p><i>Affordability: If the property is not affordable, it would increase overall operations costs.</i></p> <p><i>Real estate follows business</i></p> <p><i>Align our approach to adhere to the group's overall strategy</i></p> <p><i>If the intention is to move location or stay in a location short term, it would affect decision whether to rent or buy</i></p> <p><i>Site gradient.</i></p> <p><i>Lease flexibility</i></p> <p><i>Power reliability</i></p> <p><i>Generally business demand,</i></p> <p><i>Potential future value of the land</i></p> <p><i>Sustainability</i></p> <p><i>Depending on where the property cycle is, we would opt to purchase or lease if we can get the upside of the market</i></p>	<p>Cost of doing business</p> <p>RE has value in itself</p>
Non-financial	<p><i>Logistics and traffic connection,</i></p> <p><i>Accessibility</i></p> <p><i>Availability of talent,</i></p> <p><i>Proximity to customers and suppliers</i></p> <p><i>Distance from our key distribution customers</i></p> <p><i>Proximity to factory</i></p> <p><i>Services/facilities offered by property (the more the better)</i></p> <p><i>Floor plan</i></p> <p><i>Safety and security,</i></p>	<p>Easy transportation of products</p> <p>Access to labour supply</p> <p>Customer and supplier focus</p> <p>Employee focus</p>

Figure 1 shows steps 1 and 2 in the 6-step process. Two codes were identified based on what the research questions were attempting to answer i.e. broadly the importance of non-financial determinants of owning or leasing industrial real estate; the issues discussed shown in the second column.

### Code 1: Financial Factors

Two Basic themes were identified under financial factors as follows:

- Cost of doing business – issues discussed were basically the firms concern about keeping running costs as low as possible. Hence RE was seen as a resource like labour which was to support the core business.
- Real estate has value within itself – two of the respondents indicated the value placed on land as well as the property cycle; regarding the former when the cycle was conducive to buying, the firm would purchase the property to take advantage of the falling property prices. Additionally the concept of sustainability was also raised which spoke to the firms appreciation of the value of owning a property designed with sustainability concepts in mind.

### Code 2: Non-Financial Factors

Four Basic themes were established for Code 2 as follows:

- Customer and supplier focus – Participants indicated the importance they placed on access to customers and suppliers, with one including access to factory as being of critical importance.
- Easy transportation of products – issues relating to ease of transportation include accessibility as well as logistics and traffic connection
- Access to labour supply – one participant indicated the need to be located close to “talent”
- Employee focus – This theme was developed based on the respondents stating the importance placed on the quality of the facilities offered by the property as well as the floor plan and safety and security.

### *Constructing the networks*

This step entailed formulating organising themes from the basic themes which would then be refined into global themes. The basic themes were arranged into broad groupings based on similarity of concepts. Figure 2 shows the basic, organising and global themes.

Figure 2-Basic to Organising to Global Themes

Basic theme	Organising theme	Global theme
(1) Cost of doing business (2) RE a resource supporting core business (3) RE has value within itself	(1) RE is a resource  (2) RE is an asset	(1) Financial Factors considered (whether RE is an asset or resource)
(4) Transportation of products (5) Labour supply (6) Customer and supplier focus  Employee focus	(3) Location suitability in terms of transport, labour, suppliers & Customers  (4) Site – suitable for employees	(2) Non-financial considerations

#### 4.3.2 Text Exploration

##### *Describe and Explore the Thematic Networks*

Figure 2 shows Global Themes each with 2 Organising and 3 Basic Themes. These global themes are in fact Thematic Networks

**Global Theme 1** — This constitutes the Thematic Network called Financial Factors considered (whether RE is an asset or resource). It comprises 2 Organising Themes (1 and 2 in Figure 2) and 3 Basic themes. It represents the respondents’ views on the financial considerations that are taken into account when making the decision to own or lease industrial real estate.

**Organising Theme 1: Real Estate is a resource** – This Organising theme was developed from the three basic themes which all supported the notion that the financial considerations highlighted by the respondents revolved around supporting the company’s core business i.e. keep production costs low. Extract below from one of the respondents:

*Firm 3: We want to ensure that we are as close as possible to our customers, in order to improve service delivery and keep transportation costs low.*

*Firm 3: As the real estate team, we provide services to the rest of the group. Thus, we are to align our approach to adhere to the group's overall strategy.*

*Firm 4: Affordability: If the property is not affordable, it would increase overall operations costs. Thus, the lower the real estate costs, the better Strategy... The closer we are to the customers, the lower our overall costs.*

*Firm 1: Real estate follows business*

The above statements point to view that RE is considered to be a resource like labour and is a cost of doing business. Therefore, as a resource it should be managed in such a way that it supports the core business as well as meeting the objectives of the firm of keeping operating costs low and maximising profit.

When asked to rank the factors most of the respondents provided 6 factors which were a mixture of both financial and non-financial; none of the firms ranked any financial factors first. The highest rank was number 2 from Firms 2 and 3.

