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M&A effects on shareholders' wealth within South African REITs

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A research report submitted to the Faculty of Engineering and the Built Environment, University of the Witwatersrand, in partial fulfilment of the requirements of the degree of Masters of Science in Building.

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Declaration

I Mthokozisi Welensky Magazi, declare that the research report is my work. The report is submitted in fulfilment of the requirements for the Masters of Science in Building Science in Property Development and Management at the University of Witwatersrand, Johannesburg. Lastly, this report has not been submitted before for any degree at any university.

Mthokozisi W Magazi

Signed at Wits

On the 22nd of September 2020

Dedication

I dedicate this work to my parents, family and friends. I would like to thank them all for their; love, support and guidance. As all this work would be meaningless without their presence.

Praises be to the Most High for provision of breath of life, abundance of knowledge and gift of understanding. For the Lord gives wisdom; from His word comes knowledge and understanding.

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List of Abbreviations

Abbreviation	Description
AR	Abnormal Returns
A-REIT	Australian Real Estate Investment Trust
CAR	Cumulative Abnormal Returns
JSE	Johannesburg Stock Exchange
M&A	Merger and Acquisition
PLS	Property Loan Stock
PUT	Property Unit Trust
REIT	Real Estate Investment Trust
REOC	Real Estate Operating Companies
SA-REIT	South African Real Estate Investment Trust
SENS	Stock Exchange News Service

Abstract

Mergers and Acquisitions (M&A) within real estate investments trusts (REITs) have been a way to; catalyse growth, improve the competitiveness, broaden portfolio to reduce business risk, maintain competitiveness and increase shareholders wealth. This research is to examine whether M&As impact the performance of South African listed REITs. Also, the research will seek to analyse the performance of REITs in general. Upon their formalization there has been a substantial growth in the return of REITs. Shareholders seek to maximize returns and M&As create abnormal returns in the short-run. Nonetheless, M&As underperform in the long-run. The hubris theory suggests that CEOs and managers tend to make decisions based on their own bias of being overoptimistic when evaluating M&A opportunities. Real estate transactions are unique in that, most takeovers are friendly transactions. This results in less severe information asymmetry and less government interference. Furthermore, friendly takeovers result in shareholder wealth effect in the short-run. REIT M&A are often large deal sizes and with mixed payments which are often much higher than other payment methods. This study examines 22 REITs M&A during the period April 2013 to December 2019. Moreover, only one transaction per REIT was investigated. Also, the study makes use of the event window methodology to calculate the AR and the CARs. Furthermore, a regression model has been applied to investigate a 41, 11, 7 and 3 day event windows [-20, +20], [-11, +11], [-7, +7] and [-3, +3]. Data was extracted from the companies Stock Exchange News Service (SENS) and Johannesburg Stock Exchange (JSE).

Keywords: REIT, M&A, AR, CAR, Shareholders,

1 Introduction

1.1 Background to the Study

Literature on REITs M&A started in the 1980's (Glascock et al, 2018) what has been fascinating to researchers was, M&A of REITs as they have been excluded in previous studies of M&A for financial corporates (Mulherin, 2013). While M&A were predominantly noticed in the US, they also occur in other countries including emerging markets such as; India and China (Akben-Selcuk, 2015). M&A have an important contribution in business because they catalyse the growth of a firm and ensure the firm has a competitive advantage. South African REIT structure has been in existence since 2013 and M&As have occurred since then, nonetheless there is marginal literature investigating the effects of M&A more especially the impacts of M&As on shareholder. According to Boshoff (2013), little is known to South African citizens about REITs and their performance.

REIT mergers are often large and deal sizes with mixed payments which are often much higher than other payment methods (Glascock et al, 2018), therefore should be approached with thorough planning and shareholder confidence. Several studies have shown that M&As create value and increase gains for shareholders (Ling & Petrova, 2010). According to Fang et al (2016), REITs are mostly properties that produce income through rental and sells. These properties could be; shopping centres, warehouses or offices. Shareholders are generally risk averse and generally would like to maximize their investment returns (Rutterford and Sotiropoulos, 2017). In order to maximize returns REITs employ different mechanisms such as diversification and M&As. The real estate market varies and attracts different types of shareholders. Therefore, to reduce risk of a real estate portfolio, firms tend to diversify geographically or through the asset class (Akkaya et al, 2016). In addition, shareholders want to implement diversification strategies to have two possibilities; the first is to buy actual buildings the second is to buy shares in listed companies (Akkaya et al, 2016).

In South Africa there are thirty eight Johannesburg Stock Exchange (JSE) listed REIT companies. According to Ernest and Young (2016), South Africa is an emerging market which is characterised by unstable economic fluctuations, adequate corporate governance, and ease of doing business. According to Akinsomi et al (2015), the most suitable way to determine property value is through GDP, unemployment rate and interest rate. Real estate is a heterogeneous market therefore the returns are also heterogeneous meaning that returns are never predictable. According to Akinsomi et al

(2017), South African property classes that contribute to the real estate value are: retail (42%), followed by office (28%), then residential at (22%) and hotel at (8%). According to Kola and Kodongo (2017). South African REITS are equity REITs they obtain and possess real estate with an aim of controlling and administer them as real estate portfolio. Furthermore, REITs generate dividend income with capital appreciation (Gil-Alana and Yaya, 2018). In addition, managers seek for ways to reduce risk, therefore opting to diversify property portfolio as one of the modems of risk mitigation (Gil-Alana and Yaya, 2018).

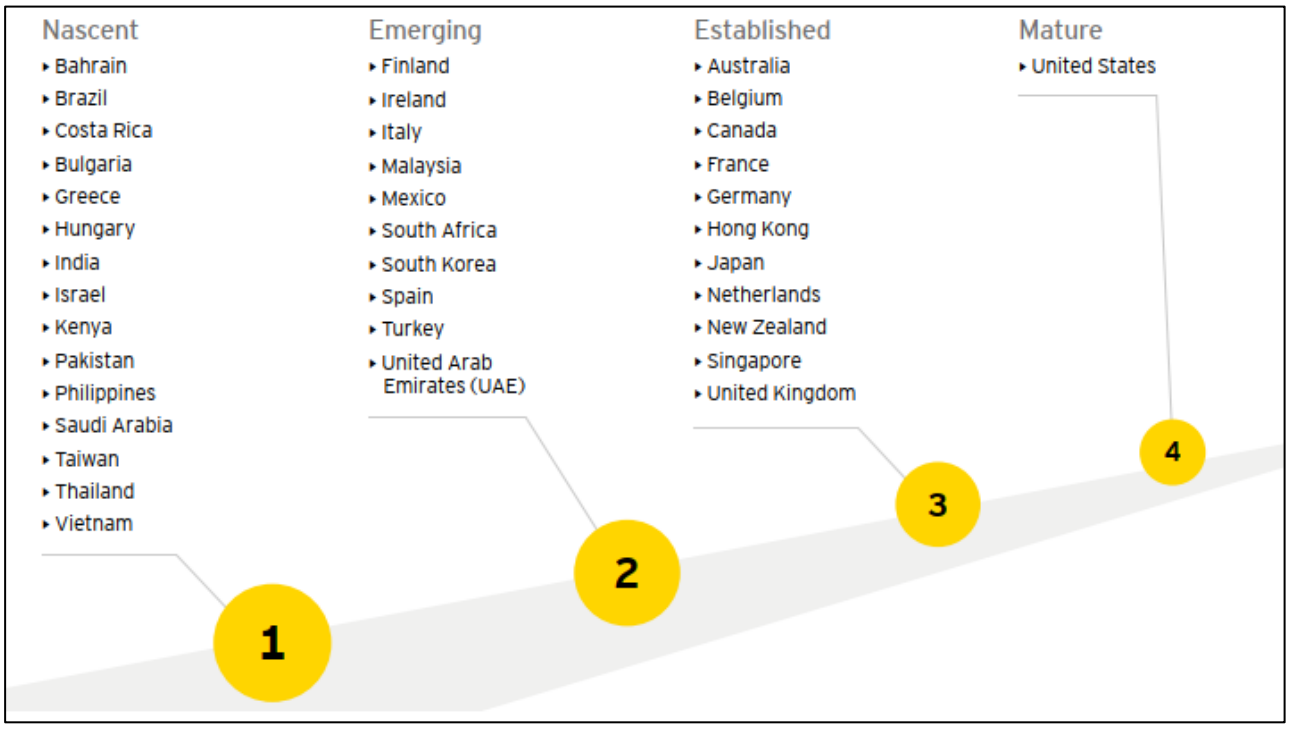
Figure 1: Countries with REIT structure

Country's adoption of REIT structure

1960 -	1970 -	1980 -	1990 -	2000 -	2010 -
Netherlands New Zealand Taiwan United States of America	Australia Puerto Rico	Greece	Belgium Brazil Canada Hong Kong Singapore Turkey	Bulgaria Costa Rica Dubai Finland France Germany Israel Italy Lithuania Luxembourg Malaysia Mexico Pakistan Philippines South Korea Spain Thailand United Kingdom	Bahrain Chile Hungary India Ireland Kenya Oman Saudi Arabia South Africa

(Source: Deliotte, REIT report, 2019; compiled by author)

Figure 2: Country's maturity of REIT structure



(Source: EY REIT report, 2016)

The reports form Deliotte (2019) and EY (2016) indicate that there is a direct relationship between the adoption of the REIT structure and the maturity of the REIT market. REITs where introduced in USA in 1960 and have spread to emerging markets such as Brazil and South Africa.

Figure 3: South African REIT framework

Table A

South African REIT framework

Type and management requirement	Company REITs (old PLSs) Trust REITs (old PUTs)
Property value	R300 million and more, worth of property
Distribution: Income to shareholder	75% and more, of income must be payed to investors
Income	75% income must be from rentals
Debt	60% and less, of gross asset value
Tax	Exempt from Capital Gains Tax (CGT) Shareholders only pay CGT when REIT is sold
Other	Possess a risk monitoring committee Regular income stream

(Source: JSE, 2020; compiled by author)

1.2 Problem Statement

There has been countless M&A since the inception of the REITs structure in South Africa. M&A are viewed as key growth strategies, through wealth creation (Womack, 2010). Furthermore, financial literature has shown M&A to generate wealth for shareholders; however, long run returns tend to diminish. Moreover, research on the reasons for M&A within the real estate sector is extremely inconclusive and difficult to ascertain (Lings, 2010). Not much research has been undertaken to quantify shareholder wealth within REITs and somewhat research has been undertaken in the context of South Africa. Literature indicates that takeover effects vary across different periods, also different motives influence takeovers. The real estate market display similar patterns as other financial services; however, they have a restrictive structure (Anderson et al, 2012). Strategic management and corporate finance have analysed motivates resulting in commercial M&A and formulated postulations based on finance companies (Ratchiffe & Dimovski, 2012). Further, previous studies do not take into account the effect of portfolio-specific and property characteristics on REIT M&A commitments. Performance of REIT has indicated different cycles compared to other corporate finance M&A's.

1.3 Primary Research Questions

1. What are the effects of M&A on shareholders' wealth within SA REITs?

1.4 Secondary Research Questions

1. Does the M&A announcement date significantly affect the shareholders?
2. What effect do M&A have on AR and CAR?

1.5 Research Aim

This research seeks to investigate the impact of REITs M&A on shareholders and investigate shareholder's AR and CAR. Furthermore, the research seeks to find out the phycology of the shareholders. Also, this report seeks to contribute to industry on the impact of M&As.

