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VALUE CREATION THROUGH MERGERS AND ACQUISITIONS IN SOUTH AFRICA

By

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JOHANNESBURG

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28 FEBRUARY 2019

DECLARATION

I, Katekani Mabasa do hereby declare that the work presented in this dissertation is solely done by me, except where otherwise indicated and acknowledged. This dissertation has not, either in whole or in part, been submitted at any other University or institution for degree purposes. I further declare that I was given authorisation by a panel from the Wits Business School research committee to carry out this research.

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ABSTRACT

Mergers and Acquisitions (M&As) is a topic that has been researched extensively globally since their inception, especially on their ability to create value for shareholders. However, many approaches prevail on how an acquisition or merger can generate value including synergies, improvements, and amplified market power, amongst others. Evidence from the stock exchanges shows that over 50% of mergers and acquisitions (M&A) fail to create value, some argue that only a third of acquisitions were able to create value while some found the success rate is about 20%.

Given the contradictory findings and the unclear reasons on the variation in M&A performance across the world, this study adds to the literature of whether mergers and acquisitions of South African companies create value for shareholders by way of looking at acquirers and targets of JSE listed companies over the last two decades.

The study looks at the short-term effects on value creation for shareholders during M&A announcements for acquirers and target shareholders by applying the event study methodology using the market model to see the abnormal returns upon the 21 days' announcement period. The study further analysed the results by industry to establish which industries create the most value and which industries destroy value for shareholders.

The results showed that both acquirers and targets do not earn statistically significant abnormal returns during the announcement period. When analysing the event study results by industry for acquirers, diversified industry M&As yield the most favourable results, followed by the consumer non-cyclical and communications industry; for targets, the consumer non-cyclical industry is most favourable followed by the communications and consumer cyclical industries respectively when comparing CARs, which concludes

that the type of industry matters in value creation for both acquirers and targets in South Africa, similarly to other studies globally.

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CHAPTER 1

1.1 Introduction

This chapter introduces the thesis by providing the motive of the study through the research problem. The chapter is structured as follows: Section 1.2 discusses the context of the study. Section 1.3 focuses on explaining the problem statement. Section 1.4 contains the research questions the research plans to address and the null hypothesis to be tested. Section 1.5 discusses the significance and benefits of the study. Section 1.6 provides the structure of the final thesis then summarises the chapter.

1.2 Context of the Study

The main goal of financial management is to maximise the current value per share of existing shares and as a goal, raises a question of how companies identify which activities directly impact the current value per share (Ross, Westerfield, & Bradford, 2002). Shareholders get value from investing in a company through dividends or an appreciation of the price they originally paid for the share. Value, in this study, means the return from the investment made by a shareholder which could be either an appreciation of the share price, dividends or both, as stocks have been known to provide a more reliable estimate of a company's performance and, according to strong evidence, the market share price usually reflects the intrinsic value of a company (McKinsey, 2005), hence its reliability.

There are two main streams in business that can be used to grow the business and translate that growth into value for shareholders, namely, organic growth and inorganic growth. Organic growth is achieved through expanding current sales, marketing, planning strategies and having a strong management team to achieve an improved growth rate in

value added to shareholders; this is growth driven internally from day-to-day operations, whereas inorganic growth comes from a deal that is concluded with another company through mergers and acquisitions (QuickBooks, 2017). Both methods have advantages and disadvantages; this study focuses on value creation through mergers and acquisitions as a strategy in the South African context, looking at various industry sectors, such as basic materials, communications, consumer products, financial, energy, and power, etc.

Mergers and acquisitions are topics that have been researched extensively for various countries since their inception especially on their ability to create value for shareholders. Research by (Franks, Harris, &Mayer 1988) concluded that value creation was not realised for shareholders in the United Kingdom (UK) with similar findings for Canadian bidding firms (Eckbo & Thorburn, 2000); Mulhein and Boone (2006) also saw insignificant negative gains from M&A activity in the UK. The United States (US) mergers and acquisitions on similar research for deals between 1980-1996 showed insignificant negative abnormal return. For Nordic countries, Sorheim and Lerkerod (2015) found weak evidence of value creation for the acquirer's shareholders. Given these results over a couple of years, this raises questions of why countries across the world still engage in mergers and acquisitions and if the research has thoroughly analysed all aspects of mergers and acquisitions.

Carr (2015) concluded that the initial reaction from the market tends to increase value but this is limited to the shareholders of the target company so it does not create shareholder wealth for the acquiring company. Some authors argued the reasons why there is a lack of M&A performance improvement in the last few years is because of managers instigating M&A for their own benefit rather than shareholder value (Seth, Song, &Pettit, 2000), incomplete research thus far in the field (King, Dalton, Daily, & Covin, 2004) and academic research not reaching the practitioner community (Cartwright & Cooper, 1996, 2001; Haspeslang & Jamison, 1991). Research in the past has identified that the integration progress accounted for a significant portion of deal performance and that

successful acquisitions must begin with a solid rationale to ensure the deal is tied to the overall strategy of the firm (Morrissette, 2013).

For South Africa, Smit and Ward (2007) studied whether large acquisitions added value to acquiring companies listed on the JSE between 2001-2003 and found that shareholders of acquiring companies do not earn statistically significant positive or negative abnormal returns around the announcement date. Osae, Fauconnier, &Webber-Youngman (2011) performed a value assessment of mergers and acquisitions in the South Africa mining sector, focusing on the Harmony and ARM gold merger. The short-term value add was positive showing a 12.52% change in the market capital for the combined company using McKinsey's deal value add (DVA) method to assess the short-term share price reaction.

Mohapi (2017) studied the effects of mergers and acquisitions on investment returns, focusing on Massmart acquired by Walmart and SABMiller by AB InBev, and concluded the creation of value is not always achieved in mergers and acquisitions for South Africa and in the case of Massmart, the value was lost since the acquisition due to negative news, resulting from disgruntled union members. Ndadza (2014) concluded that mergers and acquisitions in South Africa for periods between 2002-2013 did create value for shareholders and target firms benefit the most from M&A, furthermore concluded that the average acquirer’s excess returns in the periods 2002-2007 were higher than excess returns realised by acquirers during 2008-2013. Ndlovu (2016) analysed acquirer and target companies in the same industry listed on the JSE between 2003 and 2013 and concluded there was no significant abnormal returns or significant differences between the pre- and post-announcement returns which then raises questions of which industries created value in the last two decades more than others, which industries have failed to create any value in the last two decades from a South African context and how the value creation in some industries has changed over 20 years.

Table 1: Worldwide Announced M&A: Most Targeted Nations YTD 2017 vs. YTD 2007

	Rank by Value			Value (US$ bil)			Number of Deals		
Target Nation	2007	2017	Change	2007	2017	% Change	2007	2017	% Change
United States of America	1	1	=	1,206.40	725.3	-40%	7,265	7,813	8%
China	12	2	↑10	39	272.6	599%	1,399	3,028	116%
United Kingdom	2	3	↓1	264.6	115.2	-56%	2,342	1,609	-31%
France	7	4	↑3	105	76.9	-27%	1,113	1,055	-5%
Canada	4	5	↓1	147.5	73.3	-50%	1,475	989	-33%
Germany	5	6	↓1	108.7	72	-34%	1,281	813	-37%
Spain	6	7	↓1	108	58.5	-46%	629	515	-18%
Italy	8	8	=	92.9	54	-42%	612	664	8%
South Korea	13	9	↑4	34.3	42.4	23%	322	871	170%
Hong Kong	17	10	↑7	20.8	42.2	103%	619	531	-14%
Brazil	15	11	↑4	25.5	40.3	58%	429	301	-30%
Australia	9	12	↓3	87.6	39.1	-55%	1,509	787	-48%
Singapore	20	13	↑7	16.7	35.4	112%	346	268	-23%
Switzerland	19	14	↑5	16.7	33.8	102%	342	175	-49%
India	14	15	↓1	31.7	31.9	1%	780	776	-1%

2007 Pre-financial crisis period refers to (1 January 2007 – 9th August 2007), comparisons made to the same period in 2017 (1 January 2017- 9th August 2017)

(Source: Thomson Reuters, 2017)

Worldwide announced M&A totalled US$1.96 trillion during 2017, which was down 33% compared to the same period in 2007 before the global financial crisis hit (Thomson Reuters, 2017). The United States had the highest M&As in terms of value and quantity of acquisitions carried out pre- and post the financial crises. Brazil, China, and India - three of the BRICS countries - are in the top 15 countries which are targets of mergers and acquisitions. Brazil and China climbed up from number 15 to 11 and 12 to 2 respectively when comparing pre and post financial crises. The fact that some BRICS countries have

become competitive M&A targets raises questions in terms of whether mergers and acquisitions create value in emerging markets.