**Organising Theme 2: Real Estate is an asset** – This theme came about from the fact that some respondents placed value on the real estate itself, rather than just considering it merely as a resource. When asked to provide reasons for ranking of factors affecting the LVB decision the response below was given:

*Firm 4: Property cycle: Depending on where the property cycle is, we would opt to purchase or lease if we can get the upside of the market.*

Another response with similar grounding was given for the question of “other” LVB factors considered but specifically pertaining to the site/location:

*Firm 1: development potential*

*Firm 2: It depends on the type of property. Often we look at the potential future value of the land. Offices we don't buy anymore.*

The respondent hinted on a company policy of no longer buying offices although no reason was given. The fact that they consider the future value of the land may lead one to conclude that RE is seen as an asset whose value is assessed on a long term basis.

**Global Theme 2** - Non-financial considerations constitute the Thematic Network of the same name comprising 2 Organising (3 and 4 in Figure 2) and 3 Basic Themes.

**Organising Theme 3: Location suitability in terms of transport and distance to labour, suppliers & Customers** – Responses indicating a great importance placed on suitability of the location with respect to transport, labour, suppliers and customers. Respondents were asked to indicate factors which impact their choice of location and the following were some responses:

*Firm 1: proximity to customers and suppliers*

*Firm 2: Location, Access to transport*

*Firm 3: First consideration is the distance from our key distribution customers.*

*Firm 4: Accessibility - Proximity to customers - Proximity to factory*

When asked to rank the factors, two indicated proximity to customers and key distributors as the most important consideration, one indicated price directly while the other gave “business demand” which has been included as a factor for doing business.

**Organising Theme 4 – Site Suitability for employees** – This Organising theme stemmed from the importance placed on ensuring the property had adequate security and safety as well as amenities. Additionally the issue of ensuring that the premises were close to the “talent”. Some responses were as below:

Firm 1: *availability of talent, safety and security*

Firm 3: *We also then look at the services/facilities which the property offers. The more the better.*

#### 4.3.3 Integration of Exploration

The foregoing exploration is brought together by summarising the thematic networks that have been established.

##### 4.3.3.1 Summary the Thematic Networks

#### **Financial Factors considered**

This Thematic Network has two major themes i.e. CRE is a resource and the other being that CRE is an asset. Whilst the issues explored are financial they indicate two different points of view. The findings reveal that most answers pointed to the view of CRE being a resources whose costs must be managed. Only three answers point to CRE being considered as an asset. The overarching finding is that price or costs do not rank first for all but one respondent and for both the LVB decision as well as the factors affecting the choice of site/location.

#### **Non-financial considerations**

This network also has two major themes and they relate to transport as well as proximity to labour, customers and suppliers. Findings reveal that three of the four respondents considered proximity to customers and supplies to be of paramount importance before price. This appears important as it supports the findings of original study by Barkham & Park (2011) upon which this study is based. Another theme established is the importance placed on the suitability of the specific site for employees as issues of safety and security as well as the services and facilities offered.

##### 4.3.3.2 Interpret the patterns

The aim of this step is to finally answer the research questions that address the objectives of the study.

#### Research question 1

*Are non-financial factors taken into account in making the decision to own or lease industrial real estate?*

The preceding summary of the Thematic Network has revealed that indeed non-financial factors are taken into account in the decision to own or lease industrial CRE. This supports the findings of the original study where the authors stated that although the LVB decision is financial in nature the determining factors are often dominated by non-financial factors. It

also supports the finding of Golan (1999) and Ghyoot (2003) who postulated that the decision to own or lease is not that simple as such each decision needed to be assessed against a number of criteria which would ultimately determine the advantages of one decision over another.

#### Research question 2

*What factors play a key role in the decision to own or lease industrial real estate?*

Findings reveal that proximity to customers (and major distributors), suppliers, access to transport and price play a key role in the LVB decision. This finding is in line with that of the original study by Barkham & Park (2011). The original study hypothesized that firms would have a strong incentive to own CRE if said RE provided them with competitive advantage; this aspect is not clearly established because all the respondents indicated a preference to lease rather than own CRE. One can assume that choosing to lease CRE providing said competitive advantage is in itself a strategic move in that when the attributes providing competitive advantage no longer exist it would be easier for the companies to relocate. This may not be the case if the CRE was owned.

#### Research question 3

*What strategic factors are considered in making the decision to own or lease industrial property?*

Strategic factors considered are proximity to customers, suppliers, access to transport, price as well as proximity to labour. This finding reveals that of the three overarching aspects of the framework highlighted by the original study, only one, is similar i.e. locational analysis. The other two from the original study are:

- Corporate strategy and
- Real estate economics.

Despite this, the findings support the fundamental issue which is that non-financial factors are indeed taken into account in the LVB decision specifically to industrial CRE.

#### Research question 4

*What level of importance is placed on strategic non-financial factors on the decision to own or lease industrial real estate?*

The ranking of factors revealed a great deal of importance on strategic non-financial factors followed by price. This is in contrast to the findings of Ghyoot (2003) whose study found that financial considerations dominated the LVB decision. This contrast may be explained by the authors' conclusion that the LVB decision is usually complex and must be weighed on an individual basis. A point to note is the fact Ghyoots study was on residential RE which a different asset class from the one under study.