1.6 Hypothesis

1. M&A within REITs are friendly acquisitions. Additionally, acquiring firm shareholders accumulate small negative abnormal or no abnormal returns. M&As in South Africa result in small negative ARs and no CARs
2. SENS announcement date affects the shareholders either to buy or sell their shares before and after the M&A.
3. South African REITs M&As are influenced by; growth, synergy, diversification and CEO overconfidence (hubris).
4. H_0: Post announcement CAR ≤ Pre-announcement CAR
5. H_1: Post announcement CAR > Pre-announcement CAR

1.7 Limitations

The following limitations have been identified in this study:

- Only South African based, JSE listed REITs were taken into consideration.
- Only one transaction per REIT was used in the data collection.
- The period taken into consideration for M&A transactions is between 2013 and 2019. Also, a 41 day [-20, +20], 11 day [-5, +5], 7 day [-3, +3] and 3 [-1, +1] day event window was investigated.

1.8 Assumptions

The following assumptions have been made in this study:

- The South Africa REIT market, as an emerging market will act according to other emerging markets such as Malaysia and South Korea.
- The country's adoption of REIT is directly proportional to the maturity of the country's maturity.
- The SENS announcement is only exclusive for M&A, 20 days before and 20 days after the M&A announcement. There is no other SENS announcement 20 days before and 20 days after the M&A announcement.

1.9 Research Gap and Proposition

This research paper aims to contribute to literature in the South African REITs context and fill in the gap as to the performance of REITs before and after M&A. Furthermore, the paper aims to quantify and measure changes in shareholders' wealth pre and post M&A transaction. Also, the paper will present on and provide clarity to the competing M&A theories. Motives of M&A are often ambiguous and impossible to fully ascertain. One distinction that can be taken into account for M&A is the difference between neoclassical theories and non-neoclassical theories (Anderson et al, 2012). The paper seeks to establish the performance for M&A within SA REITs and the implications of M&A's to shareholders' wealth before and after a M&A transaction and to find out whether M&As are wealth creating for shareholders.

2 Literature Review

2.1 Introduction

M&A often refers to amalgamation of two or more companies. However, a merger results in a formation of a new company; nonetheless, an acquisition occurs when a company purchases a second company resulting in no new company created (Bianconi & Tan, 2019). The world has become more globalized and more technologically advanced. Most firms aim to maintain global significance and competitive advancement through unification in order to benefit through collaboration consequently, increasing performance and efficiency (Tauseef and Nishat, 2014).There is a large body of knowledge in developed economies especially in USA and Europe regarding M&As because those markets are more established and with companies frequently engage in M&As. Mergers and acquisitions can take place in any sector, for instance; M&A can take place in insurance, finance, real estate, mining or construction. The premise of this paper will be based on REITs sector. The study will scrutinize the uniqueness of South African REITs and understand the performance of REITs as compared to other financial service providers.

The theoretical framework of the study will mostly be based on literature from Europe and American because the RIETs structures in those markets are established and mature (Ernest & Young, 2016). South Africa has a developing economy and started trading in RIETs since 2013. However, before that South Africa was trading Property Unit Trusts (PUTs) and Property Loan Stocks (PLSs). There is a lot more empirical evidence provided on REITs within South Africa than academic evidence. The empirical data has indicated the consequence of M&A on company; share price, value creation, and performance. Furthermore, the empirical evidence goes on to indicate that REITs M&As perform differently as compared to other financial services.

Figure 4: South African REITs

South African based REITs March 2020)					
No	**REIT listing code**	**REIT name**	**Specialization/ Portfolio**	**Listed on JSE as REIT**	**Market Cap (Billion)**
1	APF	Accelerate Property Fund	Diversified	2013	0.741
2	AHA/AHB	Arrowhead Property Limited	Diversified	2013	1.907
3	ATT	Attacq	Diversified	2018	2.949
4	DLT	Delta Property Fund Ltd	Diversified	2013	0.292
5	DIA/DIB	Dipula Property Fund Ltd	Diversified	2013	1.855
6	EMI	Emira Property Fund	Diversified	2013	2.943
7	EQU	Equites Property Fund	Logistics	2014	10.819
8	FVT	Fairvest Property Holdings Ltd	Commercial	2013	1.73
9	FFA/FFB	Fortress Income Fund Limited	Diversified	2013	17.22
10	GRT	Growthpoint Properties	Diversified	2013	39.281
11	HPB	Hospitality Property Fund Ltd	Hospitality	2013	1.733
12	HYP	Hyprop Investment Limited	Retail	2013	4.882
13	ILU	Indluplace Properties Ltd	Residential	2015	0.954
14	IPF	Investec Property Fund Limited	Diversified	2013	7.059
15	L2D	Liberty Two Degrees	Retail	2018	3.815
16	OCT	Octodec Investment Ltd	Diversified	2013	1.613
17	REB	Rebosis Property Fund Ltd	Diversified	2013	0.336
18	RDF	Redefine Properties Ltd	Diversified	2013	13.96
19	RES	Resilient REIT Ltd	Retail	2013	14.957
20	SAC	SA Corporate Real Estate	Diversified	2015	2.758
21	SAR	Safari Investment RSA Ltd	Retail	2014	1.082
22	SEA	Spear REIT Ltd	Diversified	2015	1.058
23	SSS	Stor-age Property REIT Ltd	Storage	2015	5.134
24	TEX	Texton Property Fund Ltd	Diversified	2013	0.366
25	TWR	Tower Property Fund	Diversified	2013	0.994
26	VKE	Vukile Property Fund	Retail	2013	5.030

(Source: JSE, 2020; compiled by author)

The three primary theories in M&A are; empire building hypothesis, inefficient manager hypothesis and over-valued information signal hypothesis (Womack, 2010). Under the empire building hypothesis managers seek to increase their own compensation and therefore acquire other firms and expand the corporation beyond the ordinary size. The theory does not have a shareholder wealth effect and predicts returns for the target firm to be positive, returns for the bidding firm are negative and returns for the combined firm are non-positive. The inefficient management hypothesis suggests some firms have unrealized potential and such firms should be acquired by firms which are better run and managed. The overvalued information signal hypothesis suggests that information given in the financial markets are inefficient whereas company leaders are reasonable and comprehend the market's inefficiencies. Therefore, managers make decisions in their own interest and not shareholders' interests. Additionally, the hypothesis makes the following predictions; returns for the acquired firm are positive, returns for the bidding firm's returns are negative and returns for combined firm are negative (Womack, 2010).

2.2 Background on M&A

M&A have often been a topic of interest in finance and accounting. Furthermore, various theories have been constructed to justify the rationale of M&As. Within business M&A are a vital necessity in order for the business to expand. M&As were primarily noticed in the USA because of improved regulatory environment, corporate governance and technological infrastructure (Akben-Selcuk, 2015). Nevertheless, emerging markets have been experiencing M&As through transactional values and deal numbers. There are three main theories in M&A which are; efficiency & synergy, hubris and agency theories. Within the efficiency & synergy theory, both the acquiring and targeting firms expect to have positive returns. In the hubris theory, the decision is made by the CEO. Over confident CEO's are often over optimistic in their projected returns. There on the hubris theory, positive returns are expected by the targeting firm nonetheless the acquiring firm is expected to have negative returns (Akben-Selcuk, 2015). The agency theory conceived by Meckling & Jensen (1976), suggests acquiring firm managers transact to benefit themselves other than maximize shareholder wealth (Akben-Selcuk, 2015). The three theories of M&A indicate positive abnormal returns for target firms' shareholders although returns for acquiring firms remain mixed. The inefficient management theory suggests that "there are always companies with unexploited opportunities to increase earnings and sales and cut the costs. These firms are well suited to be acquired by other firms that have greater management" (Womack, 2010).There are various factors leading to M&A such factors include;

diversification of portfolio, CEO bias, improving shareholders' wealth. The effect of REITs M&A is congruous to other finance services outcomes with regards to bidding strategies, takeover gains, bondholder effects, management effects and industry structure effects (Glascock et al, 2018). Moreover, the difference is that M&A between REITs are usually larger than general mergers (Zhou, 2017).

Cortes et al (2015), studied shareholder wealth effect due to M&A within Latin American Airlines during 1996 to 2013 using the GARCH and OLS models. Furthermore, the study reveals positive abnormal returns in the short-run. Lu et al (2015), suggest that the initial M&A result in abnormal returns to the acquirer however, tend to underperform in the long-run as compared to non-acquirers. Ismail and Davidson (2005), investigated shareholder wealth effect in European bank mergers. The study examined 102 mergers in Europe between 1987 and 1999. Moreover, the findings are consistent with finance literature in that, there are positive returns. Also, merger deals earn higher returns than acquisition deals. In addition, the results indicate that cross border M&A result in greater return than national and local M&A.

It is understood that target returns are positive within REITs nevertheless, comparatively insignificant juxtapose to the ones indicated in research outside the real estate industry (Anderson et al, 2012). It is important to separate the performance of REITs from non-REITs related firms because publicly traded REITs are very specific and have detailed regulatory guidelines; furthermore, these parameters usually blend REITs making synergistic gains from M&As increasingly challenging, while equally rendering occasions for present greater gains from economies of scale in business expenses (Anderson et al, 2012). Research has indicated that non-REITs M&A have constantly found that accruing firms' shareholders in friendly M&A experience insignificantly negative abnormal returns whereas target firm owners experience large positive abnormal returns (Campbell, 2002). Campbell (2002) found that M&A within REITs is vastly different from other corporations such as financial institutions. Further, REITs M&A are stock financed, and show wealth effects that are less negative than those perceived in the stock-financed mergers in regular companies. REITs perform like non-REITs, as M&A seek to enjoy gains. Although, CARs of REITs are generally lower than non-REITs due to homogeneity of the assets and a lack of hostile takeover (Ratcliffe & Dimovski, 2012).

2.3 Companies Act 71 of 2008

Chapter 1 definitions

'Acquiring party', *when used in respect of a transaction or proposed transaction, meaning a person who, as a result of the transaction, would directly or indirectly acquire or establish direct or indirect control or increased control over all or the greater part of a company , or all or the greater part of the assets or undertaking of a company*

'Amalgamation or merger' *means a transaction, or series of transactions, pursuant to an agreement between two or more companies, resulting in-*

(a) The formation of one or more new companies, which together hold all of the assets and liabilities that were held by any of the amalgamating or merging companies immediately before the implication of the agreement, and the dissolution of each of the amalgamating or merging companies; or

(b) The survival of at least one of the amalgamating or merging companies, with or without the formation of one or more new companies, and the vesting in the surviving company or companies, together with any such new company or companies, of all of the assets and liabilities that were held by any of the amalgamating or merging companies immediately before the implementation of the agreement

'Amalgamated or merged company' *means a company that either-*

(a) Was incorporated pursuant to an amalgamation or merger agreement; or

(b) Was an amalgamating or merging company and continued in existence after the implementation of the amalgamation or merger agreement,

(Source: Companies Act and Regulations, Act 71 of 2008, compiled by author)

2.4 M&A in financial services industry

a) Management through corporate governance

Managers tend to make investment decisions based on corporate governance. Furthermore, finance literature has indicated that robust corporate governance compels the board to make decisions in accordance to shareholders wealth gain (Campbell, 2011). Additionally, M&As can be profitable to managers through; increasing company's' yearly forecast, manager's span of control and their compensation (Campbell et al, 2011). The hubris hypothesis infers that; leadership of the company become overoptimistic when judging M&A options as a resultant of superfluous self-confidence. Managers and CEO are ultimate decision makers with regards to M&A. Moreover, it is well documented that managerial decisions are a result of overconfidence in the investment therefore suggesting that human bias is a strong determinant of M&A. Akbulut, (2013) supports the view that overvalued equity seems to drive stock M&A. Similar to Eichholtz & Yonder (2015) and Lu et al (2015) who indicated that behavioural bias often dissolutions mangers into believing that M&A often will happen according to their predictions.