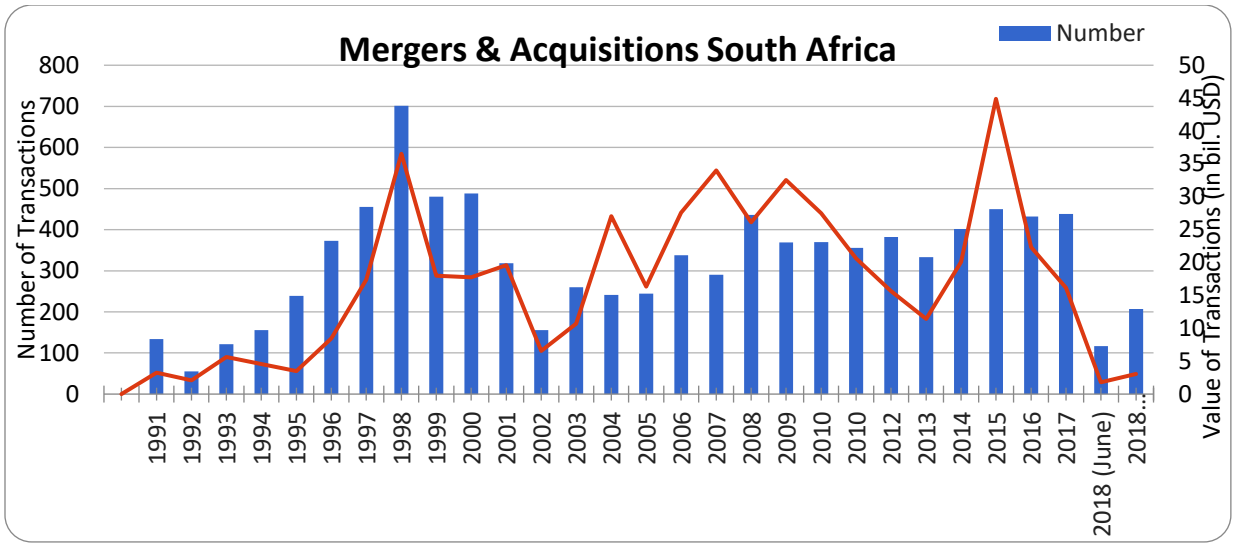
With a current focus on globalisation and the increasingly competitive nature of the market, mergers and acquisitions continue to be popular as a growth strategy for multinational companies (Hitt, Hoskisson, & Irelund, 1990; Ellis, Lamont, Reus, & Faifman, 2015). Mergers and acquisitions picked up significantly in 2014 with BRICS (Brazil, Russia, India, China, and South Africa) playing a major part in the M&A activities globally. All five countries in BRICS account for more than 40% of the global population (Reddy, 2017) which means that global companies are seeing more growth prospects in those countries. BRICS have become and are likely to continue to be the central source of economic dynamism; as a whole, they accounted for 56% of the growth of global GNP (at 2005 $PPP) during 2008-17 and are expected to continue to account for more than half of global economic growth through to 2030 (Reddy, 2017).

The worldwide M&As view between 2007 and 2017 shows a significant decrease of financials, telecoms and materials industries' M&As by approximately 60% which could signal less growth in those industries (Thompson Reuters, 2017). There is a significant increase in M&A activities in healthcare and real estate which poses a question on the value creation drivers of both industries at the moment, the significant number of technology industry M&As with low values shows small technology companies are being acquired or merging.

Mergers and acquisitions have increased significantly over recent years and have become a vehicle for foreign direct investment (FDI) in emerging markets. Mergers and acquisitions allow companies making the investment to control assets and manage production activities in the country in which they are making the investment (Kyaw, 2003). Companies continually look to mergers and acquisitions (M&As) as a form of restructuring, reorganising existing businesses, diversifying or streamlining their business

towards a specific industry to better align their future growth prospects with value creation for shareholders as a primary focus. According to Carr (2015), even though mergers and acquisitions have a high failure rate, CEOs and senior management still pursue M&A as a form of restructuring strategy as literature and studies have shown that with the right motivations M&A can produce synergies, a sound corporate culture and value creation for shareholders. M&As are also used to reduce costs and/or increase market penetration (Lang, 2003) which raises questions about their ability to create value for shareholders.

Mergers and acquisitions are two of the strategies businesses use to change the course of where the company is headed and sometimes this process can include downsizing its current operations for the company to be linear and move faster in capturing future opportunities, however acquisitions and mergers can be a risky investment that could either be successful or become a disaster for both companies involved. Some of these efforts bear no sustainable value to shareholders either in the short run or in the long run. The overarching purpose of this research is to analyse the impact of M&As on investor returns by focusing on South Africa as a member of the BRICS alliance.



(source: imaa-institute.org)

Figure 1: Mergers & Acquisitions South Africa (1991-2018)

From 1991 through 2017, over 9 000 transactions were performed in South Africa with a financial value of about 500 billion dollars with 2015 showing the highest transactions performed by financial value in 25 years. There is an opportunity to evaluate the value creation from these transactions and the reasons behind significant peaks and downturns over the past two decades by industry. Four industries accounted for 57% of the top 100 number of deals in South Africa between 1991 and 2018, namely, Metals and Mining, Other Financials, Banks and Telecommunication services respectively. With South Africa considered as the richest country in the world with $2.5 trillion in mineral resources by a Citigroup report (Fin24, 2010), it is no surprise why mergers and acquisitions are more attractive in the metals and mining sector in South Africa. The year 2014 had the biggest technology deals, partnerships, mergers and acquisitions announcements in South Africa (BusinessTech, 2014) which raises questions of the value add in technology deals in comparison to the other industries.

1.3 Problem Statement

Uhlenbruck, Hughes-Morgan, Hitt, Ferrier, & Brymer (2017) study indicates that although mergers and acquisitions are a renowned strategy, the acquiring companies create no or little value because of their failure to generate synergy, too high premiums, selection of wrong targets, ineffective processes of integration, amongst others. On the other hand, careful target selection and the effective implementation of acquisitions creates value and achieves synergy. Acquisitions which provide fresh knowledge on ways acquiring firms can be employed in enhancing competitive positioning often generate value. For instance, the gained knowledge from the acquisitions may enhance modernisation if the target company has corresponding technologies in the acquiring company. Additionally, while cross-border acquisitions convey significant openings, they similarly provide complex contests for creating value.

Recent research in South Africa supports the international results on M&As creating value. The shareholders of target companies experience short-term abnormal benefits between 30 and 44% whilst the shareholders of the acquiring firms recorded abnormal profits of -2 to 11% (Wimberley & Negash, 2004). Ideally, many approaches prevail on how an acquisition or merger can generate value, including synergies, improvements, and amplified market power, amongst others. Yet, evidence from the stock exchanges shows that over 50% of the acquisitions and mergers fail to create value because of deals reached for the wrong motives. Managers of the firms have private interests in controlling and building as huge a firm as conceivable (Ellis et al., 2015).

The majority of post-acquisition research employs stock market incident studies that often are short-term and not recording long-term projected benefits from the acquisition due to data asymmetries (Cuypers, Cuypers & Martin, 2017).

Ellis et al. (2015) also maintain that because of globalisation, the significance of cross-border M&As in developing and developed countries is increasing, yet with less research

on the generation of wealth by acquirers' shareholders involved in the cross-border outbound and inbound acquisitions. Secondly, there is no effort illustrating the integrated structure for long-term approaches of value creation through advanced methods like Market Value Added (MVA) and Economic Value Added (EVA). Thirdly, few studies prevail on whether acquirer and target shareholders create value more in the domestic M&As than cross-border M&As and which industries create value more seamlessly than others. Such gaps in prevailing literature need attention for further study in the Mergers and Acquisitions field.