The answer to Research Questions 1 and 2 is in line with the findings of the original study as well as that by other authors (Brounen & Eichholtz, 2005; Ghyoot, 2003). However, some

factors which were highlighted in the original study are not apparent in this one. These include:

- Site specific factors
  - Proximity to labour (the study differentiated between skilled and unskilled labour)
  - Proximity to public transport
  - Site location visibly prominent

The original study found that locational characteristics, size of operations, physical attributes as well as company preferences played a significant role in the LVB decision. This research has not conclusively established the following:

- Size of operations – since all the respondents are classified as large companies it means the sample did not include small and medium sized firms; Views from these firms would have given a clearer picture on whether or not firm size/size of operations held differing views.

One of the findings of this study is the treatment of CRE as an asset rather than a resource; this view is supported by various authors (Barney, 1991; Grant, 1991; Amit and Schoemaker, 1993), cited in Barkham & Park (2011). These authors point out that a corporate strategy that seeks to achieve sustainable competitive advantage through long term build up of firm-specific resources, which CRE offers, and which are difficult to imitate can work out to the benefit of the firm. This is because such firm specific resources will work as barriers to entry by others. These include, superior access to customers, spatial preemption and procedural difficulties in accumulation (Park and Glascok, 2010 cited in Barkham & Park (2011).

In contrast to the preceding discussion, other research has shown that CRE is treated as a resource and since the firm is not in the business of real estate it must focus on its core business (Park & Glascok, 2010; Deng & Gyourko, 1999; Wills, 2008). The finding on suitability of the specific site for employees supports research by Lindholm & Leväinen (2006) who believe that property and facilities decisions can create value for the core business; one of these being by providing a pleasant and productive.

## CHAPTER FIVE - CONCLUSION

Over the years, a number of studies have been done internationally on the financial factors of owning or leasing corporate assets in general. This, however, has not been the case for CRE; this has been attributed to the fact that this asset type has diverse intangible aspects. This makes the LVB decision more complex than when dealing with other ordinary tangible assets. (Barkham & Park, 2011).

South Africa has a property markets which rivals some European countries such as Spain, Italy, Brussels and Russia (Jones Lang LaSalle, 2012). Additionally the country is ranked second on the continent in terms of GDP (Africa Ranking, 2016). Gauteng Province alone, contributes 34% to the national GDP of which 23% comes from wholesale and manufacturing. Despite these notable figures there has been no study to ascertain the non-financial determinants of owning or leasing industrial real estate in this country.

This study is based on the 2011 study by Barkham and Park in the United Kingdom who based there studies on data collected in 1998. Their study was prompted by findings from literature review that there have not been conclusive studies to investigate the importance of non-financial determinants of own or leasing industrial real estate. An extensive literature review was conducted and this supported the observations of Barkham and Park by revealing a gap in the literature.

The objective of the study was to explore the importance of strategic non-financial determinants of the lease versus own decision within the industrial sector in Gauteng province. Consequently four research questions were put forward as follows:

- Are non-financial factors taken into account in making the decision to own or lease industrial real estate?
- What factors play a key role in the decision to own or lease industrial real estate?
- What strategic factors are considered in making the decision to own or lease industrial property?
- What level of importance is placed on strategic non-financial factors on the decision to own or lease industrial real estate?

Although the original study used a quantitative analytical method, it is believed that use of a qualitative analytical method would suffice as according to proponents of qualitative methods, richer information is obtained when respondents, who are experts in their field, are given an opportunity to share their experiences rather than limiting them by the researchers own knowledge (Olorunjuwon, 2016). This decision to use a qualitative analytical method was taken after it was realised that an insufficient number of responses would be obtained from participants; this was due to the time frame allowed for the study as well as the minimum number of responses which was required to prepare a logistic regression model. The research instrument used was the one used by the original study with some amendments to take into account the changed analytical method i.e. some

open-ended questions were introduced to give the respondents a chance to share the experiences.

16 Questionnaires were issued by way of emails with links to the online questionnaire prepared using the Qualtrics survey platform. 5 responded but only 4 completed the questionnaire (one respondent opened the link but did not answer any questions).

Findings revealed that both financial and non-financial determinants are considered in the LVB decision for industrial CRE in Gauteng. Ranking of these factors showed that 3 of the four respondents ranked the non-financial ones first followed by some financial ones. The findings enabled the researched 4 research questions to be answered. The answers were as below:

- Thematic Network 3 has revealed that indeed non-financial factors are taken into account in the decision to own or lease industrial CRE
- Findings reveal that proximity to customers (and major distributors), suppliers, access to transport and price play a key role in the LVB decision
- Strategic factors considered are proximity to customers, suppliers, access to transport, price as well as proximity to labour
- The ranking of factors revealed a great deal of importance on strategic non-financial factors followed by price.

## 5.1 Study Limitations and suggestions for future research

### *Study Limitations*

In preparing the sample for the study the South African Telephone Directory Yellow pages were used as there is no database for population for the study i.e. owner occupiers and lessors of industrial properties. Additionally the existence of an association for wholesalers and manufacturers would have also been of great help.

The major property management companies with dedicated industrial portfolios were unwilling to assist with data collection despite the assurance of anonymity of their tenants, the fact that this is an academic study as well as an offer to share the findings with them.

Sample bias which, according to Bhattacharjee (2012), refers to a situation where the sample is not representative of the population. One of the ways this can occur when the sample size is small. This could have been overcome by a larger response rate of the participants.

The study was limited to firms based in Gauteng Province which has its own peculiar attributes, this makes generalisation of findings may not be possible.