Berger et al (2001) suggested that the possible reason for M&A within financial institutions is to improve efficiency and increase market power in response to shareholder demand to maximize value. Mulherin & Womack (2015), suggest that REIT M&As maximize shareholder wealth. The banking industry is very competitive therefore the use of M&A is a strategy to curb steep competition within the banking industry, other pressures that have been in play in recent years include; structural deregulation, globalization, technology development and prudential reregulation (Pinter 2011). Financial literature indicates that the leading theory for M&As within the financial services sector is the efficiency & synergy theory. Furthermore, due to globalizations and advancement in technology, financial service firms have increased consolidation in order to grow. Berger et al (2001) noticed that credit institutions in Europe increased M&A between 1990 and 1997 so as to survive. Pinter (2011), provides five factors which give rise to M&As. These are; work collaboration through; financial synergy, diversification & market development, economies of scope & economies of scale, increase in dominant market position and customer focus. These factors fall under the energy and efficiency theory, suggesting that both the acquiring and target firms seek for positive returns to their respective shareholders.

Geographic diversification of financial institutions tend to create value. Notably, in 1998 two large banks in Canada wanted to consolidate; however, the government disallowed the merger to occur. The banks then opted to seek growth opportunities outside the borders of Canada. Bessler & Murtagh (2002), noted that acquisitions of international target retail banks created more value than acquisition of domestic retail banks. Cross-border M&A of financial institutions have shown mixed results in empirical evidence especially in developing counties (Bessler & Murtagh, 2002). Additionally, little research exists for emerging and less develop countries (Tauseef and Nishat, 2014). Technological advancement though transactional processes has accelerated transactional process therefore creating ease for M&A to occur. Cross boarder M&A of financial institution often result in barriers of entry which may end up in underperformance of the consolidated firm. Berger et al (2001) noted these barriers of entry to be; differences in currency, regulatory structure, and explicit rules against foreign competitors, language and cultural barriers. Furthermore, Pinter (2011), noted similar barriers which are; shareholders satisfaction, organizational culture and alignment of financial asset.

b) M&A in global insurance companies

Technological advancement has led to the evolution of companies and therefore developing financial services markets to integrate their operations (Cummins et al 2015). The Gramm-Leach-Bliley Act of 1999 facilitated M&A of financial services firms to own insurers, banks and other financial companies. Cummins et al (2015), used the standard market model event methodology to investigate M&As in the insurance sector. Their data was extrapolated from Tomson DataStream global stock price database, for the period between 1990 and 2006. From the sample size Cummins et al (2015), noticed aggressive transaction within mature markets such as Europe and USA. However, more research on M&A need to be conducted to analyse the influence of the economic recession on insurance companies.

c) Banking sector

The banking sector mainly transacts in M&A through; performance observations, dynamic efficiency observations and event observations (Beitel and Schiereck, 2001); (Beitel et al, 2004). Bank M&A attracts interest from; borrowers, policy makers' debtors and shareholders. In addition, the baking sector plays a part in the economic growth. Although one, major concern by policy makers is the impact of M&A on the transmission of the monetary policy (Atlunbas and Marques, 2008). Atlunbas and Marques (2008), indicate that there is greater performance after M&As for European banks.

Furthermore, the return for cross-border M&As is significantly large. In order to study the banking M&A, Pillof and Santomero (1998), proposes the event study methodology is the best method because it investigating M&A performance and allows for the best judgement of value implication (Beitel et al, 2004). Tauseef and Nishat (2014), investigating the banking sector in Pakistan between 2003 and 2008 showing that cumulative abnormal return ranges from significantly positive to significantly negative. Nonetheless, Cybo-Ottone and Murgia (2000), indicate that between 1988 and 1997, European banking market had received positive and significant increase in shareholder wealth of both the acquiring and the acquired banks. Energy efficiency theory is applicable in the banking industry as both the acquiring bank and the target bank indicated a positive and significant wealth effect (Anand & Singh, 2008 and Tauseef & Nishat 2014). Since 1998 majority of M&A have occurred in the commercial sector including; leasing companies, banks and mutual funds.

From a sample size of 102 M&A announcements between 1987 and 1999 by research done by Ismail and David (2005), show that the hubris theory was fulfilled because the target firms indicated positive returns whereas the acquiring firms showed significant negative returns (Ismail and Davidson, 2005). Moreover, what was discovered is that there was a gradual increase in competition therefore the banks merged to ensure that they were still relevant within the industry, improved delivery and satisfied clients to prevent loss of profits (Ismail and Davidson, 2005). Nevertheless, research by Beitel et al (2004), indicate that in the period 1985 to 1999, there has been a decrease in the number of banks due to M&As. Furthermore, they applied a regression model to analyse the M&A transaction from the perspective of target shareholders, acquirer shareholders and combination of acquirer and target. What was discovered is that successful acquirer often opted for undersized and booming targets shares with bad relative efficiency measure.

An increasing trend in USA, Canada and UK indicates that the banking industry has undergone server transformation due to a decrease in the number of commercial banks. Therefore, resulting in large assets owned by a few large financial institutions (Lambkin & Muzellec, 2008). Over time European banks have changed the way they deliver bundle and structure their activities due to changes in; technology, globalization, currency and regulation (Ismail and Davidson, 2005). The U.S banking sector started liberating the geographic restrictions in the beginning of the 1970's, allowing banks to transact with other foreign banks. As from 1979 to 1994, there has been over 3,500 M&A in which more than two banks consolidate into one entity. As a result the banking state has been in a continuous transformation (Berger et al, 1998).The advantages of M&A within the banking sector

include; geographic diversification, improved competition, removal of inefficient bank managers. The disadvantages about M&A as indicated by Berger et al (1998), is that the amalgamated bank supplies less credit to small banks. Also, they found that M&As in small to medium size banks lead to increase in business lending. However, M&As in larger banks lead to decreased business lending but, for acquisitions results are obtained. M&A financial performance is similar in Europe and America. Atlunbas and Marques (2008) noted a lot of M&As took place in the European Union in the early 1990s although, cross boarder M&A remained limited in the banking sector (Atlunbas and Marques 2008). An event study methodology was applied to find out if banks accumulate notable stock market valuation gain for both the acquiring and acquired firms. The sample size was from 1992 to 2001, comprising of a wide range of European Union banks

2.5 M&A in the Mining Industry

Humphreys (2017), suggests that there was a commodity boom in the period 2004-2012 thus enabling mining companies from emerging markets to compete in international capital market. His findings were that the mining industry was very cyclical and very risky therefore, firms engaged in M&As so as to remain within the market. Additionally, shifts in the mineral markets changed the way business was conducted. The factors include; globalization, technology and governmental policies.

In India M&A have enhanced business restructuring in the economy during the 1990's, this was primarily due to policy change of the outward foreign direct investments. During the period the largest share was services sector, industry sector and followed by primary sector including mining. In the USA during the period 1985 to 1999, the primary sector such as mining industry has decreased and; therefore, the shares purchased by manufacturing and mining companies had drastically decreased (Pryor, 2001). The USA has gradually shifted to the tertiary sector such finance, services and communication. The short run impacts on market concentration indicated that most M&As occurred in firms within the same standard industry classification. Pryor (2001), discovered that; half of the mergers occurred within the primary sector which includes mining industry with predominantly large companies.

Pryor (2001), discovered that M&As occurred with the same industry despite the geographical location of the market. One of the major purposes for M&As was to gain market share in order for managers not to divest part of the firm. Also, in the long run the consolidated firm would be very

profitable. In the long run firms that merged seemed to have a better market share than firms that did not merge. Further, smaller firms' market share increased due to them being more able and to change to the economic demands. Pryor (2001), discovered that there is a lot more M&As but a lot more M&As occur in the secondary and tertiary sectors.

Tufano (1996), found that M&As in the gold mining sector was a result of firms needing to diversify their risk due to the industry volatile. Gold was chosen for the research because; gold mines incur considerable volatility; capital market have developed diversified policies regarding gold price management and implementation of the policies are publicly revealed which allows for direct observation of financial risk mitigation of companies. Furthermore, the findings were consistent with May (1995), who indicated that acquiring firms with managers with the greatest wealth invested in the firm had a high probability to opt for diversifying M&A so as to mitigate risk. Tufano (1996), discovered that manager with varied alternatives oversee less risk and managers with varied sock shares oversee greater risk and managers & CEOs invested interest determine the M&A. To incentivize the shareholders; firms tend to align the CEO's equity ownership in line with shareholders' returns through indicating more pay-for-performance across stock and option grants.

Since reform of policy in 1978, Chinese coal industry has developed rapidly. Shen et al (2011), identified major factors that affect growth of Chinese coal industry from 1979 to 2011. The mining industry experienced numerous M&As in the period between 1995 and 2006. Research by Warell (2007) uses an event study approach to analyse the efficiency and competitiveness of a sizeable M&A on the iron ore industry. The event study seeks to understand the reaction of most notable M&A which are; North Ltd and Rio Tinto which happen in 2000, CVRD and Ferteco which happened in 2001, CVRD and Caemi which happened in 2001, lastly Anglo America and Kumba Resource in 2002 (Warell, 2007). The two methods applied by Warell (2007), are profit flow study and the event study. To contrast the two; profit flow studies are ex-post that scrutinize the accounting data. Nonetheless, the event study is grounded on the market response during the M&A announcement (Roller et al, 2000 and Warell, 2007). The merger between North Ltd and Rio Tinto which took place in 2000 was not only one of the largest deals but it involved the top firms at that time. Warell (2007) suggests that firms in the iron ore industry adhere to neoclassical theory of wealth maximization to be the motive for M&A. This is consistent with financial literature of M&As. Furthermore, he also suggests that managerial theories influence M&A as they are non-wealth

maximizing theories. Warell (2007), noticed that the M&A transaction between North Ltd and Rio Tinto created profit for shareholders.

2.6 M&A in the Energy Industry

Since reform of policy in 1978, Chinese coal industry has developed rapidly and is recognized as a crucial factor that affect growth of Chinese coal industry from 1979 to 2011. Moreover, China has plenty of coal but is poor in other natural resources such as gas and oil (Shen et al, 2011). Coal is the primary source of power in China and accounts for nearly 68.7% of the entire energy consumed (National Bureau of Statistics of China, 2009). Further, the four industries which are major coal consumers are; building materials, metallurgy, chemical industry and power (Shen et al 2011). Over the years the Chinese governments has passed strict regulations of coal energy production therefore, dampening the growth of producers. Additionally, over thirty years the government has adopted different policies to mitigate issues like economic development, transition and globalization (Shen et al, 2011).The changes in the policies have led to the shrinkage of suppliers in the coal industry, demonstrating the ruthless nature of the market. The biggest coal company which is Shenhua Group was responsible for 8.5 percent of the entire contribution in 2008 showing that there has been weak motives from the Chinese government to foster M&As as there is a monopoly in power producers in the Chinese economy (Shen et al 2011).