Companies using mergers and acquisition to create shareholder value have increased in the last few years and the results of their value-add are somewhat still questionable to a certain extent. The problem statement this thesis addresses is a question of what has been the short-term value creation from mergers and acquisition in South Africa over the past two decades? What were the value creation drivers for M&A activities in South Africa and which industries yield the most results in the short term by ranking for South Africa as a target market and why? If the study is able to determine a substantial shareholder value from using mergers and acquisitions ranking by industries in South Africa, it will shed light on whether certain M&A industries create value in South Africa taking into consideration cycles and economic events in the last two decades which is information relevant for companies and researchers.

1.4 Research Questions

- What is the short-term value creation from mergers and acquisition in South Africa over the past two decades?
- What are the value creation drivers for mergers and acquisitions activities in South Africa?
- What is the value creation, if any, by industry ranking, for South Africa?

1.5 Significance of the Study

This study reveals if the creation of value by M&As has consequences for imminent regulatory policies in South Africa. The justification is that since the activity of mergers and acquisitions is expensive, there would be serious questions on the efficiency impact of the regulatory policy where the resultant M&A does not create value and or even destroys value for involved firms. This study also provides evidence on if there is an occurrence of value gains and the types of dealings most likely to cause such value gains. This study proves that if the merged businesses create value due to market powers allowing them to charge very competitive prices, the positive value gained from such mergers can be adversarial from the anti-trust viewpoint. In contrast, where the firms create value due to becoming very competitive, efficient and moving market shares from the less effective competitors, then the Mergers and Acquisitions cannot be a severe worry for the anti-trust watchdogs.

The study helps the research attain more understanding of value creation through mergers and acquisitions in South Africa. From this study, the researchers understand that it might be useful for firm managers to dedicate the scarce resources and time to consolidation undertakings where mergers are creating value. In this study, the researcher shall also understand that managerial efforts should profitably be directed into other actions like improving productivity and efficiency where the mergers have no or less impact on value creation or perhaps destroying the value.

The study adds to the current literature on value creation through mergers and acquisitions in South Africa by testing a larger sample across various industries over two decades and fill a gap in that it gives investors and other relevant stakeholders a new informative perspective on South Africa for mergers and acquisitions that yield the desired results for shareholders and the reasons why. It adds to the current studies of this

topic, focusing on ranking mergers and acquisition by value-add in the short term. Through analysing value creation of mergers and acquisitions over two decades, the research provides a comprehensive view of value creation through mergers in South Africa which clears some of the contradictory results of value creation studies performed using different points in time from a South African context.

1.6 Structure of the Final Thesis

Chapter 2 of the thesis covers the literature review and summarises the findings which include reviewing books, journals, theses and papers reflecting work that has already been conducted on mergers and acquisitions. Chapter 3 of the thesis captures the research methodology utilised in analysing the data. Chapter 4 of the thesis presents the results of the study and Chapter 5 of the thesis discusses the results obtained in chapter 4 and provides conclusions of the study.

Chapter Summary

South Africa is an important market for M&As as it contributed 50% of the mergers and acquisitions in Africa as a target nation between 2003 and 2012, it is also the most active acquirer in Africa having initiated 37% of deals in Africa between 2003 and 2012 (Ellis et al., 2015). Even thou there is evidence of short-term benefit to the target company during a merger or acquisition and in some studies, there is no evidence, the unclear conclusion forms the basis and motivation for conducting this study.

CHAPTER 2: Literature Review

2.1 Introduction

This chapter presents the literature review on mergers and acquisitions. The chapter is arranged as follows: Section 2.2 discusses the nature and history of mergers and acquisition transactions. Section 2.3 presents the mergers and acquisition payment considerations used. Section 2.4 explores the motives for mergers and acquisition activities. Section 2.5 discusses the short-term and long-term value creation through mergers and acquisitions. Section 2.6 discusses the formulation of the hypotheses and closes the literature review with a summary of key findings from the review.

2.2 Nature and History of Mergers and Acquisitions (M&A) Transactions

A merger is a combination of two or more companies in which the assets and liabilities of the selling firm(s) are absorbed by the buying firm. Although the buying firm may be a considerably different organisation after the merger, it retains its original identity (Scott, 2003). Mergers may involve two or more parties in the transaction but often only two parties are involved where the target company would be the company being acquired and the acquiring company being the company that is acquiring the target company. The shareholders of the acquiring entity typically continue holding shares of the newly formed entity.

Scott (2003) defines acquisition as the purchase of an asset such as a plant, a division, or even an entire company. It refers to an entity acquiring another entity through mostly obtaining the majority stake in the entity it has acquired. An acquiring company becomes

bigger after the merger transaction. An acquisition does not result in a change of the entity's name or legal structure once completed, the acquired entity forms part of the acquiring company and ceases to exist independently.

There are different types of mergers and acquisitions. A horizontal merger is the acquisition of a competitor who is usually within the same line of business as the acquiring entity (Peavler, 2018). This kind of merger or acquisition is used as a form of gaining a competitive edge, cost savings and an increase in various product segments. A horizontal merger or acquisition can be an entity in healthcare merging or acquiring another entity in healthcare as well. In Nead's (n.d.) article called *Merge or die*, he illustrated that when consolidation follows growth, enemies become friends and bitter rivals can find healthy new profits in strategic collusion through M&A.

There is a belief by most managers and academics that horizontal mergers and acquisitions create value and abnormal returns about which Barney (1988) studied the hypothesis of relatedness within two companies as a recipe to abnormal returns. Relatedness from a finance perspective is when two companies have a Net Present Value (NPV) that is more if they are combined into one than when they are operating separately (Copeland & Weston, 1983, as cited in Barney, 1988). In his findings, he concluded that relatedness of the acquiring firm with the target is not sufficient to yield abnormal returns but unique attributes that allow synergies to be achieved and transformed into cash flows that is able to attain abnormal returns.

To evaluate the effects of a horizontal merger on prices of goods, Weinberg (2007) discussed the three approaches normally used which are event study, merger simulation and a direct comparison of prices pre- and post the merger. Weinberg (2007) analysed the previous studies by Anshenfelter and Hosken (2004), Hosken and Taylor (2006), Barton and Sherman (1984) and others, on the effects of horizontal mergers on prices of goods sold by the acquiring company competitors pre and post-merger in the short run.

Nine studies carried out over the past 22 years concluded that most mergers result in an increase of goods sold by the acquiring companies as well as that of the competitors in the short run before and after the completion of the transaction. The studies highlighted how efficiency is mostly attainable in the short run once the merger is in place and that it ultimately outweighs gains from the power attained in the market as a result of the horizontal merger for small mergers.

A vertical merger or vertical integration happens when the acquiring firm acquires buyers or sellers of goods and services to the company (Peavler, 2018). The reasons behind a vertical M&A is typically to reduce or eliminate dependency in a supplier, cost-cutting and gaining more economies of scale to grow the entity. If a healthcare company enters into a merger or acquisition with one of its suppliers in their product offering, this would be regarded as a vertical M&A.

A conglomerate merger or acquisition is a type of merger whereby the two companies that merge with each other are involved in different sorts of businesses (Economy watch, 2010). Typically, there are two types of conglomerates. The mixed conglomerate mergers are those where the companies that are merging with each other are doing so with the main purpose of gaining access to a wider market and client base or for expanding the range of products and services that are being provided by them; the pure conglomerate merger is one where the merging companies are businesses that are totally unrelated to each other. The main purpose of a conglomerate M&A is to diversify business risks which help to reduce the inherent risk in its current entity. When the inherent risk is reduced through a conglomerate, the entity is able to have stable cash flows because if the other entity is not performing, the first one will help offset which helps with maintaining a stable and predictable cash flow and business revenues.

Mergers and acquisitions occurred in different waves which were identified to have begun in the late eighteenth century and each wave reflected various economic, regulatory and

financial events during those periods as research has shown that "merger waves tend to be caused by a combination of economic, regulatory and technological shocks" (Gaughan, 2011, p.15).