### *Suggestions for future research*

Since all the respondents are classified as large firms since they have an annual turnover of over R100M and employ over 500 people (The Banking Association of South Africa, 2018); it

would thus be ideal to conduct a research to establish whether issues regarding company size have a bearing on the LVB decision.

The research design strategy for the original research was quantitative in nature, it is suggested that a replication of the research be carried out. As noted earlier, this was the intention of this study but due to poor responses the strategy was abandoned. Additionally another option would be to have a mixed method; this would then compare results from the original quantitative study to this one which was qualitative in nature.

A study with a larger sample across the major cities with a large industrial CRE presence can also be conducted to allow for more generalised findings.

## References

- Africa Ranking, 2016. *Africa Ranking*. [Online]  
Available at: <http://www.africaranking.com/largest-economies-in-africa/6/>  
[Accessed 13 May 2016].
- AICPA, 2015. *The American Institute of Certified Public Accountants*. [Online]  
Available at:  
[http://www.willamette.com/pubs/presentations3/reilly\\_separating\\_ia\\_from\\_rp\\_aicpa\\_2015.pdf](http://www.willamette.com/pubs/presentations3/reilly_separating_ia_from_rp_aicpa_2015.pdf)  
[Accessed 30 June 2016].
- Ali, Z., McGreal, S. & Adair, A., 2008. Corporate Real Estate Strategy: A Conceptual Overview. *Journal of Real Estate Literature*, 16(1), pp. 3-21.
- Allen, M., Rutherford, R. & Springer, T., 1993. The wealth effects of corporate real estate leasing. *Journal of Real Estate Research*, 8(4), pp. 567-578.
- Appalachian State University, n.d. *An Introduction to Logistic Regression*. [Online]  
Available at: <http://www.appstate.edu/~whiteheadjc/service/logit/intro.htm>  
[Accessed 4 October 2016].
- Arnold, R. & John, T., 1991. The financing of corporate real estate: a survey.. *Journal of Real Estate Research*, 6(2), pp. 217-240.
- Attride-Stirling, J., 2001. Thematic Networks: An analytic tool for Qualitative Research. *Qualitative Research*, 1(3), pp. 385-405.
- Barkham, R. & Park, A., 2011. Lease versus buy decision for corporate real estate in the UK. *Journal of Corporate Real Estate*, 13(3), pp. 157-168.
- Becker, F. & Pearce, A., 2003. Considering corporate real estate and human resource factors in an integrated cost model.. *Journal of Corporate Real Estate*, 5(3), pp. 221-242.
- Benjamin, J., de la Torre, C. & Musumeci, J., 1995. Controlling the incentive problems in real estate leasing.. *The Journal of Real Estate Finance and Economics*, 10(2), pp. 177-191.
- Benjamin, J., De la Torre, C. & Musumeci, J., 1998. Rationales for real estate leasing versus owning. *Journal of Real Estate Research*, 15(3), pp. 223-38.
- Berenson, M., Levin, D. & Krehbiel, T., 2012. *Basic Business Statistics: Concepts and Applications*. 12th ed. London: Pearson Education Limited.
- Bhattacharjee, A., 2012. Research Design. In: *SOCIAL SCIENCE RESEARCH: PRINCIPLES, METHODS AND PRACTICES*.. s.l.:Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License, pp. 35-41.
- Bhattacharjee, A., 2012. Research Ethics. In: *SOCIAL SCIENCE RESEARCH: PRINCIPLES, METHODS AND PRACTICES*. Tampa: Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License, pp. 137 -142.
- Bhattacharjee, A., 2012. Sampling. In: *SOCIAL SCIENCE RESEARCH: PRINCIPLES, METHODS AND PRACTICES*. s.l.:Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License, pp. 66-68.