2.7 M&A in the Real Estate Sector

Real estate is highly diverse and therefore indicate various returns for different asset classes. The real estate industry operates differently from other industries due to its heterogeneity. Real estate literature indicates that M&As are friendly in nature. Therefore, this suggests that M&A might occur to reasons opposing the shareholders best interest (Wamak, 2009). Nevertheless, M&As are generally wealth creating in which shareholders receive gains. The measure for wealth creation is through cumulative abnormal returns (CARs). The real estate industry is relationship orientated other than other industries, where there are premiums on both the firm and on the individual professional (Womack, 2009). Motives for M&As in real estate are different from other industries. Also, M&As happen when companies with efficient managers purchase other companies with potential so as to reduce costs and intensify returns for shareholders and the company, this is known as the inefficient management hypothesis. Empirical evidence from the REITs market has indicated that shares of

acquiring firms underperform anticipated returns from projected forecast. Within real estate the average CARs range between 3.1% and 7.5%, which is totally different to other industries outside the real estate.

2.7.1 M&A among Real Estate Operations Companies

Real Estate operating companies (REOC) operate like RIETs the main difference is that RIETs are listed and real estate operating companies are not listed. However, REOCs are not constrained by regulations such as REITs (Womack, 2010). The criteria stipulated by the JSE for a company to be recognized as a REIT. There is a vast array of unlisted operating companies such as; property developers, real estate agencies and real estate valuation companies. Transactions in the non-REITs indicate more abnormal returns, other than REITs because they use cash as the basis of payment.

2.7.2 M&A among REITs

Literature on REITs M&A started in the late 1980's (Glascok et al, 2015).There are a lot of studies that examine REIT M&A (Mulherin, 2013) because they are vital for businesses (Akben-Selcuk, 2015). The fundamental reason for M&A in real estate is that companies with efficient managers obtain other companies in order to reduce cost, intensify and increase profits. Furthermore, the outcome of the M&As is wealth creation (Womack, 2010). According to Campbell (2002), the three distinct features of M&As are; occurrence, mergers are financed as stock swaps, mergers are often friendly takeovers and mergers are extremely cyclical in the prevalence of their existence. Hostile takeovers between real estate companies are exceedingly scarce (Womack, 2010). Real estate transactions are unique in that most take overs are friendly transactions meaning that less severe information asymmetry and that less government interference have a positive impact within REITs (Lu et al, 2015). In most operating companies, literature indicates a negative performance of the merged firm post M&A, although REITs indicate a positive shock returns post M&A (Lu et al, 2015). REITs are less competitive as compared to other markets, this is disadvantageous to the acquired firm as it may be sold at a below market value (Mulherin, 2013). The reason for less competition is that REITs do not usually transact in the market and there are a few players in the market. According to Anderson et al (2012), acquisitions between real estate companies are usually scarce and hub on the inefficient management theory to describe acquisitions in the real estate sector. Corporate governance issues are less monitored in REITs M&A due to the distinctive investment and regulatory

nature of REITs. Also there is a lack of hostile takeovers as compared to general financial organizations (Ling & Petrova, 2010; Campbell, 2002).

Allen & Sirmans (1987), indicate that the bidder firms returns are statistically insignificant compared to Campbell and Ghosh (2005) who indicate that returns for the bidder firm are negative. Womack (2010), suggests that the likely explanations to the variation of the research outcomes could be due to; tax laws and REITs regulations changing over a period of time, and a greater amount of diversity with regards to the research methodology (Womack, 2010). Coalitions in real estate create profits and shareholders gain positive returns and at worst, break even. Furthermore, the theory which is strongly supported is the inefficient management theory that states that companies with more efficient managers obtain other companies with potential in which they exploit the potential that was unrealized by the previous manager. The abnormal returns were in the range of 5% and 6%; however, the returns for the bidder are between -1% to 0% and the returns for the combined is between 0% and 2%.

Reasons why REITs merge include: shareholder wealth maximization, diversification of portfolio and competitive advantage. According to Lu et al (2015) the two main reasons for REITs take over are due to company expansion strategy and manager's overconfidence of returns. Overconfidence is a behavioural bias and tends to result in the overestimation of outcome therefore underestimating the lurking risk (Eichholtz & Yonder, 2015). Also, expectation from the managers can optimise the target's productivity by intensifying managerial cohesiveness (Lings, 2010; Agrawal & Jaffe, 2003). Diversification of portfolio reduces risk. One technique of reducing risk is through M&A. Further, related M&A reduce return on asset (ROA) volatility, whereas unrelated M&A reduce corporate risk. Usually, firms that are in financial distress, those that underperform are usually subject to M&A (Lings, 2010; Wruck, 1990; Clark & Ofek, 1994). Additionally, M&A attract high cost of debt (Sriewe et al, 2016). REITs have a high probability of M&A in order to attain influence over assets with calculated significance to their portfolio. Furthermore, REITs are characterised by; reducing competition, eliminating market power, acquiring control over vacant site for upcoming development and obtain local management and development skills to have strategic competitive advantage (Freybote & Qian 2015).

There are various factors leading to M&A such as; diversification of portfolio, CEO bias and improving shareholder's wealth. The effect of REITs M&A is congruous with other finance

outcomes such as bidding strategies, takeover gains, bondholder effects, management effects and industry structure effects (Glascock et al, 2018). Moreover, the difference is that M&A between REITs are usually larger than general mergers within the financial services (Zhou, 2017). Lu et al (2015), found that the initial M&A result in abnormal returns to the acquirer yet tend to underperform in the long-run as compared to non-acquirers. It is understood that target returns are positive within REITs still, marginally small juxtapose to research outside the real estate sector (Anderson et al, 2012). It is important to separate the performance of REITs from non-REITs related firms because publicly traded REITs are very specific with a unique administrative framework; Also, these frameworks often homogenize REITs making synergistic benefits from M&As increasingly challenging, while equally yielding opportunities for increased security from economies of scale in operating costs (Anderson et al, 2012). Research has indicated that non-REITs M&As have constantly found that accruing firms' shareholders in friendly M&As acquire minute negative abnormal returns whereas target firm owners acquire significantly positive abnormal returns (Campbell, 2002). Campbell (2002) found that M&A within REITs is vastly different from other corporations. Moreover, REITs M&As are stock financed, thus indicating wealth effects which are less negative than those detected in the stock-financed M&A in standard firms. REITs perform like non-REITs, as mergers seek to enjoy gains. Nevertheless, CARs of REITs are generally lower than non-REITs due to homogeneity of the assets and a lack of hostile takeover (Ratcliffe & Dimovski, 2012).

Ling and Petrova (2010), used two regression methodologies in their research. On the first regression model an analysis of firm characteristics and market conditions was conducted. On the second regression model a multinomial logit model is applied. Furthermore, for both regression models a sample of 161 M&As were taken into account (Campbell et al, 2009), the buy-and-hold abnormal returns (BHARs) measure was used to analyse a sample consisting of 114 REIT mergers over the period 1994-2001 (Campbell et al, 2009). Findings entailed, negative buy-and-hold abnormal returns of about -10% for the buyer's shareholder over a sixty month period. Also, the results is inactive of the literature that indicates the underperformance post-merger and the reason for the underperformance. Ratcliffe & Dimovski (2012), investigated surplus returns due to M&A announcements using meta-analysis procedure. Moreover, the multivariate regression model was applied to estimate CARs from M&A announcements.

2.8 Uniqueness of REITs

(a) Diversification of risk

Diversification has been a concept long existent before the REIT market. The main purpose of diversification is to spread risk and maximize profit. Literature in the UK indicates that shareholders diversified their risk long before the Modern Portfolio Theory (MPT) in the mid-twentieth century (Rutterford and Sotiropoulos, 2019). Most, REIT literature has indicated that there are gains through diversifying property portfolio in mature markets as opposed to emerging markets due to volatility of macroeconomic conditions. Moreover, internationally diversified real estate companies show a low degree of returns co-movements and transmission yet, there are benefits for internationally diversified mixed real estate portfolios. (Lu et al 2012). Diversification is risky nevertheless, is important for increased REITs capitalization. According to Fang et al (2016), REITs compared to stocks, spread risk through possession of different investment portfolio and can consequently indicate a secure investment return. Shareholders seek to minimize risk and maximize profit (Rutterford and Sotiropoulos, 2019). Real estate literature has supported diversification because it results in more profit for shareholders. According to Akinsomi et al (2015), shareholders seek to minimize the firm's exposure to risk and optimize returns through geographic or property type diversification. Lu et al (2012), suggest that executives seek global REIT diversification choices; however, they do not assess market connections as studied by return correlations and causality but also as the level of risk contribution as studied by risk and value. Managers should understand market conditions before geographically diversifying their portfolio as market conditions impact on return.

(b) diversification/macro-economic factors

Macro-economic factors influence shareholders' decision making as the factors have a direct relationship on the returns of offshore investment. In support of the macro-economic factors are; stating that interest rate, inflation rate and stocks are macro-economic factors that affect REITs in Japan, Singapore and China (Fang et al, 2016). According to Pavlov et al (2015), there is a direct correlation between the market conditions, macroeconomic risk factors, firm performance and credit. The real estate market is capital driven and most of the time creditors are often banks.

Emerging markets are volatile therefore the macroeconomic factors fluctuate result in instability in the market conditions. According to Akinsomi et al (2017), the correlation between commercial real estate returns and GDP is unfavourable in South Africa. Further, unemployment rate is negatively correlated to real estate profits in South Africa. Interest rate and inflation are drivers of commercial real estate and they affect rentals and vacancies across all South African property types. According to Kola and Kodongo (2017), the important macro-economic factors that affect REITs are: industrial production growth, output growth, inflation rate and term structure. Furthermore, interest rates were discovered not to relate to the REITs performance yet, most recent studies have indicated that interest rates are negatively correlated to REIT performance (Fang et al, 2019).

(c) Returns in offshore diversification

Returns from a diversified market result in varied returns. According to Fang et al (2019), diversification of REIT can diversify risk and thus lead to a stable investment return. According to Rutterford and Sotiropoulos (2017), from the 1870's, UK shareholders have been encouraged by financial advisors to diversify their portfolio and split them equally between different holdings considering the global market.

(d) Inflation hedging

Inflation is usually a significant threat to developing counties because they are exposed to inflationary shocks (Stefan, 2017). Due to the time value of money, inflation negatively affects a country's economy. Stefan (2017), argues that if an asset is to be an inflation hedge its normal profits must have a positive correlation of one or close to one with inflation, and its real returns must be unrestrained to inflation. Nonetheless, recent literature indicates that REITs are not an inflation hedge. According to Stefan (2017), it is better to invest in domestic asset class as opposed to a foreign one and it is better to diversify investment tools.

(e) Shareholder wealth effect

Financial literature consistently records large abnormal returns for target companies, preceding M&A announcement (Ling & Petrova, 2010). Examination of M&A on shareholder wealth effect is one of the frequently investigated topics in finance (Doukas & Petmezas, 2007). The reason is that shareholders are important to the company and are fundamental in the sustainability of the RIETs.

In the study by Mulherin & Womack, (2015) the primary questions which were being investigated were pertaining to the quantification of the shareholder wealth produced by the REIT M&As. The quantitative techniques applied include; cumulative abnormal returns (CARs) and capital asset pricing model (CAPM). These are basic techniques used to measure the performance of RIETs. Mulherin & Womack (2012) noted that the acquiring firm shows negative CARs resulting in shareholders receiving less returns on their investment.

Akben-Secuk (2015) supports literature that indicates that theories of M&A project positive abnormal returns for target shareholder still the anticipated results for acquirers are mixed. Within the European banking sector there is low positive abnormal returns towards shareholders because acquirers are more cautious (Ismail and Davidson, 2005). Evidence from REIT M&A literature has shown that shares of purchasing company underperform pertinent standards in the years preceding the M&A (Campbell, 2009). The phenomenon of underperformance is often referred to "Jensen's anomaly" However, in the short run the acquiring firm receives abnormal returns Campbell (2009), discovered that measuring abnormal returns in the distant future is challenging due to a diverse statistical faults that can produce factitious results. In his research he used the Buy and Hold Abnormal Returns (BHARs) as a matric to measure long-horizon returns. His findings indicated that the acquiring firm underperforms in the long run compared to non-merging REITs.