The economic shock comes in the form of an economic expansion that motivates companies to accommodate a rapidly growing aggregate demand in the economy (Mitchell & Mulherin, 1996). Regulatory shocks can occur through the elimination of regulatory barriers that might have prevented corporate combination activities and technological shocks can come in many forms as technological change in existing industries and can even create new ones (Gaughan, 2011). It is unclear from various research why mergers and acquisitions started and who started them, but the end of each wave was driven by these shocks such as the great depression, the Sherman Antitrust Act and stock market crash.

Table 2 summarises the M&A waves from 1893 to date and how mergers and acquisitions have evolved over 125 years.

	Wave-1	**Wave-2**	**Wave-3**	**Wave-4**	**Wave-5**	**Wave-6**	**Wave-7**
Period	1893-1904	1910s-1929	1955-1975	1984-1989	1993-2000	2003-2008	2014-current
Predominant Means of Payments	Cash	Equity	Equity	Cash/Debt	Equity	Equity	Not yet determined
M&A Outcomes	Creation of monopolies	Creation of Oligopolies	Diversification/Conglomerate	"Bust-up" Takeover, LBO	Globalization	Globalization	Emerging markets
Predominant Nature of M&A	Friendly	Friendly	Friendly	Hostile	Friendly	Friendly	Friendly
Beginning of Wave	Economic Expansion, new laws on Incorporation, Technological Innovation	Economic recovery, Better enforcement of antitrust law	Strengthening law on Anti-competitive M&A's, Economic recovery after WW-II	Deregulation of Financial Sector, Economic Recovery.	Strong Economic Growth, Deregulation and Privatization	Continuation of globalization, a rise of private equity firms	Globalization through increased activities in emerging markets (BRICS)
End of Wave	Stock-Market crash, WW-I	The Great Depression	Market Crash due to an oil crisis	Stock Market Crash	A burst of the Internet Bubbles, 9/11 Terrorist Attack	Subprime mortgage crises	

(Source for wave 1-5: Tilburg University) as shown in (Nouwen, 2011)

Table 2: M&A waves from Wave 1 till Wave 7

The first wave is known to have occurred in the late 19th century and was mainly driven by consolidations of different manufacturing companies within one industry such as oil, steel, and mining (Sudarsanam, 2003). The wave was ignited by the economic expansion at the time and with the improvement of the New York stock exchange, assisted with the

ease of corporations obtaining capital to engage in M&A activities. The mergers were financed through cash and their nature was regarded as friendly which means that the approval and consent of the acquired company's management was obtained. There were a lot of horizontal mergers during this wave which started to create a monopoly in the market and ultimately laws to govern this, such as the Sherman Antitrust Act 1, were introduced to limit monopolies that could hurt the competitiveness of a specific industry. The first wave is known to have ended due to the stock market crash in 1905 and the beginning of the first world war. The introduction of the Sherman Antitrust Act also somewhat contributed to the end of the first wave as it made it more difficult for mergers of a monopolist nature to occur.

The second wave began in the early 20th century after the first world war as the economy started to recover, which primarily focused on merger activities in the iron industry, food, printing, and paper and was smaller in deal size compared to the first wave. The first wave exceeded more than 15% of the total assets in the US market and the second wave had an impact of less than 10% (Sudarsanam, 2003). The financing of the merger activities changed from being financed by cash to being financed by equity and were still regarded as friendly mergers where approval was obtained by the management of the acquired entity. During the second wave, there were still concerns about the monopolies dominating the market. The second wave was driven by vertical mergers and not horizontal mergers like the first wave. The second wave ended due to the market crash in 1929 which led to the great depression across the world.

The third wave had a delayed start due to the great depression and the second world war which was from 1939 to 1945. There were further laws imposed to prevent anti-competitiveness in mergers and acquisitions as this was prominent in the second wave as well. The third wave had diversifications in the form of conglomerates' mergers and acquisitions which means that the purchases were unrelated companies to diversify

portfolios and minimise risks. Diversification also assists with cash flow volatility because if one division makes losses, they can be offset by profits in another unrelated division. The third wave was financed through capital, like the second wave, and the mergers and acquisitions activities were still regarded as friendly.

Examples of conglomerates are Philips which was founded in 1891 with divisions in consumer lifestyle, healthcare, and lighting as well as Unilever which was founded in 1930. Unilever was founded through a merger of a Dutch margarine producer, Margarine Unie, and Lever brothers which were soap makers. Unilever produces foods, beverages, cleaning, and personal healthcare products. The third wave ended due to the economic recession as a result of the oil crises.

The fourth wave started in the late 1980s and M&As were hostile in nature which means that they were carried out without the approval of the acquired company's management. The fourth wave was higher in size compared to the third wave; they were financed through debt and cash which was different from the equity financing in the third wave. This created the leveraged buyout (LBO) approach to financing mergers and acquisitions which means that the mergers and acquisitions were financed through external debt. The fourth wave ended due to the stock market crash.

The firth wave began in the 1990s when the economy was doing well and had recovered from the world war and great depression. The financial markets were at their peak, mergers and acquisitions began to grow outside of the US to European countries. The concept of globalisation came into play at the time which brought the ability of companies to perform mergers and acquisitions outside their home countries through cross-border mergers and acquisitions. Companies were able to seek growth which is one of the major drivers of M&A activities and empires were able to be build worldwide.

The fifth wave was more focused on the technological advancements to be more competitive in the market. It was regarded as friendly, compared to the fourth wave

which was more hostile. The firth wave ended due to an economic recession and the internet boom phase played a role when the global stock markets crashed.

The sixth wave was a continuation of globalisation as a lot of companies continued to enter into cross-border mergers and acquisitions. Private equity firms emerged and were becoming successful as shareholders spread ownership of their companies between themselves, institutional investors and management tasked to run the day-to-day management of the company. The sixth wave was financed through the use of equity. Sudarsam (2003) suggests that the sixth wave was as a result of emerging markets starting to play a vital role in mergers and acquisitions as well. The sixth wave is known to have ended due to the financial crises in the United States which began in 2007.

The seventh wave is known to have started in 2014 and more dominated by horizontal mergers through the acquisition of emerging market companies. BRICS plays a significant role in mergers and acquisition activities of which empirically, research into the value creation for shareholders through M&A with focus on emerging markets should be done, and the motives behind BRICS starting to play a significant role in the M&A space currently.

2.3 Mergers and acquisition payment considerations

Merger and acquisition transactions can be paid for in cash, securities or a combination of both. Securities can be in the form of using stock types, such as common stock or preferred stock and debentures to finance the transaction. The valuation of the shares can be determined by dividing the number of shares during a pre-specified period which is called a pricing period (Gaughan, 2011). The pricing period consists of a specific number of days or months pre and post the announcement of the transaction. The price can either be fixed or floating during the timeframe of the negotiations which is dependent upon the parties to the transaction.

The payment can be made upon the conclusion of the transaction or over specific milestones, such as the performance of the acquired entity or securities redeemable after a specific timeframe. Cash would be considered an easy form of payment when a large entity acquires a small entity but a challenge when the consideration is more significant as the acquiring entity might have to borrow money to finance the transaction which increases the cost of capital for an M&A activity, so the form of payment is quite important in the process.

Previous research (e.g., Mauboussin, 2017) shows that the stock market favours cash deals more than stock deals as it is assumed that if the acquirer sells stock to raise funds for the transaction, it only does so when the stock is expensive which then creates a mixed signal on the acquirer's intentions. Mauboussin (2017) further illustrated that in a stock for stock deal, the risk and rewards from the transaction is shared between the two companies but if it is a cash deal then the risk and rewards transfer to the acquirer which, for the market, can be seen as a strong signal, but weak if it is a stock for stock transaction. Furthermore, there is an advantage in the market when doing mergers and acquisition activities first before the rest of the other companies do so as it allows the company to choose from more opportunities than when others are also leveraging the same information to make moves in the M&A space.

2.4 Motives for M&As

There are various reasons for M&As. The most common reason is for synergy. Synergy occurs when two or more companies combine and either generate more profits or reduce costs together (Vaidya, 2018). Synergy suggests that there are benefits that can only be realised when two companies are jointly operating than when they are operating apart. Synergies allow growth through revenue, reduction in costs or improvements in any financial synergies.