- Bhattacharjee, A., 2012. Scale Reliability and Validity. In: *SOCIAL SCIENCE RESEARCH: PRINCIPLES, METHODS AND PRACTICES*. Tampa: Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License, pp. 55-64.
- Bhattacharjee, A., 2012. Survey Research. In: *SOCIAL SCIENCE RESEARCH: PRINCIPLES, METHODS AND PRACTICES*. s.l.:Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License, pp. 73-76.
- Bhattacharjee, A., 2012. The Research Process. In: *SOCIAL SCIENCE RESEARCH: PRINCIPLES, METHODS AND PRACTICES*. s.l.:Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License, pp. 17-24.
- BioMed Central, 2012. *Interpreting the concordance statistic of a logistic regression model: relation to the variance and odds ratio of a continuous explanatory variable*. [Online] Available at: <http://bmcmedresmethodol.biomedcentral.com/articles/10.1186/1471-2288-12-82> [Accessed 20 October 2016].
- Bon, R., Gibson, V. & Luck, R., 2002. Annual CREMRU-JCI survey of corporate real estate practices in Europe and North America: 1993-2001.. *Facilities*, 20(11/12), pp. 357-373.
- Bon, R., McMahan, J. & Carder, P., 1994. Property performance measurement: from theory to management practice.. *Facilities*, 12(12), pp. 18-24.
- Brounen, D. & Eichholtz, P., 2005. Corporate real estate ownership implications: International performance evidence.. *The Journal of Real Estate Finance and Economics*, 30(4), pp. 429-445.
- California State University East Bay, 2016. *Use of deception in Research*. [Online] Available at: <http://www.csueastbay.edu/orsp/forms-policies-procedures/irb/deception.html> [Accessed 7 October 2016].
- Carn, N., Black, R. & Rabiński, J., 1999. Operational and organizational issues facing corporate real estate executives and managers... *Journal of Real Estate Research*, 7(3), pp. 281-299.
- Cheah, C. & Garvin, M., 2004. An open framework for corporate strategy in construction. *Engineering, Construction and Architectural Management*, 11(3), pp. 176 - 188.
- Deng, Y. & Gyourko, J., 1999. *Real estate ownership by non-real estate firms: An estimate of the impact on firm returns*.. s.l.: Unpublished Working Paper, Wharton School..
- Edward Graham, J., Galbraith, C. & Stiles, C., 2014. Real estate ownership and closely-held firm value. *Journal of Property Investment & Finance*, 32(3), pp. 229-243.
- Edward Graham, J., Galbraith, C. & Stiles, C., 2014. Real estate ownership and closely-held firm value.. *Journal of Property Investment & Finance*, 32(3), pp. 229-243.
- Ekberg, C. & Evensen, V., 2007. *Corporate Real Estate's Impact on Shareholder Value and Takeover Markets the Sale Leaseback Solution. A thesis submitted in partial fulfilment of the Requirements of the Royal Institute of Technology for the Master of S*. s.l.:s.n.
- Ezzell, J. & Vora, P., 2001. Leasing versus purchasing: Direct evidence on a corporation's motivations for leasing and consequences of leasing.. *The Quarterly Review of Economics and Finance*, 41(1), pp. 33-47.

- Fisher, J. & Webb, R., 1992. Current issues in the analysis of commercial real estate.. *Real Estate Economics*, 20(2), pp. 211-227.
- Fisher, L., 2004. The wealth effects of sale and leasebacks: new evidence.. *Real Estate Economics*, 32(4), pp. 619-643.
- Ghyoot, V., 2003. *The Lease v Buy Decision in Real Estate: Theory and Practice in European*. Helsinki, s.n.
- Gibler, K., Black, R. & Moon, K., 2002. Time, place, space, technology and corporate real estate strategy.. *Journal of Real Estate Research*, 24(3), pp. 235-261.
- Glascok, J., Davidson, W. & Sirmans, C., 1989. An analysis of the acquisition and disposition of real estate assets.. *Journal of Real Estate Research*, 4(3), pp. 131-140.
- Golan, M., 1999. The own v lease decision-Myth and reality. *Journal of Corporate Real Estate*, 1(3), pp. 241-253.
- Graham, J., Lemmon, M. & Schallheim, J., 1998. Debt, leases, taxes, and the endogeneity of corporate tax status.. *The Journal of Financ*, 53(1), pp. 131-162.
- Grant, R., 1991. The resource-based theory of competitive advantage: implications for strategy formulation.. *California management review*., 33(3), pp. 114-135.
- Grenadier, S., 1995. Valuing lease contracts a real-options approach.. *Journal of Financial Economics*, 38(3), pp. 297-331.
- Gujurati, D. N. & Porter, D., 2010. *Essentials of Econometrics*. 4th ed. New York: McGraw-Hill/Irwin.
- Heywood, C. & Kenley, R., 2008. The sustainable competitive advantage model for corporate real estate.. *Journal of Corporate Real Estate*, 10(2), pp. 85-109.
- Institute fo Digital Research and Education, 2016. *How do I interpret odds ratios in logistic regression?*. [Online]  
Available at: <http://www.ats.ucla.edu/stat/stata/faq/oratio.htm>  
[Accessed 24 October 2016].
- Jones Lang LaSalle, 2012. *South Africa: A BRICKS solid emerging market: The nation is poised for business growth*, Johannesburg: Jones Lang LaSalle.
- Krumm, P. & de Vries, J., 2003. Value creation through the management of corporate real estate.. *Journal of Property Investment & Finance*, 21(1), pp. 61-72.
- Lasfer, M., 2007. On the financial drivers and implications of leasing real estate assets: The Donaldsons-Lasfer's Curve.. *Journal of Corporate Real Estate*, 9(2), pp. 72-96.
- Lindholm, A. & Leväinen, K., 2006. A framework for identifying and measuring value added by corporate real estate.. *Journal of Corporate Real Estate*, 8(1), pp. 38- 46.
- Liow, K., 2004. Corporate real estate and stock market performance.. *The Journal of Real Estate Finance and Economics*, 29(1), pp. 119-140.
- Listen Data, 2016. *Model Performance in Logistic Regression*. [Online]  
Available at: <http://www.listendata.com/2015/01/model-performance-in-logistic-regression.html>  
[Accessed 20 October 2016].