Most literature study indicate that shareholder returns in REIT M&A focuses on announcement period returns, and demonstrate that the acquiring firm's profits are varied subject to the public-private characteristic of the target company. For the public and private REIT merger, the announcement period results in abnormal returns to the purchasing company shareholders which are small but significantly negative in the -1% range (Campbell. Ghosh and Sirmans 1998, 2001; Sahin 2005). Furthermore, Campbell et al (2009) indicated that public-private REIT M&As are significant in the short term but the benefit disappears in the long run irrespective whether it was a public or private nature of the target.

Figure 5: Shareholder benefits of investing in REITs

Shareholder benefits of investing in REITs		
1 Liquidity	:	REITs trade on the JSE and more liquid than physical property
2 Price transparency	:	Share price of REITs are determined by market forces and are visible to the public
3 Regular income stream	:	Lease agreements usually sustain the REIT There is an advantage of annual increase
4 Taxes	:	REITs are exempt from Capital Gains Tax Shareholders only pay Capital Gains Tax when the REIT is sold
5 Diversification	:	Shareholder can get exposure to various properties
6 Well regulated	:	REITs are regulated by; the Companies Act, Collective Schemes Control Act, JSE Authority, REITs legislation
7 Exposure to immovable property	:	Shareholders gain exposure to immovable property with lower initial outlay

(Source: JSE; 2020, compiled by author)

(f) International Mergers & Acquisitions

Globalization is increasing, and international companies seem to have a competitive edge. Cross boarder diversification through M&A has a greater returns as compared to locally diversified REITs. RIETs are an ever-growing market and internationally interest themselves in diversifying into other markets to broaden their commercial real estate holdings (Coën and Lecomte, 2019). Intercontinental diversification has been a subject of interest, as different markets operate differently, According to Coën and Lecomte, (2019), in the period from 2000 to 2016 the global market of capitalization of REITs has increased to $1.6 trillion in the USA, European and Asian markets altogether. In Australia there has been an increase of A-REIT M&A. Furthermore, the A-REIT has been experiencing exponential growth even during the global crisis (Ratcliffe et al, 2009). Research conducted by Ratcliffe et al (2017), indicate that in the long run there is an underperformance of A-REITs after M&As. Also, M&A are predominantly driven by synergy within A-REITs. Racliffe et al (2009) studied 36 completed A-REIT M&A, their results were consistent with real estate literature in that M&A resulted in excess gains. China has experienced various outcomes with regards to M&A. Resulting in inconsistencies both in academia and in industry. A study done by Wu el al (2016), indicated that foreign M&A result in a significant wealth effect yet; asset size, growth rate, and ownership concentration have a significantly negative influence on the wealth effects. Akben-Secuk (2015), indicated that Turkish firm's M&A are consistent with literature in that the profits from M&A benefit purchased companies and that the acquirer pays a premium to control the rights of the target firm. Additionally, the reasons for increase of REIT M&A are improvements in; technological infrastructure, corporate governance and regulatory environment (Akben-Secuk, 2015). According to Lings (2015), M&A's are motivated by a number of factors including; accounting or stock price underperformance, external shocks to industries, financial distress, attempts to create market power merger synergies, the desire to minimize corporate income tax liabilities, as well as a variety of agency and corporate governance factors. Campbell (2009), indicates that for the rigid corporate governance ensures that managers make decisions that are consistent with shareholder wealth maximization.

2.9 South African REITs Mergers & Acquisitions

South Africa is an emerging market, therefore showing significant growth in the short-term production and simultaneously showing signs of political and financial instability (Ntuli & Akinsomi, 2017). REITs in South Africa got acknowledgement in 2013. The aim of the induction of REITs was to address the inefficiencies of Property Loan Stocks (PLSs) and Property-Unit Trusts (PUTs) which included; not being internationally recognized, unclear legislation and tax matters (Ntuli & Akinsomi, 2017). Mabece (2018), suggests that due diligence results in successful M&As. The failure rate of South Africa REITs M&A transactions is inconsistent with the findings of Womack (2010) who found that real estate mergers are wealth creating. M&A in South African REITs do not concern themselves on synergy and resolving corporate differences that exist between the companies (Mabece, 2018). BEE compliant firms indicate a higher return than non-BEE rated firms and more engagement in M&As. Moreover, firms that have a high BEE score generally have high profits and have minimum risk due to favourable policies (Akinsomi et al, 2016). REITs often involve few transacting companies and including less all-stock bids and negligible all share bids. Also, the deal size with mixed payments are much higher than other payment methods (Glascock et al. 2015).

3 Research Design Introduction

This chapter will illustrate the research design and the research strategy. Furthermore, it will indicate the chosen method that will determine the shareholders' wealth effect, pre and post M&A announcement. The main focus will be to analyse the four event windows which are 41 [-20, +20], 11 [-5, +5], 7 [-3, +3] and 3 [-1, +1] day event windows. Moreover, the event window has been chosen because it is the most effective method to determine shareholders' AR and CAR.

3.1 Research Design

The study will make use of a quantitative method. The reason for scientific research is to apply objective and systematic methods of finding solutions to problems. Additionally, scientific research helps observers more familiar with phenomenon in measurable means. Lastly, the research investigates the change in share price based on stock market data extracted from Yahoo finance.

3.2 Research Philosophy

The study is based on positivism. The reason for the selected research philosophy is that data will be empirical thus being founded on observations and measurements.

3.3 Theoretical Framework

The research will employ AR and CAR to assess the wealth during the event window. AR measure the difference between the actual return against the expected return. CAR measures the effect that the event has on the returns.

3.4 Population and sample

3.4.1 Population

There are thirty eight listed REIT listed on the JSE, of which twenty six REITs are South African based REITs. The research investigated REITs that invest in diversified portfolios.

3.4.2 Sample

The study only took into consideration twenty two South African based REITs which are listed on the JSE which have been transacting as REITs for more than five years. Furthermore, from the twenty two REITs, nine were property acquisitions, nine were company acquisitions, three were share acquisitions and one was a REIT acquisition. From the sample, there was no further SENS announcement taken into consideration before and after the M&A transaction. Furthermore, purposive sampling has been used. This entails taking into account the relent data.

3.5 Methodology

The below formula will be used to analyse the individual stock price movements. The below method shows the changes in the stock price for an individual stock (Lin et al, 2016). Eq. (1) illustrates the return of a security.

$$Rit = \alpha i + \beta i Rmt + \varepsilon it \quad (1)$$

Where Rit represents return on security *i* on day *t*, αi and βi are variables of the market model and are evaluated by running an ordinary least-square regression over an approximate window, Rmt is return on the market portfolio on period *t* and εit is the zero mean disturbance term.

Abnormal returns measure individual stock over a certain period of time. The average AR is the average value of the abnormal returns of all sample companies during each period (Lin et al, 2016).

The abnormal return is shown in eq. (2) which represents the variation between the actual returns and the expected returns of a specific period:

$$\mathrm{AR}it = \mathrm{R}it - \mathrm{E}(\hat{\mathrm{R}}it) \quad (2)$$

Where $\mathrm{AR}it$ stands for abnormal return of stock *i* on day *t*, $\mathrm{R}it$ is the actual returns on stock *i* on day *t* and $\mathrm{E}(\hat{\mathrm{R}}it)$ is the expected returns on stock *i* on day *t* (Lin et al, 2016).

The average abnormal returns measures stock of all the companies during period T (Lin et al, 2016). Eq. (3) represents estimated absolute returns over a given period.

$$\overline{ARt} = \frac{1}{N}\sum_{i=1}^{N} ARit \quad (3)$$

Where $\overline{ARt}$ represents the AAR of the average of the AR rate of companies during period *t*, $\frac{1}{N}$ is, $\sum_{i=1}^{N} ARit$ is the abnormal return of stock *i* on day *t.*

Cumulative abnormal returns measure the returns from period T1 to event period T2 (Lin et al, 2016). And eq. (4) represents cumulative absolute returns:

$$CAR(\tau 1, \tau 2) = \frac{1}{N}\sum_{i=1}^{N}\sum_{t=\tau 1}^{\tau 2}(ARit) \quad (4)$$

Where $CAR(\tau 1, \tau 2)$ represents cumulative abnormal returns from event period $\tau 1$ to event period$\tau 2$, $\sum$ the sum of events and $ARit$ is the abnormal return of stock *i* on day *t*. The event window analysed is 41 days (T= [-20, +20], [-5, +5], [-3, +3] and [-1, +1]), t= [0] which denotes the M&A announcement (Ractiffe et al, 2009).

3.6 Validity and reliability

The data is extracted from the SENS announcement of each REITs. Furthermore, share price information is public information displayed on the JSE stock market. Each company is obligated to share true and accurate information with the public.

The information was extracted from Yahoo finance then cross checked with Google finance to ascertain that the share price is indeed the one.

3.7 Ethical consideration

For the research, there was no need for ethical consideration because the information is extracted from the SENS announcements and the JSE stock market. The information is for public interest and knowledge. Furthermore, each company would have undertaken ethical consideration before distributing M&A information.

4 Data Analysis

Table 1, 2, 3 and 4 all indicates the abnormal returns and cumulative abnormal returns by REITs in the period from 2013 to 2019. There was one M&A transaction taken for each REITs. In some transactions there are other company acquisitions, property acquisitions and company mergers. All the acquiring companies are South African based REITs trading in the Johannesburg Stock Exchange (JSE). Also, only the day of the announcement has been taken into consideration as the day of the transaction announcement. The table only took into consideration 22 South African based REITs. From the 22 REITs, 9 are property acquisitions, 9 are company acquisitions, 3 are share acquisitions and 1 is a REIT mergers. In the days leading to the M&A announcement, the acquiring REIT displays a decrease in ARs, yet the REITs indicate an increase in ARs after the M&A announcement. This might be due to the fact that South African REITs are equity REITs and majority of South African REITs are diversified in asset class; in contrast to US REITs which are highly specialised. Previous research results on CAR has been mixed. Kirchoff et al (2005) and Campbell et al (1998) both noticed a negative CAR during the M&A span, but neither showed significance. Additionally, Eichholtz & Kok (2008), discovered that acquiring REITs have a positive CARs of 0.37% over [-1, +1] event window, although the results are insignificant. Campbell et al (2005) established that public-private REIT M&As acquirer CARs benefited significant positive surplus returns of 1.52% over days [-1, +1]. Additionally, Allen & Sirman (1987), presented that acquiring REITs over the event window [-1, +1] showed a positive and significant CARs of 5.78%. The findings could be guided by the acknowledgement that; asset growth, size, and diversification are methods of improving profits and alluring capital (Moody's Investor Service, 2006). The results for acquiring REITs display additional motive for synergy. The combined benefits may result in improved management of the targets' assets preceding the pronouncement (Allen & Sirmans, 1987) or the result of economies of scale. Seth (1990), recommends that targets firm's acquisitions of a large proportion respective to the bidder have a high probability of creating synergy via economies of scope, increased market power and size. Moreover, potential causes of these synergies will be further explored through the regression analysis. In South Africa there are no hostile take overs and this results in friendly M&As.