Revenue synergy is when two companies are able to generate more profits if together, than when they are separate, this is mainly driven by their ability to leverage each other's resources to generate more profits. Revenue synergies, which are usually given less weight, come from the ability to create greater revenue through a combined company than the sum of the independent companies' revenues (Stowell, 2010). With managers believing that it Is easy to buy growth than build it (Cordeiro, 2014), mergers and acquisitions become a preferred method of inorganic growth than organic growth for generating revenue as well.

Having companies joined through a merger or acquisition allows for ease of patent access which can enable them to create joint products from their patents that are more competitive in the market thereby increasing revenue. Mergers or acquisitions where both companies have various geographic foci allows the products from an M&A to have cross access to these geographies which increases revenue. If two companies were selling complementary products, a merger or acquisition allows for bundling products to allow a more solution-driven sales approach in the market which ultimately increases revenue through this synergy.

Cost synergy occurs when two companies are able to save or reduce costs if combined that if they are separate. Cost synergies are most important, and they arise through efficiencies created by the elimination of redundant activities, improved operating practices, and economies of scale (Stowell, 2010). Notable cost savings as a result of a merger or acquisition are supply chain efficiencies realised from both companies leveraging each other's processes and best practices as well, Information technology sharing and patents access that allows the best and most value-adding approaches to be shared and implemented. There are also cost savings from salaries and wages as a result of eliminating duplicated roles which also becomes a process of ensuring the best employees are what is left between the two companies from various departments.

Financial synergy is the ability to have a reduced cost of capital when two companies are joined together than if separate as the bigger the organisation is the less a risk premium is for loans. Most organisations do not target to achieve all three types of synergies but a maximum of each or two depending on their intentions from the transaction.

The second benefit of mergers and acquisitions is that it allows for an instant increase in market share without having to do anything specific to obtain it. The companies engaging in a merger or acquisition are able to transfer their customer base which results in an increase in market share. This form is regarded as simpler than organic growth in market share as the company would have to engage in various initiatives, such as selling price cutting (Cordeiro, 2014), increase spend in marketing and advertising, introducing new or enhanced products in the market, etc. which can take longer to yield results, but with mergers this happens instantly.

Economies of scales refer to reducing the average cost price per unit by increasing the volume of production. This is one of the advantages of mergers and acquisitions as the joint production allows for higher volumes to be produced which ultimately reduces the average cost price per unit. The economy scope means saving costs by producing more variety of offerings from sharing common resources. Certain strategic mergers or acquisitions realise economy of scope as a focus to reducing costs while leveraging the reduction in similar departments, focusing on efficient and cheaper distribution channels and marketing costs.

As a result of mergers and acquisition, companies can share knowledge and skills set easily and freely which promotes higher synergies and smarter solutions from joint efforts. Both companies are able to leverage the best technical personnel as well as attract talent from the M&A activities that allow the company to offer better opportunities from its increase in size.

Companies engaging in mergers and acquisition activities are able to assess all of their assets and only keep focused assets necessary for the growth of the organisation collectively which can provide higher asset efficiencies.

One of the reasons for mergers and acquisitions is if an entity sees market imperfections and explores them mostly through cross-border mergers and acquisition activity. Globalisation has enabled companies to seek growth, competitive advantage, transformation, etc. in most countries in the world which puts fewer limitations to opportunities in the market but at the same time, an opportunity to leverage flows in certain markets and some researchers like Gonzalez, Vasconcellos and Kish (1998) looked into and offered support for the hypothesis that undervalued companies are a motivation for cross-border mergers and acquisitions through the interdependencies from relationships through globalisation.

2.5 Short-Term and Long-Term Value Creation Through Mergers and Acquisitions

Cartwright and Schoenberg (2006) did a consolidation and analysis of mergers and acquisitions activities for the last 30 years and future opportunities looking at the financial, strategic, behavioural, operational and cross-culture aspects. Agrawal and Jaffe (2000) concluded in their research, that the target firm enjoys positive short-term returns in general, but bidding firms frequently experience share price underperformance in months after acquisitions which result in negligible overall wealth gain for portfolio holders.

There is a belief that the weight of evidence shows takeovers bring positive short-term returns for shareholders of the target firm but the long-run benefit to investors in acquiring firms is more questionable (Cartwright & Schoenberg, 2006). Conn, Cosh, Guest, & Hughes (2001) found that approximately 35-45% of acquirers do achieve positive returns in two to three years' post-acquisition using standard deviations in the order of

10% around the mean return while Kitching (1974) reported failures of 46-50% based on manager's self-report, in Rostand and Schoenberg (1994), similar failure rates were reported of 44-45% using comparable methodology, which means the trend has not improved.

2.6 Formulating the Hypotheses

Based on the research questions the thesis sought to answer within the focus area of mergers and acquisitions, the following are the null hypotheses that guides the empirical research;

Hypothesis 1.1:

H0: Bidders stock returns are negative or no effect on stock price upon the announcement of the acquisition.

H1: Bidders stock returns are positive upon the announcement of the acquisition.

Hypothesis 1.2:

H0: Target stock returns are negative or no effect on stock price upon the announcement of the acquisition.

H1: Target stock returns are positive upon the announcement of the acquisition.

Chapter Summary

Mergers and acquisition activities have evolved in the last 125 years since they started, the evidence of various waves shows the macroeconomic and regulatory elements that have resulted in their peaks and downturns by the quantity and by deal values. Equity dominated the majority of waves as a preferred form of payment to finance a merger or acquisition and mostly was of a friendly nature rather than hostile takeovers. The motives

of why mergers and acquisitions exist may have varied in the last 125 years but most of the motives are still prominent in the current wave, such as exploring different synergies, using M&A to instantly grow the business, and streamlining the business to focus on a specific industry.

CHAPTER 3: Research Methodology

3.1 Introduction

This chapter focuses on the research methodology and process of gathering the data that was used to test the research questions and address the research objectives. The chapter is structured as follows: Section 3.2 discusses the data and the data sources used to test the hypotheses defined for the research. Section 3.3 provides the research design applied to test the defined hypotheses and concludes with a chapter summary.

3.2 Data and Data sources

The data needed for this research was mainly mergers and acquisition transactions for acquirer companies listed on the JSE that completed their M&A transactions between January 1997 and December 2017. To be included in the analysis, the acquiring company should have at least 200 days of price data before the M&A announcement. According to Bartholdy, Oldon and Peare (2007) and the studies of Georgenes and Renneboog (2004), estimation periods are set to be between 200 and 250 trading days which is equivalent to between 9 to 12 months of traded stock price data. Also, the acquirer should have a majority stake in the target company. A company is believed to have the majority stake in a company when it purchases 50% or more stake in another company.

The data was obtained from *Bloomberg. Bloomberg* has a comprehensive data for worldwide announced, pending, completed and cancelled mergers and acquisitions. The research questions of the thesis and hypotheses were used to guide the data selection for performing the research. As the focus of the thesis is on the value creation through mergers and acquisitions in South Africa, the data was gathered for mergers and acquisitions activities in South Africa.

Firstly, the criteria used is that the transaction should be classified as a merger or acquisition due to the research only focusing on those two areas, other deal types, such as investments and joint ventures are excluded from the sample. Secondly, the deal had to have been announced between 01 January 1997 and 31 December 2017 which captures two decades of mergers and acquisitions activities in South Africa. Two decades seems sufficient to capture any mergers and acquisitions waves as well as economic cycles in the South African economy.

Thirdly, the merger or acquisition is completed because the thesis focuses on the value creation through mergers and acquisition which means that the value will not be measurable on a deal that is not yet concluded. Sorheim and Lerkerod (2015) believe that including deals that are not completed has a risk of the market already anticipating non-completion which would mean the deals might not have any significant price movements.

The fourth criterion applied was that the M&A acquirer or target is publicly listed on the Johannesburg Stock Exchange and transaction results in the bidding firm owning the majority stake of the target company which is measured by obtaining more than 50% of the shares. A company is believed to have the majority stake in a company when it purchases 50% or more stake in another company. The reason for selecting to use publicly traded companies is because it makes it easy to track daily share price movements in stock prices which is a requirement in using the event study; as a result, the sample is not based on matched deals between acquirers and bidders, hence the asymmetric number of acquirer and target companies.