- Louko, A., 2004. Competitive advantage from operational corporate real estate disposals.. *International Journal of Strategic Property Management*, 8(1), pp. 11-24.
- Manning, C., 1991. Leasing versus purchase of corporate real property: leases with residual equity interests. *Journal of Real Estate Research*, Volume 6, pp. 79-86.
- Merriam-Webster, n.d. *Dictionary*. [Online]  
Available at: <http://www.merriam-webster.com/dictionary/ethic>  
[Accessed 22 September 2016].
- Mourouzi-Sivitanidou, R., Unpublished. *Market Analysis for Real Estate*. s.l.:s.n.
- Nourse, H., 1994. Measuring business real property performance.. *Journal of Real Estate Research*, 9(4), pp. 431-444.
- Nourse, H. & Roulac, S., 2009. Linking real estate decisions to corporate strategy. *Journal of real estate research*., 8(5), pp. 475-494.
- Olurunjuwon, S., 2016. *Research Strategy, BUQS7009 [Lecture Notes] Research Methodology Course. University of the Witwatersrand, School of Construction Economics & Business Sciences. Johannesburg: s.n.*
- Oxford University Press, 2016. *English Oxford Living Dictionaries*. [Online]  
Available at: [https://en.oxforddictionaries.com/definition/informed\\_consent](https://en.oxforddictionaries.com/definition/informed_consent)  
[Accessed 7 October 2016].
- Park, A. & Glascok, J., 2010. Corporate Real Estate and Sustainable competitive advantage.. *Journal of Real Estate Literature*, 18(1), pp. 3-19.
- Peng, C., Lee, K. & Ingersol, G., 2002. An Introduction to logistic regression and reporting. *The Journal of Educational Research*, 96(1), pp. 3-14.
- Redman, A. & Tanner, J., 1989. The acquisition and disposition of real estate by corporate executives: a survey.. *Journal of Real Estate Research*, 4(3), pp. 67-80.
- Rudestam, K. & Newton, R., 2007. The Method Chapter. In: *Surviving your dissertaion:a comprehensive guide to content and process*. Los Angeles: SAGE Publishing, pp. 87 -115.
- Rutherford, R., 1990. Empirical Evidence on Shareholder Value and The Sale-Leaseback of Corporate Real Estate. *AREUEA Journal*, 18(4), pp. 522-29.
- Seiler, M., Chatrath, A. & Webb, J., 2001. Real asset ownership and the risk and return to stockholders.. *The Journal of Real Estate Research*, 22(1/2), p.199., 22(1/2), pp. 199-212.
- Sharpe, S. & Nguyen, H., 1995. Capital market imperfections and the incentive to lease. *Journal of Financial Economics*, 39(2), pp. 271-294.
- Singer, B., Bossink, B. & Vande Putte, H., 2007. Corporate real estate and competitive strategy.. *Journal of Corporate Real Estate*, 9(1), pp. 25-38.
- Slovin, M., Sushka, M. & Polonchek, J., 1990. Corporate Sale-and-Leasebacks and Shareholder Wealth. *The Journal of finance*, 45(1), pp. 289-299.
- Smith, C. & Wakeman, L., 1985. Determinants of corporate leasing policy. *The Journal of Finance*, 40(3), pp. 895-908.

South African Council For The Quantity Surveying Profession, 2013. *PROFESSIONAL SKILLS MODULE NO 18: RESEARCH METHODOLOGY AND REPORT WRITING*. Johannesburg: South African Council For The Quantity Surveying Profession.

Statistics South Africa, 2016. *Statistics South Africa*. [Online]

Available at: [http://www.statssa.gov.za/?page\\_id=1859](http://www.statssa.gov.za/?page_id=1859)

[Accessed 29 April 2016].

Statistics4U, 2012. *Fundamentals of Statistics*. [Online]

Available at: [http://www.statistics4u.info/fundstat\\_eng/ee\\_kendall\\_rank\\_correlation.html](http://www.statistics4u.info/fundstat_eng/ee_kendall_rank_correlation.html)

[Accessed 20 October 2016].

The Banking Association of South Africa, 2018. *Small Business definition*. [Online]

Available at: <http://www.banking.org.za/what-we-do/sme/sme-definition>

[Accessed 24 february 2018].

Then, S., 1996. *A Study of Organisational response to the Management of Operational Property Assets and Facilities Support Services as a Business Resource - Real Estate Management*. Edinburgh: s.n.

University of Tampere, 2013. *Ethical Guidelines:Avoiding Harm*. [Online]

Available at: [http://www.uta.fi/english/research/ethics/guidelines/avoiding\\_harm.html](http://www.uta.fi/english/research/ethics/guidelines/avoiding_harm.html)

[Accessed 7 October 2016].

University of the Witwatersrand, 2016. *Human Research ethics Committee (Non-Medical)*. [Online]

Available at: <https://www.wits.ac.za/research/about-our-research/ethics-and-research-integrity/human-research-ethics-committee-non-medical/>

[Accessed 7 October 2016].

Wills, P., 2008. Corporate real estate practice in Australia.. *Journal of Corporate Real Estate*, 10(1), pp. 40-53.

# CRE Industrial Interview

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Start of Block: Default Question Block

Q1 which of the operations below most closely describe your company's main operations?

- Sales (1)
  - Logistics (2)
  - Services (3)
  - Manufacturing (4)
- 

Q2 what is your position in the organisation?

- Senior Management (1)
  - Middle management (2)
- 

Q3 what is your Job title?

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Q4 Do you have a formal property management unit?

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Q5 what is the unit called?

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Q6 If YES to Q4 what are the functions of the unit?

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Q7 If NO in (Q4) how do you manage your property related issues. Do you still manage them in-house or do you outsource it? Or both?

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Q8 Are you the head of the Property Management unit?