4.1 Response Analysis

Table 1: REITs AR & CAR 41 day event window [-20, +20]

41 day event window [-20 , +20]						
REIT name	**Abnormal Returns**			**Cumulative Abnormal Returns**		
	Before	**After**	**Before-After**	**Before**	**After**	**Before-After**
Accelerate Property Fund	-0.010%	0.000%	-0.010%	0.065%	0.307%	-0.242%
Arrowhead Property Limited	-0.003%	0.000%	-0.003%	-0.003%	0.001%	-0.004%
Delta Property Fund Ltd	0.004%	0.000%	0.004%	-0.012%	-0.101%	0.089%
Dipula Property Fund Ltd	0.007%	0.000%	0.007%	0.007%	0.006%	0.001%
Equites Property Fund	0.019%	0.000%	0.019%	-0.056%	-0.147%	0.091%
Fairvest Property Holdings Ltd	0.014%	0.000%	0.014%	0.014%	-0.002%	0.015%
Fortress Income Fund Limited	-0.006%	0.000%	-0.006%	0.009%	-0.051%	0.060%
Growthpoint Properties	0.008%	-0.123%	0.130%	-0.014%	-0.056%	0.042%
Hospitality Property Fund Ltd	0.003%	0.000%	0.003%	0.003%	0.002%	0.001%
Indluplace Properties Ltd	-0.009%	0.000%	-0.009%	0.056%	0.009%	0.046%
Investec Property Fund Limited	0.012%	0.000%	0.012%	0.044%	-0.079%	0.123%
Liberty Two Degrees	-0.004%	0.000%	-0.004%	0.086%	-0.024%	0.110%
Octodec Investment Ltd	-0.002%	0.000%	-0.002%	0.076%	0.006%	0.069%
Rebosis Property Fund Ltd	0.015%	0.028%	-0.013%	0.011%	-0.009%	0.020%
Redefine Properties Ltd	-0.026%	0.000%	-0.026%	0.106%	0.014%	0.092%
SA Corporate Real Estate	0.013%	0.000%	0.013%	-0.058%	0.019%	-0.077%
Safari Investment RSA Ltd	0.015%	0.000%	0.015%	0.015%	-0.001%	0.016%
Spear REIT Ltd	0.012%	0.000%	0.012%	-0.036%	-0.029%	-0.007%
Sto-age Property REIT Ltd	0.000%	0.000%	0.000%	0.000%	0.072%	-0.072%
Texton Property Fund Ltd	0.006%	0.000%	0.006%	-0.108%	-0.065%	-0.043%
Tower Property Fund	0.009%	0.000%	0.009%	-0.027%	0.082%	-0.109%
Vukile Property Fund	-0.002%	0.000%	-0.002%	-0.017%	0.013%	-0.030%
Minimum	-0.026%	-0.123%	-0.026%	-0.108%	-0.147%	-0.242%
Median	0.005%	0.000%	0.003%	0.005%	0.000%	0.015%
Maximum	0.019%	0.028%	0.130%	0.106%	0.307%	0.123%
Standard Deviation	0.0001	0.0003	0.0003	0.0005	0.0008	0.0008
Kurtosis	1.2305	19.7456	15.7661	0.2579	7.6559	2.4914
Skewness	-0.9342	-4.2764	3.6578	-0.0351	2.0565	-1.2464

Note: 41 days window used in the study [-20, +20], implying 5 days before and 5 days after M&A announcement.

4.1.1 Abnormal Returns Analysis

The ARs indicate that before the M&A the minimum is -0.026%, the median is 0.005%, the maximum value is 0.019%, the standard deviation is 0.0001, the kurtosis is 1.2305, and the skewness is -0.9342. The ARs indicate that after M&A the minimum is -0.123%, the median is 0.000%, the maximum value is 0.028%, the standard deviation is 0.0003%, the kurtosis is 19.7456, and the skewness is -4.2764.The difference in ARs, before and after the M&A indicate that the minimum is -0.026%, the median is 0.003%, the maximum value is 0.130%, the standard deviation is 0.0003, the kurtosis is 15.7661 and the skewness is 3.6578.

Before the M&A majority of the REITs show positive ARs. This is because South African REITs are diversified. Furthermore, after the M&A majority of the REITs have ARs of zero, this is because there are no hostile takeovers within REITS. This is consistent with Lu et al (2013) who found out that REITs indicate positive returns upon acquisition announcements. The difference before and after the M&A indicate that most REITs have positive AR, this means that diversification choice are limited and the benefit of the acquisition is increase in size only, this does not mean that the REIT will perform better or efficiently after the M&A. Lastly, the results of the ARs indicate that there are extra benefits embedded in the M&A such as corporate restructuring.

4.1.2 Cumulative Abnormal Returns Analysis

The CARs before M&A the minimum is -0.108%, the median is 0.005%, the maximum value is 0.106%, the standard deviation is 0.005%, the kurtosis is 0.2579, and the skewness is -0.0351. After the M&A announcement the minimum is -0.147%, the median is 0.000%, the maximum value is 0.307%, the standard deviation is 0.0008%, the kurtosis is 7.6559, and the skewness is 2.0565. The difference in CARs, before and after the M&A announcement indicate that the minimum is -0.242%, the median is 0.015%, the maximum value is 0.123%, the standard deviation is 0.008, the kurtosis is 2.4914 and the skewness is -1.2464.

Before the M&A announcement majority of the REITs show positive CARs. This means that there are excess absolute returns and there are benefits of M&A yet they are limited. After the M&A transaction, majority of the REITs have CARs above zero. Therefore, the benefits of M&A are limited. The difference of before and after the M&A transaction indicate that most REIT CAR are positive, this means that diversification choice are limited. Lu et al (2013), Allen and Sirmans (1987)

and Campbell et al (2001) have similar results. Also, the size, type and method of payment do not impact the CARs of the acquiring REITs. These finding are not consistent with Ratcliffe et al (2009) who discovered that the factors mentioned above influence the CARs of the acquiring REIT.

4.2 Response Analysis

Table 2: REITs AR & CAR 11 day event window [-5, +5]

11 day event window [-5 , +5]						
REIT name	**Abnormal Returns**			**Cumulative Abnormal Returns**		
	Before	**After**	**Before-After**	**Before**	**After**	**Before-After**
Accelerate Property Fund	-0.206%	0.000%	-0.206%	0.021%	-0.696%	0.717%
Arrowhead Property Limited	-0.043%	0.000%	-0.043%	0.213%	0.386%	-0.174%
Delta Property Fund Ltd	0.039%	0.000%	0.039%	-0.007%	0.129%	-0.136%
Dipula Property Fund Ltd	0.002%	0.000%	0.002%	0.002%	-0.003%	0.004%
Equites Property Fund	0.093%	0.000%	0.093%	-0.131%	-0.230%	0.099%
Fairvest Property Holdings Ltd	0.000%	0.000%	0.000%	0.000%	-0.817%	0.817%
Fortress Income Fund Limited	-0.062%	0.000%	-0.062%	-0.017%	-0.113%	0.097%
Growthpoint Properties	0.038%	0.000%	0.038%	-0.027%	-0.116%	0.089%
Hospitality Property Fund Ltd	0.079%	0.000%	0.079%	0.079%	-0.464%	0.543%
Indluplace Properties Ltd	-0.146%	0.000%	-0.146%	0.047%	-0.062%	0.109%
Investec Property Fund Limited	-0.066%	0.000%	-0.066%	0.030%	-0.090%	0.120%
Liberty Two Degrees	-0.047%	0.000%	-0.047%	0.222%	0.116%	0.106%
Octodec Investment Ltd	0.004%	0.000%	0.004%	0.238%	0.187%	0.051%
Rebosis Property Fund Ltd	0.000%	0.000%	0.000%	-0.012%	-0.072%	0.060%
Redefine Properties Ltd	-0.208%	0.000%	-0.208%	0.188%	-0.059%	0.247%
SA Corporate Real Estate	0.060%	0.000%	0.060%	-0.153%	0.146%	-0.300%
Safari Investment RSA Ltd	0.102%	0.000%	0.102%	0.102%	0.338%	-0.236%
Spear REIT Ltd	0.014%	0.000%	0.014%	-0.131%	0.000%	-0.131%
Sto-age Property REIT Ltd	-0.019%	0.000%	-0.019%	-0.019%	-0.255%	0.235%
Texton Property Fund Ltd	0.079%	0.000%	0.079%	-0.263%	-0.008%	-0.255%
Tower Property Fund	0.047%	0.000%	0.047%	-0.064%	0.021%	-0.085%
Vukile Property Fund	-0.029%	0.000%	-0.029%	-0.074%	0.262%	-0.335%
Minimum	-0.208%	0.000%	-0.208%	-0.263%	-0.817%	-0.335%
Median	0.001%	0.000%	0.001%	-0.004%	-0.034%	0.075%
Maximum	0.102%	0.000%	0.102%	0.238%	0.386%	0.817%
Standard Deviation	0.0008	0.0000	0.0008	0.0012	0.0029	0.0030
Kurtosis	0.6750	8.6455	0.6750	0.0210	1.3297	0.9967
Skewness	-1.0033	3.0333	-1.0033	0.1000	-1.0452	1.0492

Note: 11 day event window used in the study is [-5, +5], implying 5 days before and 5 days after M&A announcement.

4.2.1 Abnormal Returns Analysis

The ARs indicate that before the M&A announcement the minimum AR is -0.208%, the median AR is 0.001%, the maximum AR is 0.102%, the standard deviation is 0.0008, the kurtosis is 0.6750, and the skewness is -1.0033. The ARs after M&A announcement, the minimum is 0.000%, the median is 0.000%, the maximum AR is 0.000%, the standard deviation is 0.000, the kurtosis is 8.6455, and the skewness is 3.0333.The difference in ARs, before and after the M&A announcement indicate that the minimum AR is -0.208%, the median is 0.001%, the maximum AR is 0.102%, the standard deviation is 0.0008, the kurtosis is 0.6750 and the skewness is -1.0033.

Before the M&A majority of the REITs show positive ARs. This is because South African REITs are diversified. Furthermore, after the M&A majority of the REITs have ARs of zero, this is because there are no hostile takeovers within REITS. This is consistent with Lu et al (2013) who found out that REITs indicate positive returns upon acquisition announcements. The difference before and after the M&A indicate that most REITs have positive AR, this means that diversification choice are limited and the benefit of the acquisition is increase in size only, this does not mean that the REIT will perform better or efficiently after the M&A. Lastly, the results of the ARs indicate that there are extra benefits embedded in the M&A such as corporate restructuring.

4.2.2 Cumulative Abnormal Returns Analysis

Before M&A announcement the minimum CAR is -0.263%, the median is -0.004%, the maximum CAR is 0.238%, the standard deviation is 0.0012, the kurtosis is 0.0210, and the skewness is 0.100. After the M&A announcement the minimum is -0.817%, the median is -0.034%, the maximum CAR is 0.386%, the standard deviation is 0.0029, the kurtosis is 1.3297, and the skewness is -1.0452. The difference in CARs, before and after the M&A announcement indicate that the minimum is -0.335%, the median is 0.075%, the maximum value is 0.817%, the standard deviation is 0.0030, the kurtosis is 0.9967 and the skewness is 1.0492.

Before the M&A announcement majority of the REITs show positive CARs. This means that there are excess absolute returns and there are benefits of M&A yet they are limited. After the M&A transaction, majority of the REITs have CARs above zero. Therefore, the benefits of M&A are limited. The difference of before and after the M&A transaction indicate that most REIT CAR are positive, this means that diversification choice are limited. Lu et al (2013), Allen and Sirmans (1987)

and Campbell et al (2001) have similar results. Also, the size, type and method of payment do not impact the CARs of the acquiring REITs. These finding are not consistent with Ratcliffe et al (2009) who discovered that the factors mentioned above influence the CARs of the acquiring REIT.