The firth criterion applied is that sufficient financial data prior to the announcement is available to use and stock prices are available ~250 days before the announcement and at least ~10days after the announcement. According to Bartholdy, Oldon and Peare (2007) and the studies of Georgenes and Renneboog (2004), the estimated periods are set to be between 200 and 250 trading days which is equivalent to between 9 to 12

months of traded stock price data. Lastly, the final sample size should account for more than 90% of total value of the M&A activities after applying all the selection criteria; this is to ensure that mergers and acquisitions used for testing fairly include the most significant transactions that would mostly have had significant reaction by the market.

Table 3: Procedure followed to select sample

Selection criteria	**Count**
The transaction is classified as a merger or acquisition under South Africa	5000
The deal is announced between 01 January 1997 and 31 December 2017.	4982
The merger or acquisition activity is completed.	4356
The M&A was announced with a price value	2882
The M&A acquirer is publicly listed on the Johannesburg Stock Exchange and the transaction results in the bidding firm owning the majority stake of the target company	220
The M&A target is publicly listed in the Johannesburg Stock Exchange and the transaction results in the bidding firm owning the majority stake of the target company	189
Sufficient financial data prior to the announcement is available to use. Stock prices are available ~250 days before the announcement and at least ~10days after the announcement for acquirers.	193
Sufficient financial data prior to the announcement is available to use. Stock prices are available ~250 days before the announcement and at least ~10days after the announcement for targets.	73
The acquirer sample by value equals greater than 90% of total M&A transactions	49
The target sample by value equals greater than 90% of total M&A transactions	34

3.3 Research Design

There are various methods that can be used to assess the post mergers and acquisitions performance. Zappa (2008) states the post M&A performance can be measured by turnover and profit growth, relative firm value growth, short and long-term stock price increase (event study), assessing the difference between actual returns and the

previously expected returns (abnormal returns) and also the present value of the post-M&A incremental cash flows. The research obtained estimated abnormal returns of each firm sampled and accumulated them, which was achieved through the use of an event study as the event study shows the value created for shareholders overall and is the most important aspect of the research. The results were then used to test the hypotheses described. The research was carried out by running regressions on various dependent variables on the cumulative abnormal returns, if any existed, using the event study methodology.

3.3.1 Event Study

An event study can be described as a statistical method used to assess the impact an event has on the value of a company. The event study methodology was used in a paper by Fama, Fisher, Jensen, & Roll (1969) which was developed for application in the New Centre for Research in Security Prices (CRSP) monthly data for the New York Stock Exchange stocks (Binder, 1998). The method has been used commonly to examine the behaviour of a company's share price during events such as mergers, acquisitions, changes in the leadership of an organisation, earnings announcements, etc.

According to Blinder (1998), the event study method has become a standard method of measuring price reaction to some announcement or event, it is commonly used to test the null hypothesis that the market efficiently incorporates information and also under the maintained hypothesis of market efficiency when it comes to publicly available information in order to examine the impact an event has on the wealth of shareholders of a company.

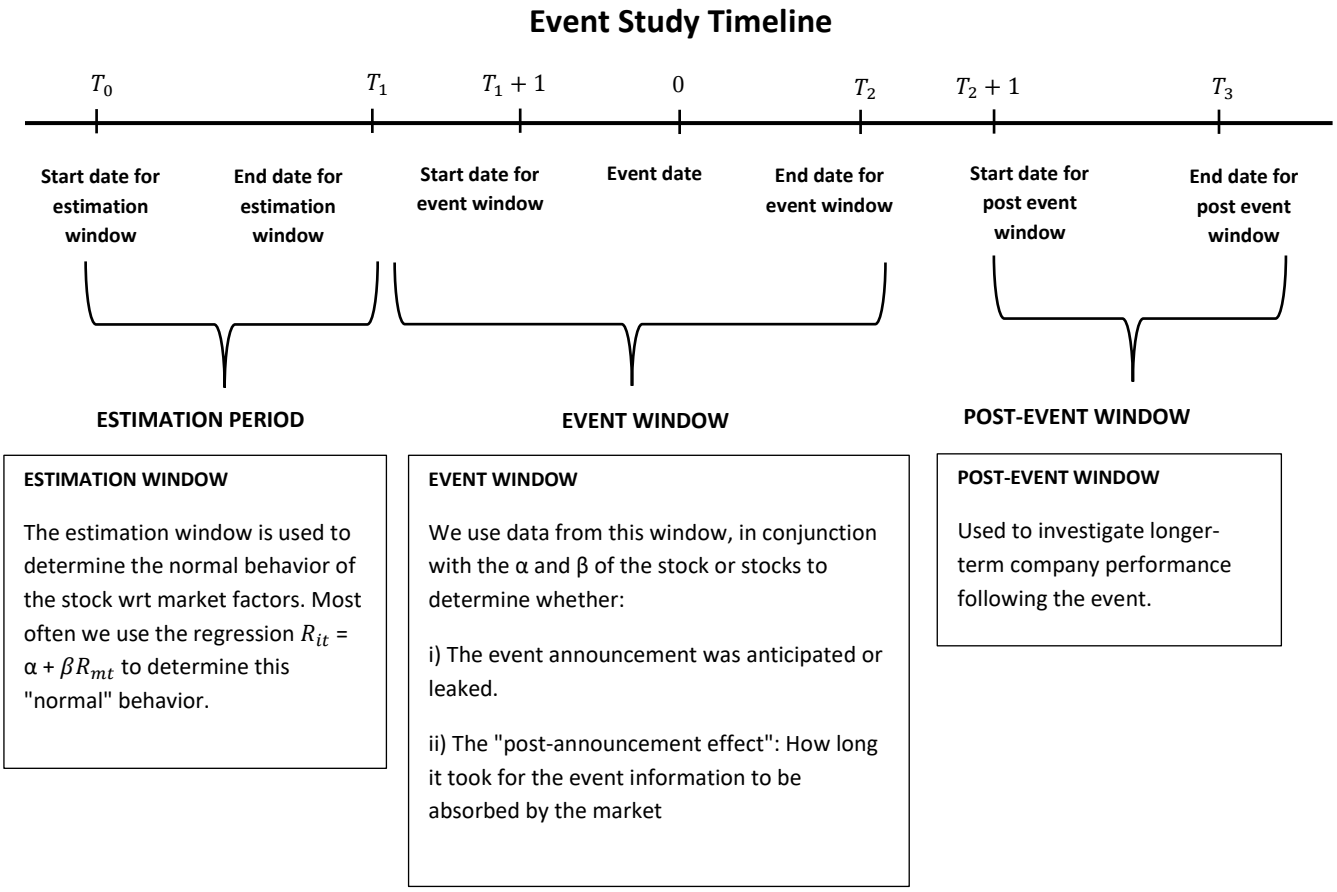
The use of the event study provides better results in estimating the value creation using mergers and acquisition because, according to the market efficiency hypothesis in Fama et al. (1969), the price of shares represents the present value of future cash flows expected from the assets of the firm at a given time which reflects all available

information about the firm's current and future earnings potential. The event study process was followed in the next steps.

3.3.1.1 Determine Dates

To perform the event study, it was important to identify the expected returns to derive the abnormal returns or losses that could arise from an event. An estimation period should be used to determine the expected returns of a stock and in this analyses, 12 months before the event occur was used as it is sufficient and will not be affected even if it is increased to infinity. According to Bartholdy, Oldon and Peare (2007) and the studies of Georgenes and Renneboog (2004), the estimated periods are set to be between 200 and 250 trading days which is equivalent to between 9 to 12 months of traded stock price data.

Choosing this as an estimation period covered the true and normal return of the stock and also assumed no sampling errors in the coefficients of the chosen model used as the sampling error variance term asymptotically approaches zero (Sorheim & Lerkerod, 2015). As shown below in figure 2, the initial day in the estimation period was regarded as T_0 with daily notification of time referred to as *t* which meant the estimation period ranged between T_0 to T_1 and event occurs at time 0 with start date for the event window being from $T_1 + 1$ to T_2. The post-merger or acquisition period was represented by $T_2 + 1$ to T_3. For the study, an event window of 21 days was selected (-10,0,10) which reflected results 10 days prior to the event announcement date and 10 days post the event announcement date.