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Q9 which of the following are done in-house?

Acquisition (1)

Financing (2)

Development (3)

Management (4)

Disposal (5)

---

Q10 which of the following are outsourced?

Acquisition (1)

Financing (2)

Development (3)

Management (4)

Disposal (5)

---

Q11 what is the number of employees on your site?

11-25 (1)

26-50 (2)

51-100 (3)

>100 (4)

---

Q12 How many employees does your company employ?

11-25 (1)

26-50 (2)

50-100 (3)

100-200 (4)

200-500 (5)

>500 (6)

---

Q13 what is your company's annual turnover?

- R1-100 000 (1)
  - 100 001 – 2 000 000 (2)
  - 2 00 001 – 10 000 000 (3)
  - 10 000 001 – 100 000 000 (4)
  - >100 000 001 (5)
- 

Q14 what is generally your ideal preference, if not given current limitations of choice?

- Lease (1)
  - Own (2)
- 

Q15 what factors do you consider when deciding the location of your premises?

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Q16 Of the answers given in Q15 which are the top 4?

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Q17 what factors do you consider when deciding whether to lease or purchase the property from where you wish to operate?

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Q18 Of the answers given in Q17 which are the top 4?

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Q19 what are your reasons for the ranking in Q18?

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Q20 what other factors relating to the site do you consider important when deciding to lease or buy corporate real estate?

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End of Block: Default Question Block

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# Default Report

CRE Industrial Interview

February 22, 2018 5:34 AM MST

## Q1 - Which of the operations below most closely describe your company's main Operations?

Sales  
Logistics  
Services  
Manufacturing  
0 0.2 0.4 0.6 0.8 1 1.2 1.4 1.6 1.8 2 2.2

Showing Rows: 1 - 5 Of 5

# Field

Choice

Count

1 Sales 50.00% 2

2 Logistics 25.00% 1

3 Services 0.00% 0

4 Manufacturing 25.00% 1

4

## Q2 - What is your position in the organisation?

Senior Management

Middle management

0 0.5 1 1.5 2 2.5 3

Showing Rows: 1 - 3 Of 3

# Field

Choice

Count

1 Senior Management 25.00% 1

2 Middle management 75.00% 3

4

## Q3 - What is your Job title?

Showing Records: 1 - 4 Of 4

What is your Job title?

Head of Location Management

Real Estate Lead African, NAMET and RUB

Portfolio Manager

Transaction Manager

## Q4 - Do you have a formal property management unit?

Showing Records: 1 - 4 Of 4

Do you have a formal property management unit?

Yes, Corporate Real Estate Management unit

Yes

Yes we do have a formal property portfolio unit

Yes

## Q5 - What is the unit called?

Showing Records: 1 - 4 Of 4

What is the unit called?

Siemens Real Estate

Workplace Services

Property services, forms part of supply chain department

Real Estate and Workplace Services

## Q6 - If YES to Q4 what are the functions of the unit?

Showing Records: 1 - 4 Of 4

If YES to Q4 what are the functions of the unit?

See link <https://www.realestate.siemens.com/hq/en/miet/index.php>

Real estate transactions Facilities Fleet Travel

Ensuring that the property portfolio performs as per business requirements

To create cost savings to create cost avoidance to manage the portfolio in a strategic manner

## Q7 - If NO in (Q4) how do you manage your property related issues. Do you still manage?

### Them in-house or do you outsource it? Or both?

Showing Records: 1 - 2 Of 2

If NO in (Q4) how do you manage your property related issues. Do you still...

WE do some outsourcing as well and use brokers for transaction management

We outsource the facilities management portion, as well as the design and fit-out

### Q8 - Are you the head of the Property Management unit?

Showing Records: 1 - 4 Of 4

Are you the head of the Property Management unit?