4.3 Response Analysis

Table 3: REITs AR & CAR 7 day event window [-3, +3]

7 day event window [-3 ,+3]						
REIT name	**Abnormal Returns**			**Cumulative Abnormal Returns**		
	Before	**After**	**Before-After**	**Before**	**After**	**Before-After**
Accelerate Property Fund	-0.337%	0.000%	-0.337%	0.059%	-0.428%	0.488%
Arrowhead Property Limited	-0.096%	0.000%	-0.096%	-0.096%	-0.313%	0.217%
Delta Property Fund Ltd	-0.021%	0.000%	-0.021%	-0.102%	-0.216%	0.114%
Dipula Property Fund Ltd	0.005%	0.000%	0.005%	0.005%	-0.026%	0.030%
Equites Property Fund	0.182%	0.000%	0.182%	-0.209%	0.660%	-0.870%
Fairvest Property Holdings Ltd	0.094%	0.000%	0.094%	0.094%	0.000%	0.094%
Fortress Income Fund Limited	-1.023%	0.000%	-1.023%	0.080%	-0.159%	0.238%
Growthpoint Properties	0.107%	0.000%	0.107%	-0.007%	-0.060%	0.053%
Hospitality Property Fund Ltd	0.000%	0.000%	0.000%	0.000%	-1.453%	1.453%
Indluplace Properties Ltd	-0.151%	0.000%	-0.151%	0.187%	-0.140%	0.327%
Investec Property Fund Limited	0.102%	0.000%	0.102%	0.269%	-0.222%	0.491%
Liberty Two Degrees	-0.142%	0.000%	-0.142%	0.329%	0.030%	0.299%
Octodec Investment Ltd	0.033%	0.000%	0.033%	0.442%	-0.102%	0.545%
Rebosis Property Fund Ltd	0.189%	0.000%	0.189%	0.168%	-0.027%	0.195%
Redefine Properties Ltd	-0.310%	0.000%	-0.310%	0.382%	0.462%	-0.079%
SA Corporate Real Estate	0.139%	0.000%	0.139%	-0.233%	-0.076%	-0.158%
Safari Investment RSA Ltd	0.000%	0.000%	0.000%	0.000%	-0.057%	0.057%
Spear REIT Ltd	0.157%	0.000%	0.157%	-0.097%	0.300%	-0.397%
Sto-age Property REIT Ltd	0.017%	0.000%	0.017%	0.017%	0.205%	-0.187%
Texton Property Fund Ltd	0.203%	0.000%	0.203%	-0.396%	0.687%	-1.083%
Tower Property Fund	0.048%	0.000%	0.048%	-0.145%	0.088%	-0.233%
Vukile Property Fund	-0.135%	0.000%	-0.135%	-0.214%	0.192%	-0.406%
Minimum	-1.023%	0.000%	-1.023%	-0.396%	-1.453%	-1.083%
Median	0.011%	0.000%	0.011%	0.002%	-0.042%	0.075%
Maximum	0.203%	0.000%	0.203%	0.442%	0.687%	1.453%
Standard Deviation	0.0026	0.0000	0.0026	0.0021	0.0042	0.0050
Kurtosis	8.7164	22.0000	8.7164	-0.2185	5.4586	2.3675
Skewness	-2.6068	-4.6904	-2.6068	0.2291	-1.4161	0.2206

Note: 7 day window used in the study is [-3, +3], implying 3 days before and 3 days after M&A announcement.

4.3.1 Abnormal Returns Analysis

The ARs indicate that before the M&A announcement the minimum AR is -1.023%, the median AR is 0.011%, the maximum AR is 0.203%, the standard deviation is 0.0026, the kurtosis is 8.7164, and the skewness is -2.6068. The ARs after M&A announcement, the minimum is 0.000%, the median is 0.000%, the maximum AR is 0.000%, the standard deviation is 0.000, the kurtosis is 22.000, and the skewness is -4.6904. The difference in ARs, before and after the M&A announcement indicate that the minimum AR is -1.023%, the median is 0.011%, the maximum AR is 0.203%, the standard deviation is 0.0026, the kurtosis is 8.7164 and the skewness is -2.6068.

Before the M&A majority of the REITs show positive ARs. This is because South African REITs are diversified. Furthermore, after the M&A majority of the REITs have ARs of zero, this is because there are no hostile takeovers within REITS. This is consistent with Lu et al (2013) who found out that REITs indicate positive returns upon acquisition announcements. The difference before and after the M&A indicate that most REITs have positive AR, this means that diversification choice are limited and the benefit of the acquisition is increase in size only, this does not mean that the REIT will perform better or efficiently after the M&A. Lastly, the results of the ARs indicate that there are extra benefits embedded in the M&A such as corporate restructuring.

4.3.2 Cumulative Abnormal Returns Analysis

Before M&A announcement the minimum CAR is -0.396%, the median is 0.002%, the maximum CAR is 0.442%, the standard deviation is 0.0021, the kurtosis is -0.2185, and the skewness is 0.2291. After the M&A announcement the minimum CAR is -1.453%, the median is -0.042%, the maximum CAR is 0.687%, the standard deviation is 0.0042%, the kurtosis is 5.4586, and the skewness is -1.4161. The difference in CARs, before and after the M&A announcement indicate that the minimum is -1.083%, the median is 0.075%, the maximum value is 1.453%, the standard deviation is 0.0050, the kurtosis is 2.3675 and the skewness is 0.2206.

Before the M&A announcement majority of the REITs show positive CARs. This means that there are excess absolute returns and there are benefits of M&A yet they are limited. After the M&A transaction, majority of the REITs have CARs above zero. Therefore, the benefits of M&A are

limited. The difference of before and after the M&A transaction indicate that most REIT CAR are positive, this means that diversification choice are limited. Lu et al (2013), Allen and Sirmans (1987) and Campbell et al (2001) have similar results. Also, the size, type and method of payment do not impact the CARs of the acquiring REITs. These finding are not consistent with Ratcliffe et al (2009) who discovered that the factors mentioned above influence the CARs of the acquiring REIT.

4.4 Response Analysis

Table 4: REITs AR & CAR 3 day event window [-1, +1]

3 day event window [-1 , +1]						
REIT name	**Abnormal Returns**			**Cumulative Abnormal Returns**		
	Before	**After**	**Before-After**	**Before**	**After**	**Before-After**
Accelerate Property Fund	-0.397%	0.000%	-0.397%	0.397%	0.000%	0.397%
Arrowhead Property Limited	0.000%	0.302%	-0.302%	0.000%	0.151%	-0.151%
Delta Property Fund Ltd	0.081%	0.000%	0.081%	-0.081%	0.081%	-0.163%
Dipula Property Fund Ltd	0.000%	0.000%	0.000%	0.000%	0.026%	-0.026%
Equites Property Fund	0.392%	0.000%	0.392%	-0.392%	0.045%	-0.437%
Fairvest Property Holdings Ltd	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Fortress Income Fund Limited	-0.080%	0.000%	-0.080%	0.080%	0.317%	-0.238%
Growthpoint Properties	0.114%	0.000%	0.114%	-0.114%	0.000%	-0.114%
Hospitality Property Fund Ltd	0.000%	0.000%	0.000%	0.000%	6.225%	-6.225%
Indluplace Properties Ltd	0.000%	-0.821%	0.821%	0.000%	0.145%	-0.145%
Investec Property Fund Limited	-0.167%	-0.503%	0.336%	0.167%	0.668%	-0.501%
Liberty Two Degrees	-0.471%	0.102%	-0.573%	0.471%	-1.164%	1.635%
Octodec Investment Ltd	-0.410%	0.000%	-0.410%	0.410%	-0.410%	0.820%
Rebosis Property Fund Ltd	0.021%	0.000%	0.021%	-0.021%	0.372%	-0.393%
Redefine Properties Ltd	-0.693%	0.000%	-0.693%	0.693%	-1.127%	1.820%
SA Corporate Real Estate	0.372%	0.000%	0.372%	-0.372%	0.372%	-0.745%
Safari Investment RSA Ltd	0.000%	0.000%	0.000%	0.000%	-2.269%	2.269%
Spear REIT Ltd	0.254%	0.000%	0.254%	-0.254%	0.305%	-0.559%
Sto-age Property REIT Ltd	0.000%	0.000%	0.000%	0.000%	-0.076%	0.076%
Texton Property Fund Ltd	0.793%	0.000%	0.793%	-0.793%	0.599%	-1.392%
Tower Property Fund	0.194%	0.000%	0.194%	-0.194%	0.194%	-0.388%
Vukile Property Fund	0.079%	0.000%	0.079%	-0.079%	-0.409%	0.330%
Minimum	-0.693%	-0.821%	-0.693%	-0.793%	-2.269%	-6.225%
Median	0.000%	0.000%	0.010%	0.000%	0.063%	-0.148%
Maximum	0.793%	0.302%	0.821%	0.693%	6.225%	2.269%
Standard Deviation	0.0031	0.0021	0.0037	0.0031	0.0147	0.0156
Kurtosis	1.3937	8.7366	0.3432	1.3937	13.5643	10.0302
Skewness	0.0649	-2.6940	0.1276	-0.0649	3.0924	-2.4530

Note: 3 day window used in the study is [-1, +1], implying 1 day before and 1 day after M&A announcement.

4.4.1 Abnormal Returns Analysis

The ARs indicate that before the M&A announcement the minimum AR is -0.693%, the median AR is 0.000%, the maximum AR is 0.793%, the standard deviation is 0.0031, the kurtosis is 1.3937, and the skewness is 0.0649. The ARs after M&A announcement, the minimum is -0.821%, the median is 0.000%, the maximum AR is 0.302%, the standard deviation is 0.0021, the kurtosis is 8.7366, and the skewness is -2.6940. The difference in ARs, before and after the M&A announcement indicate that the minimum AR is -0.693%, the median is 0.010%, the maximum AR is 0.821%, the standard deviation is 0.0037, the kurtosis is 0.3432 and the skewness is 0.1276.

Before the M&A majority of the REITs show positive ARs. This is because South African REITs are diversified. Furthermore, after the M&A majority of the REITs have ARs of zero, this is because there are no hostile takeovers within REITS. This is consistent with Lu et al (2013) who found out that REITs indicate positive returns upon acquisition announcements. The difference before and after the M&A indicate that most REITs have positive AR, this means that diversification choice are limited and the benefit of the acquisition is increase in size only, this does not mean that the REIT will perform better or efficiently after the M&A. Lastly, the results of the ARs indicate that there are extra benefits embedded in the M&A such as corporate restructuring.

4.4.2 Cumulative Abnormal Returns Analysis

Before M&A announcement the minimum CAR is -0.793%, the median is 0.000%, the maximum CAR is 0.693%, the standard deviation is 0.0031%, the kurtosis is 1.3937, and the skewness is -0.0649. After the M&A announcement the minimum CAR is -2.269%, the median is 0.063, the maximum CAR is 6.225%, the standard deviation is 0.0147%, the kurtosis is 13.5643, and the skewness is 3.0924. The difference in CARs, before and after the M&A announcement indicate that the minimum is -6.225%, the median is -0.148%, the maximum value is 2.269%, the standard deviation is 0.0156, the kurtosis is 10.0302 and the skewness is -2.4530.