Source: Financial Modelling (Benninga, 2008)

Figure 2: Event Study Timeline

3.3.1.2 Calculate Expected Returns

There are various models of calculating the expected returns of a stock in the market which is the Capital Pricing Model (CAPM) and its alternative model, the Arbitrage Pricing Theory (APT), market model, net of market returns and net of characteristics matched portfolio. For the purpose of the event study, the market model was used which is a statistical model that uses a single factor as the market and that the stocks are affected by price movements in the market and it is a statistical model rather than a model derived

(1)

from financial theory (Gibbons, 1982). The geometric return of a stock can be shown by;

$$R_{it} = \frac{p_{it} - p_{i(t-1)}}{p_{i(t-1)}}$$

Where the R_{it} is the return at time t for asset i and in event studies p_{it} and $p_{i(t-1)}$ represent the prices for asset i over time t and $t-1$ respectively. The market model regresses the return of the market portfolio on the return of a single firm using the following equation:

(2)

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$$

$$where\ E(\varepsilon_{it}) = 0\ and\ Var\ (\varepsilon_{it}) = \sigma_{\varepsilon i}^2$$

Where R_{it} and R_{mt} are the period t returns on stock i and the market portfolio respectively, and ε_{it} is the zero mean disturbance term. α_i, β_i and $\sigma_{\varepsilon i}^2$ are the parameters of the market model. In the application of the model, a broad-based stock index such as the Johannesburg Stock Exchange (JSE) all share index was used. The benefit from using the market model depends upon the R^2 which means the greater the variance reduction of the abnormal return , the larger the gain.

3.3.1.3 Measure the Abnormal Return

The market model actual return is explained by α_i and the market return R_{mt} multiplied by the firm's specific factor β_i. The beta is calculated as the historical covariance between the firm and the market return from the period estimated. The residuals like the error term ε_{it} represent the abnormal return. The equation (3) can be re-ordered to solve abnormal return as shown below;

$$R_{it} = \alpha_i + \hat{\beta}_i R_{mt} + \varepsilon_{it} \quad (3)$$

$$\varepsilon_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_{i\,i} R_{mt})$$

$$\varepsilon_{it} = \mathrm{AR}_{it} \quad (4)$$

$$\varepsilon_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i R_{mt})$$

Where AR_{it} represent the abnormal return for a single firm at one point in time and R_{it} is the actual return.

3.3.1.4 Accumulate the Abnormal Return

Once the average return of each stock included in the sample was calculated, the average returns for the specific window was added to finalise the cumulative Abnormal Return known as CAR for each stock which can be represented as below;

$$CAR_i(t_1 + 1, t_2) = \sum_{t=t_1+1}^{t_2} AR_{it} \tag{5}$$

Adding the average returns across companies at one point in time and dividing it with the number of observations (N) is how the Average Abnormal Return (AAR) is obtained at a specific point in time;

$$AAR_t = \frac{1}{N}\sum_{i=1}^{N} AR_{it} \tag{6}$$

When adding all the Average Abnormal Returns (AAR) in the event window, we are able to find the Cumulative Average Abnormal Return (CAAR) for all companies included in the sample across the event window;

$$CAAR(t_1 + 1, t_2) = \sum_{t=t_1+1}^{t_2} AAR_t \tag{7}$$

3.3.1.5 Analyse and statistically test the return

When performing an event study, several factors might disrupt the credibility of the results, such as the event clustering and non-normal distributions, and if not treated for,

might result in the tampering of the results in the event study. The event clustering occurs when there are other events in the sample occurring at the same time with the date of the event study which then creates cross-sectional correlation across samples. Peterson (1989) highlight the events that create clusters to be relating to tax law changes, accounting method changes, and government regulation. Non-normal distribution occurs if there are any significant outliers in the event window and the cumulative abnormal returns are seen as not normally distributed.

The returns from an event study can be tested using parametric tests or non-parametric tests but most scholars normally use a non-parametric test in event studies. The most common parametric tests are the t tests and ANOVA and the most common non-parametric test is the Mann-Whitney U test and the Kruskal-Wallis Test (Johnson & Karunakaran, 2014). Parametric tests are statistical tests that make assumptions on the defining properties, such as the data follows normal distribution, the sample size is large enough for central limit theorem to lead to normality of average, and also that the data is not normal but can be transformed. In situations where the data does not follow normal distribution, this will result in the outcome becoming an ordinal variable, the presence of definite outliers and outcome will have clear limits of demarcation. The non-parametric test is unlike the parametric test in that it is based on fewer assumptions. The advantages of using the non-parametric test is that it is suitable for when data does not follow normal distribution, when the average is better represented by median, sample size is small, when there is the presence of outliers and also it is relatively simple to conduct.

For this study, a t test as a form of parametric test was selected to test the cumulated abnormal returns in the event window to check if the abnormal returns are significantly different from zero. Brown and Warner (1985); Berry, Gallinger, & Henderson (1990) recommend a student t when using daily returns compared to using a non-parametric alternative after considering its error characteristics and sampling distribution of a non-

parametric test. For the student t-test, the null hypothesis (H_0) to be tested was as follows;

H_0=*There is no abnormal return in the event window*

H_1= *There is abnormal return in the event window*

By rejecting the null hypothesis at different critical levels, this enables the abnormal returns to be detected in the event window. The t-statistic is calculated by taking the estimate of interest which, in this case, is the different types of returns and dividing them with the estimated standard deviation (Kritzman, 1994), which will result in the following;

For average abnormal return (AAR) $$t = \frac{AAR_t}{\sqrt{\sigma_i^2(AAR_t)}} \quad (7)$$

For cumulative average return (CAR) $$t = \frac{CAR_i(t_1+1,t_2)}{\sqrt{\sigma_i^2(t_1+1,t_2)}} \quad (8)$$

For cumulative average abnormal return (CAAR) $$t = \frac{CAAR_t(t_1+1,t_2)}{\sqrt{\sigma_i^2 CAAR_t(t_1+1,t_2)}} \quad (9)$$

If the event is unanticipated and the results of the t-statistic is significant on the event date, but it is not significant on the days following the event, then it is reasonable to conclude the event affected stock returns and that it does not contradict the efficient market hypothesis (Kritzman, 1994).

Chapter Summary

The chapter explained the detailed research methodology proposed to address the research objectives identified in the first chapter of the study. In the context of corporate mergers and acquisitions, event studies were used for focusing on announcement effects for a short-horizon around an event to provide evidence relevant in understanding corporate policy decisions (Kothari & Warner, 2006). The extent of abnormal returns,

losses or no effect in shareholder's wealth can be shown in a model and quantified using this common methodology for researchers on mergers and acquisitions. The short-horizon tests are able to represent the best evidence currently available on market efficiency (Fama, 1991) which means that if there is rationality in the market, the effects from the event will reflect in the asset prices immediately. With several factors identified in various researches that might disrupt the credibility of the results, a parametric test was selected to assist in determining whether the event significantly affected the returns.

CHAPTER 4: Presentation of Results

4.1 Introduction

The purpose of this chapter is to present the results. The chapter is structured as follows: Section 4.2 present the acquirers and target samples descriptive statistics which show descriptive coefficients that summarise the given data. Section 4.3 presents the findings from the event study for both acquirers and targets. Section 4.4 summarises the findings from the sample used in 4.2 and 4.3 to observe whether certain industries yield higher CARs than others in the context of South Africa and concludes with a chapter summary.

4.2 Sample Descriptive Statistics

4.2.1 Distribution of Total Sample Transactions by Year

Table 4 presents the M&A deals by year. The study consisted of 83 mergers and acquisitions completed between 1997 and 2017 of which the acquirers represent 49 M&A activities which represents 93% of all M&A completed between 1997 and 2017 by deal value and 26% by deal count for JSE listed companies, target activities consisted of 34 targets which represents 99% of all targets completed between 1997 and 2017 by deal value and 51% by deal count for JSE listed companies after applying the selection criteria.