Locally for sub-Saharan Africa

Yes

Yes

No

### Q9 - Which of the following are done in-house?

Acquisition

Financing

Development

Management

Disposal

0 0.5 1 1.5 2 2.5 3

Showing Rows: 1 - 6 Of 6

# Field

Choice

Count

1 Acquisition 27.27% 3

2 Financing 27.27% 3

3 Development 18.18% 2

4 Management 9.09% 1

5 Disposal 18.18% 2

11

### Q10 - Which of the following are outsourced?

Acquisition

Financing

Development

Management

Disposal

0 0.2 0.4 0.6 0.8 1 1.2 1.4 1.6 1.8 2 2.2

Showing Rows: 1 - 6 Of 6

# Field

Choice

Count

1 Acquisition 14.29% 1

2 Financing 14.29% 1

3 Development 28.57% 2

4 Management 28.57% 2

5 Disposal 14.29% 1

7

### Q11 - What is the number of employees on your site?

11-25

26-50

51-100

>100

0 0.2 0.4 0.6 0.8 1 1.2 1.4 1.6 1.8 2 2.2

Showing Rows: 1 - 5 Of 5

# Field

Choice

Count

1 11-25 0.00% 0

2 26-50 25.00% 1

3 51-100 25.00% 1

4 >100 50.00% 2

4

### Q12 - How many employees does your company employ?

11-25

26-50

50-100

100-200

200-500

>500

0 0.5 1 1.5 2 2.5 3 3.5 4

Showing Rows: 1 - 7 Of 7

# Field

Choice

Count

1 11-25 0.00% 0

2 26-50 0.00% 0

3 50-100 0.00% 0

4 100-200 0.00% 0

5 200-500 0.00% 0

6 >500 100.00% 4

4

### Q13 - What is your company's annual turnover?

R1-100 000

100 001 - 2 000

000  
 2 00 001 – 10 000  
 000  
 10 000 001 – 100  
 000 000  
 >100 000 001  
 0 0.5 1 1.5 2 2.5 3  
 Showing Rows: 1 - 6 Of 6  
 # Field  
 Choice  
 Count  
 1 R1-100 000 0.00% 0  
 2 100 001 – 2 000 000 0.00% 0  
 3 2 00 001 – 10 000 000 0.00% 0  
 4 10 000 001 – 100 000 000 25.00% 1  
 5 >100 000 001 75.00% 3  
 4

## Q14 - What is generally your ideal preference, if not given current limitations of choice?

Lease  
 Own  
 0 0.5 1 1.5 2 2.5 3 3.5 4  
 Showing Rows: 1 - 3 Of 3  
 # Field  
 Choice  
 Count  
 1 Lease 100.00% 4  
 2 Own 0.00% 0  
 4

## Q15 - What factors do you consider when deciding the location of your premises?

Showing Records: 1 - 4 Of 4  
 What factors do you consider when deciding the location of your premises?  
 Generally business demand, logistics and traffic connection, availability of talent, proximity to customers and suppliers, price, development potential,  
 Safety and security  
 Location Cost Access to transport Amenities Floorplan Sustainability  
 First consideration is the distance from our key distribution customers. We want to ensure that we are as close as possible to our customers, in order  
 To improve service delivery and keep transportation costs low. We also then look at the services/facilities which the property offers. The more the Better  
 - Accessibility - Proximity to customers - Proximity to factory - Price - Quality of property - Lease flexibility

## Q16 - Of the answers given in Q15 which are the top 4?

Showing Records: 1 - 4 Of 4  
 Of the answers given in Q13 which are the top 4?  
 1. Business demand, 2. Proximity to customers 3. Price 4. Logistics (the ranking does however vary from location to location depending on the need of  
 The business)  
 Cost Location Floorplan Sustainability  
 1. Distance to key distributors 2. Racking and docking facilities 3. Financial commitment to the lease 4. Access to key transportation nodes  
 - Proximity to customers - Price - Quality of property - Lease flexibility

## Q17 - What factors do you consider when deciding whether to lease or purchase the

### Property from where you wish to operate?

Showing Records: 1 - 4 Of 4  
 What factors do you consider when deciding whether to lease or purchase the...  
 Strategic planning of the business, product or contract cycles, flexibility, business volatility, capital expenditure  
 Offices and non-core warehouses we lease. Factories and core properties we own  
 The strategy of the group is to lease the majority of our assets. We opt to have flexibility in the choice of location, and thus the rental model allows us  
 To move when the need arises  
 - Affordability - Long term strategy regarding growth prospects - Property cycle - Proximity to current and future customers

## Q18 - Of the answers given in Q17 which are the top 4?

Showing Records: 1 - 4 Of 4  
 Of the answers given in Q16 which are the top 4?  
 1. Strategic planning of the business 2. Flexibility 3. Business volatility 2. Capital expenditure  
 NA - this is a policy  
 1. Strategy of the company (rent rather than own) 2. Financial capability 3. In exceptional circumstances, if we are to incur high costs for making good  
 The premises to our global standards, we would then motivate the purchase option rather than the lease option  
 - Affordability - Long term strategy regarding growth prospects - Property cycle - Proximity to current and future customers

## Q19 - What are your reasons for the ranking in Q18?

Showing Records: 1 - 4 Of 4

What are your reasons for the ranking in Q17?

Real estate follows business, however ranking my vary from location to location

NA - this is a policy

As the real estate team, we provide services to the rest of the group. Thus, we are to align our approach to adhere to the group's overall strategy.

A

Similar strategy is adopted for our fleet of trucks, whereby we do not own them; but rather we have them on short term lease agreements

Affordability: If the property is not affordable, it would increase overall operations costs. Thus, the lower the real estate costs, the better Strategy:

If

The intention is to move location or stay in a location short term, it would affect decision whether to rent or buy Property cycle: Depending on where

The property cycle is, we would opt to purchase or lease if we can get the upside of the market Proximity to customers: This is the most important

Factor of all. The closer we are to the customers, the lower our overall costs

## Q20 - What other factors relating to the site do you consider important when deciding to

### Lease or buy corporate real estate?

Showing Records: 1 - 4 Of 4

What other factors relating to the site do you consider important when Deci...

Power reliability, safety and security,

It depends on the type of property. Often we look at the potential future value of the land. Offices we don't buy anymore but

Overall site gradient. If the gradient is too steep, it would require excess manoeuvring for our trucks, which leads to wasted time in the yards

Regional play. We could have sites elsewhere, which could play as overflow warehouses; and thus buy/invest in a larger "Mega Distribution Centre". So,

I would classify this as strategic reason

## Q8 - Topics

### End of Report

Unknown

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1

Showing Rows: 1 - 1 Of 1

# Field

Choice

Count

1 Unknown 100.00% 1