Before the M&A announcement majority of the REITs show positive CARs. This means that there are excess absolute returns and there are benefits of M&A yet they are limited. After the M&A transaction, majority of the REITs have CARs above zero. Therefore, the benefits of M&A are limited. The difference of before and after the M&A transaction indicate that most REIT CAR are positive, this means that diversification choice are limited. Lu et al (2013), Allen and Sirmans (1987)

and Campbell et al (2001) have similar results. Also, the size, type and method of payment do not impact the CARs of the acquiring REITs. These finding are not consistent with Ratcliffe et al (2009) who discovered that the factors mentioned above influence the CARs of the acquiring REIT.

4.5 Robustness test

4.5.1 Regression Statistics

Table 5 : Regression statistics for 41 day event window [-20, +20]

Regression Statistics	
Multiple R	0.080795
R Square	0.006528
Adjusted R Square	-0.04315
Standard Error	0.000856
Observations	22

The above table represents the regression statistics for the sample size of 22 REIT M&A. Moreover, the regression model for a 41 day window [-20, +20] has been used test the robustness of the results. The regression model was applied to understand the CARs of the acquirer REIT. The results show that the R Square is 0.65%, it is accepted because real estate industry is very heterogeneous in nature. Flower and Regas (1994), found a low adjusted R square in their analysis, similar to the one on as indicated in this research paper.

Table 6 : Regression statistics for 11 day event window [-5, +5]

Regression Statistics	
Multiple R	0.080795
R Square	0.006528
Adjusted R Square	-0.04315
Standard Error	0.000856
Observations	22

The above table represents the regression statistics for the sample size of 22 REIT M&A. Additionally, the regression model for an 11 day window [-5, +5] has been used test the robustness of the results. The regression model was applied to understand the CARs of the acquirer REIT. The results show that the R Square is 0.65%, it is accepted because real estate industry is very heterogeneous in nature. Flower and Regas (1994), found a low adjusted R square in their analysis, similar to the one on as indicated in this research paper.

Table 7 : Regression statistics for 7 day event window [-3, +3]

Regression Statistics	
Multiple R	0.2621162
R Square	0.0687049
Adjusted R Square	0.02214015
Standard Error	0.00508982
Observations	22

The above table represents the regression statistics for the sample size of 22 REIT M&A. Moreover, the regression model for a 7 day window [-3, +3] has been used test the robustness of the results. The regression model was applied to understand the CARs of the acquirer REIT. The results show that the R Square is 6.87%, it is accepted because real estate industry is very heterogeneous in nature. Flower and Regas (1994), found a low adjusted R square in their analysis, similar to the one on as indicated in this research paper.

Table 8 : Regression statistics for 3 day event window [-1, +1]

Regression Statistics	
Multiple R	0.353447727
R Square	0.124925296
Adjusted R Square	0.081171561
Standard Error	0.015334717
Observations	22

The above table represents the regression statistics for the sample size of 22 REIT M&A. Furthermore, the regression model for an 11 day window [-5, +5] has been used test the robustness of the results. The regression model was applied to understand the CARs of the acquirer REIT. The results show that the R Square is 12.49%, it is accepted because real estate industry is very heterogeneous in nature. Flower and Regas (1994), found a low adjusted R square in their analysis, similar to the one on as indicated in this research paper.

4.5.2 ANOVA

Table 9 : ANOVA for 41 day event window [-20, +20]

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	9.64E-08	9.64E-08	0.131414	0.720773
Residual	20	1.47E-05	7.33E-07		
Total	21	1.48E-05			

The Analysis of variance (ANOVA) is 72.01%. The result are insignificant; however, it is deemed acceptable because it is in the real estate sector. REITs are very heterogeneous thus having diversified portfolios e.g. office, commercial and retail. There are only a few specialized South African REITs. Furthermore, the null hypothesis is accepted which states that post-announcement CAR ≤ pre-announcement CAR.

Table 10 : ANOVA for 11 day event window [-5, +5]

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	3.03933E-05	3.03933E-05	3.725472	0.067893094
Residual	20	0.000163165	8.15824E-06		
Total	21	0.000193558			

The Analysis of variance (ANOVA) is 6.79%. The result are insignificant; however, it is deemed acceptable because it is in the real estate sector. REITs are very heterogeneous thus having diversified portfolios e.g. office, commercial and retail. There are only a few specialized South African REITs. Furthermore, the null hypothesis is accepted which states that post-announcement CAR ≤ pre-announcement CAR.

Table 11: ANOVA for 7 day event window [-3, +3]

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	3.82E-05	3.82E-05	1.47547	0.23863177
Residual	20	0.000518	2.59E-05		
Total	21	0.000556			

The Analysis of variance (ANOVA) is 23.86%. The result are not significant; however, it is deemed acceptable because it is in the real estate sector. REITs are very heterogeneous thus having diversified portfolios e.g. office, commercial and retail. There are only a few specialized South African REITs. Furthermore, the null hypothesis is accepted which states that post-announcement CAR ≤ pre-announcement CAR.

Table 12 : ANOVA for 3 day event window [-1, +1]

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.000671	0.000671	2.855191574	0.106608343
Residual	20	0.004703	0.000235		
Total	21	0.005374			

The Analysis of variance (ANOVA) is 10.66%. The result are insignificant; however, it is deemed acceptable because it is in the real estate sector. REITs are very heterogeneous thus having diversified portfolios e.g. office, commercial and retail. There are only a few specialized South African REITs. Furthermore, the null hypothesis is accepted which states that post-announcement CAR ≤ pre-announcement CAR.

5 Conclusions, Recommendations and Further Work

5.1 Overall Conclusion

This paper has indicated M&A effects on shareholders' wealth within South African REITs between May 2013 and December 2019. There are thirty eight listed companies yet the study only analysed 22 South African based REITs. Additionally, from 22 REITs; 9 are property acquisitions, 9 are company acquisitions, 3 are share acquisitions and 1 is a REIT M&A. The study analysed three types of M&As which are; merger of two companies, acquisition of property portfolio and acquisition of shares. Data was extracted from the JSE and each company's SENS. AR and CAR were used to determine shareholders' wealth effect, the event windows used in the study are 41 day [-20, +20], 11 day [-5, +5], 7 day [-3, +3] and 3 day [-1, +1] event windows. The findings of this study has profound inferences for shareholders, managers, practitioners and academics within the South African REITs context. This study support the notion that South African REITs are very heterogeneous in nature, as compared to American REITs which are specialized in nature. There are a few specialized REITs; however, majority of the REITs are diversified in character. This study has indicated the wealth effect of REIT transactions within M&A of property, shares and other companies using AR and CAR.

As an emerging market South Africa indicates significant growth in the short-term production and concurrently reveals signs of political and financial uncertainty (Ntuli & Akinsomi, 2017). The findings indicate that real estate M&As are not wealth creating for shareholders in contrast to Womack (2010), who found that M&As are wealth creators. M&A in South African REITs do not concern themselves on synergy and resolving corporate differences that exist between the companies (Mabece, 2018). However, the leading cause for M&A is growth in size of a company. Motives for M&As of South African REITs include; geographic growth, diversification of portfolio, diversification of asset class, economic, hubris. Literature indicates that takeover effects vary across different periods, also different motives influence takeovers. The real estate market display similar patterns as other financial services; however, they have a restrictive structure (Anderson et al, 2012).South African M&A are regulated thus insuring consistency in their analysis. One of the characteristic is that they are friendly in nature. One of the challenges is that the firms may not be sold at a price that is deemed competitive. Also, when there is an M&A there is elimination of competition in the REIT market. In an emerging economy, competition is encouraged. There is a direct relationship between the SENS announcement and shareholder's stock prices. M&As do not

translate to increased REIT performance nor increased returns to shareholders. Some of the reasons why M&As fail are; insufficient communication with all stakeholder, defective strategic planning, poor due diligence procedure and differing organisational structures.

5.2 Conclusion

Hypothesis one was tested through literature review and data analysis. Both the literature review and the data analysis are congruent with the finding. On the analysis side, hypothesis one was exemplified by AR and CAR techniques. Finally, the findings on hypothesis one are consistent with Ratchiffe (2009) and Campbell (2002).

Hypothesis two was tested through both literature review and data analysis. Findings are similar to Lin et al (2016), who found out that M&A SENS announcement has a significant impact on the stock price and the shareholders in the market. Further, the data analysis indicated a change in the stock price before and after the merger.

Hypothesis three was tested through data analysis. The AR and CAR methods were used, similar to Womack (2010), Ratchiffe et al (2009) and Ratchiffe and Dimovski (2012). The findings on hypothesis one are consistent with previous studies.

Hypothesis four was tested through literature review. The literature revealed that the motive for M&A could be; growth, synergy, diversification, CEO overconfidence (hubris). The finds revealed that M&A grow the portfolio of the company but do not increase the performance of the REIT returns to the shareholders. Therefore M&A and do not have a significant impact on the performance on REITs. From the results; it is evident that M&As do not increase the returns of the shareholders and all AR and CAR are not significant in all event windows.

5.3 Recommendations

M&A are methods of increasing the growth of the portfolio however do not increase the performance of the REITs. From the outcome of this study, it is recommended that:

- Increasing the length of event windows. A study by Shah & Arora (2014), suggests that an increase in event window, lowers the p-value and the cumulative abnormal returns (CAR) would be more statistically significant. The increased event window assist in understand the long run implication of M&As
- The sample size of M&A should be increased. Additionally, more transactions could be taken into consideration for the event window. So that more information is presented.
- It is recommended that there are more transacts to be taken into consideration for further analysis.
- Management should explore other means of increasing returns for shareholders, such as decreasing vacancies in existing properties.
- Performance of target companies could be investigated to analyse the performance of the target firm. Literature indicates that expected return of target firm tends to have a positive effect while that of bidding firm negative and combined firm have non positive results.

5.4 Further Research Areas

An area of interest would be to investigate the performance of the REIT M&A in the long run. Such as having a five year analysis. American real estate literature has indicated that there is an underperformance of the acquiring REIT after the M&A, nevertheless there is not a study done in South Africa to investigate the long run performance of the REITs. Another area of interest is to study the relationship between companies organisational structure and investigate the impact of M&A. To make findings further robust there should be more event windows. Ratcliffe et al (2009) found out that having different event widows produced significant excess returns. The current study nonetheless, only indicates only four event window which is are [-20, +20], [-5, +5], [-3, +3] and [-1, +1] event windows.

5.5 Contribution of study

The contribution of this study is to indicate to stakeholders most importantly shareholders, the impact of M&A to their shareholding. What was discovered from undertaking the research is that M&A do not increase the performance of the RIETs and does not result in increased shareholder return, However, M&A result in increased portfolio size of the REIT and increased market cap.

From formalization of the South African REITs structure, listed REITs have been engaging in M&A of private companies, shares, and properties locally and internationally. Also, it is immaterial whether the REIT acquires property, shares or other companies as the outcome is all the same as South African REITs are friendly takeovers. Furthermore, friendly takeovers result in shareholder wealth effect in the short-run. REIT M&A are often large deal sizes and with mixed payments which are often much higher than other payment methods. Research has indicated that non-REITs M&A have constantly found that accruing firms' shareholders in friendly M&A experience insignificantly negative abnormal returns whereas target firm owners experience large positive abnormal returns (Campbell, 2002). Campbell (2002) found that M&A within REITs to be vastly different from other corporations such as financial institutions. Further, REITs M&A are stock financed, and show wealth effects that are less negative than those perceived in the stock-financed mergers in regular companies. CARs of REITs are generally lower than non-REITs due to homogeneity of the assets and a lack of hostile takeovers.

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