Table 4: M&A Deals by Year

YEAR	DEAL COUNT	VALUE ($MIL.)	TOTAL VALUE ($MIL.) %
1998	11	12,151.91	5%
1999	2	2,004.71	1%
2000	9	14,134.09	6%
2002	5	4,117.07	2%
2003	6	13,620.11	5%
2004	1	469.87	0%
2005	5	30,976.78	12%
2006	8	17,862.32	7%
2007	1	2,012.02	1%
2008	6	3,362.01	1%
2009	1	2,532.54	1%
2010	6	21,515.94	9%
2011	2	3,859.73	2%
2012	5	5,641.78	2%
2013	3	2,589.44	1%
2014	2	2,385.30	1%
2015	5	96,697.09	38%
2016	1	680.13	0%
2017	4	15,127.08	6%
GRAND TOTAL	**83**	**251,739.92**	**100%**

The sample was able to capture close to two decades of mergers and acquisitions for JSE listed entities that were completed during that period of which the acquisition led to ownership of the majority stake in the company. There was a total of $ 252 million deals tested in the event study with the most financially significant year being 2015, which had a total of $ 97 million (38% of total value), this is consistent with figure 1 in chapter 1 of mergers and acquisitions in South Africa showing 2015 is the highest value year for M&A activities. The most significant count of deals tested in the sample is 1998 and 2006 with

11 and 8 deals respectively with 1998 being consistent with figure 1 in chapter 1 showing 1998 as the highest year of mergers and acquisitions by count in South Africa.

4.2.2 Distribution of Sample Transactions by Year and Method for Acquirers and Targets

Tables 5 and 6 present the number of mergers and acquisition done during the period 1997 and 2018 by the type of payment method used for the transaction and the announced values. Cash was the most used by deal count compared to other method of payment as it represents 75% of the total sample payment method by count and 86% by deal value which would imply that cash was the most favourable method of payment for M&A deals in South Africa in the last two decades.

Table 5: M&A Deals by Method of Payment Count

YEAR	CASH	CASH AND STOCK	STOCK	UNDISCLOSED	GRAND TOTAL
ACQUIRER					
1998	4	1	1	1	7
1999	1				1
2000	4			1	5
2002	1		1		2
2003	2		1		3
2005	1				1
2006	2				2
2007				1	1
2008	4	2			6
2009	1				1
2010	2				2
2012	4				4
2013			2		2
2014	1			1	2
2015	5				5
2016	1				1
2017	3	1			4
TARGET					
1998	2	1	1		4
1999	1				1
2000	4				4
2002	1		1	1	3
2003	2		1		3
2004	1				1
2005	3		1		4
2006	5	1			6
2010	4				4
2011	2				2
2012	1				1
2013			1		1
GRAND TOTAL	**62**	**6**	**10**	**5**	**83**

Table 6: M&A Deals by Method of Payment Values

YEAR	CASH	CASH AND STOCK	STOCK	UNDISCLOSED	GRAND TOTAL
ACQUIRER					
1998	4,928	450	480	788	6,646
1999	612				612
2000	8,062			500	8,562
2002	911		959		1,870
2003	1,070		3,078		4,147
2005	404				404
2006	3,991				3,991
2007				2,012	2,012
2008	2,501	861			3,362
2009	2,533				2,533
2010	4,804				4,804
2012	3,552				3,552
2013			1,513		1,513
2014	645			1,740	2,385
2015	96,697				96,697
2016	680				680
2017	3,180	11,947			15,127
TARGET					
1998	4,532	494	480		5,506
1999	1,393				1,393
2000	5,573				5,573
2002	293		959	994	2,247
2003	6,395		3,078		9,473
2004	470				470
2005	30,055		518		30,573
2006	11,191	2,681			13,872
2010	16,712				16,712
2011	3,860				3,860
2012	2,090				2,090
2013			1,076		1,076
GRAND TOTAL	217,131	16,434	12,142	6,034	251,740

4.2.3 Sample Statistics

Table 7 shows the basic descriptive statistics for the data used in the window of 21 days for acquirers and targets, the statistics further show the split by industry for both acquirers and targets. Overall, the sample mean which measures the average of the sample is 2% and 2.9% respectively, for acquirer and target data which implies the average value in the sample presents over 2% of the total value. The minimum and maximum differs by 20.55% for acquirers and 31.57% for targets which would imply that there are values in the sample that are significantly higher than lowest values. The standard deviation of the sample was 0.040% and 5.82% which would mean that the data was not significantly spread out from the average.

Table 7: M&A Sample Statistics for Acquirers and Targets

	COUNT	TOTAL VALUE	MEAN	MEDIAN	STANDARD DEVIATION	MINIMUM	MAXIMUM
ACQUIRERS	49	158,896	2.04%	0.60%	0.04%	0.25%	20.81%
TARGETS	34	92,844	2.94%	1.27%	5.82%	0.28%	31.74%
INDUSTRIES-ACQUIRERS							
BASIC MATERIALS	5	8,919	20.0%	10.2%	16.7%	5.0%	41.5%
FINANCIAL	13	90,746	7.7%	1.3%	13.0%	0.5%	36.4%
INDUSTRIAL	2	3,561	50.0%	50.0%	46.9%	16.8%	83.2%
CONSUMER, CYCLICAL	7	4,996	14.3%	10.9%	94.0%	8.1%	22.2%
DIVERSIFIED	3	1,870	33.3%	34.5%	9.4%	23.4%	42.1%
COMMUNICATIONS	13	42,882	7.7%	3.6%	11.6%	1.1%	38.2%
CONSUMER,NON-CYCLICAL	5	5,515	20.0%	18.6%	7.8%	10.3%	31.6%
INDUSTRIES-TARGETS							
BASIC MATERIALS	8	18,965	12.5%	10.4%	8.6%	2.5%	30.8%
COMMUNICATIONS	3	3,262	33.3%	15.1%	37.0%	9.0%	75.9%
CONSUMER, CYCLICAL	3	19,492	14.3%	4.9%	26.8%	2.5%	74.9%
CONSUMER,NON-CYCLICAL	3	6,865	33.3%	22.7%	36.9%	2.9%	74.4%
ENERGY	4	9,798	25.0%	25.1%	11.1%	12.4%	37.4%
FINANCIAL	6	33,706	16.7%	3.2%	34.7%	0.5%	87.4%
INDUSTRIAL	2	351	50.0%	50.0%	1.2%	49.1%	50.9%

4.3 Market reaction to M&A

4.3.1 Market reaction to M&A for Acquiring Firms

Table 8 shows the acquirer firm's performance for the mean, median, t-value, p-value and statistical significance of the event study performed on acquirers in the (-10, 10) event window. The sample data is for the period between 1997 and 2017, containing 49 acquirers.

Table 8: Acquirer firm's performance during the period 1997-2017

Day	Mean-u	Median	t-value	p-value
-10	-0.31%	-0.0042	-0.1644	0.8701
-9	0.32%	0.0040	0.3307	0.7423
-8	0.21%	0.0022	-0.0684	0.9457
-7	0.25%	0.0013	-0.0269	0.9786
-6	0.49%	0.0071	0.0947	0.9249
-5	0.70%	0.0103	0.2034	0.8397
-4	0.54%	0.0034	-0.2188	0.8278
-3	0.62%	0.0053	0.0358	0.9716
-2	0.64%	0.0047	0.0385	0.9695
-1	1.11%	0.0108	0.1808	0.8573
0	1.91%	0.0050	0.6968	0.4893
1	2.46%	0.0099	0.4124	0.6819
2	3.30%	0.0136	0.4000	0.6909
3	3.81%	0.0183	0.2082	0.8359
4	4.02%	0.0204	0.1540	0.8782
5	4.13%	0.0172	-0.0035	0.9972
6	4.65%	0.0256	0.1278	0.8988
7	4.87%	0.0220	0.0621	0.9507
8	4.87%	0.0306	-0.0018	0.9985
9	5.03%	0.0220	0.1278	0.8989
10	4.47%	0.0314	-0.0425	0.9663

* at 5% level of significance

Table 8 shows that the acquiring firms experienced positive returns on most days during the event window. The p-values throughout the event dates indicate the level of significance at which the null hypothesis begins to get rejected. This means that the lower the p-value, the higher the chance of rejecting the null hypothesis. A significant p-value is a p-value that is less or equal to 0.05, on the table none of the p-values are significant during the event window. The results show that the p-values were higher than 0.05 throughout the event window which implies that the means and medians are all statistically insignificant at 5 percent level and as a result large p-values indicated weak evidence against the null hypothesis.

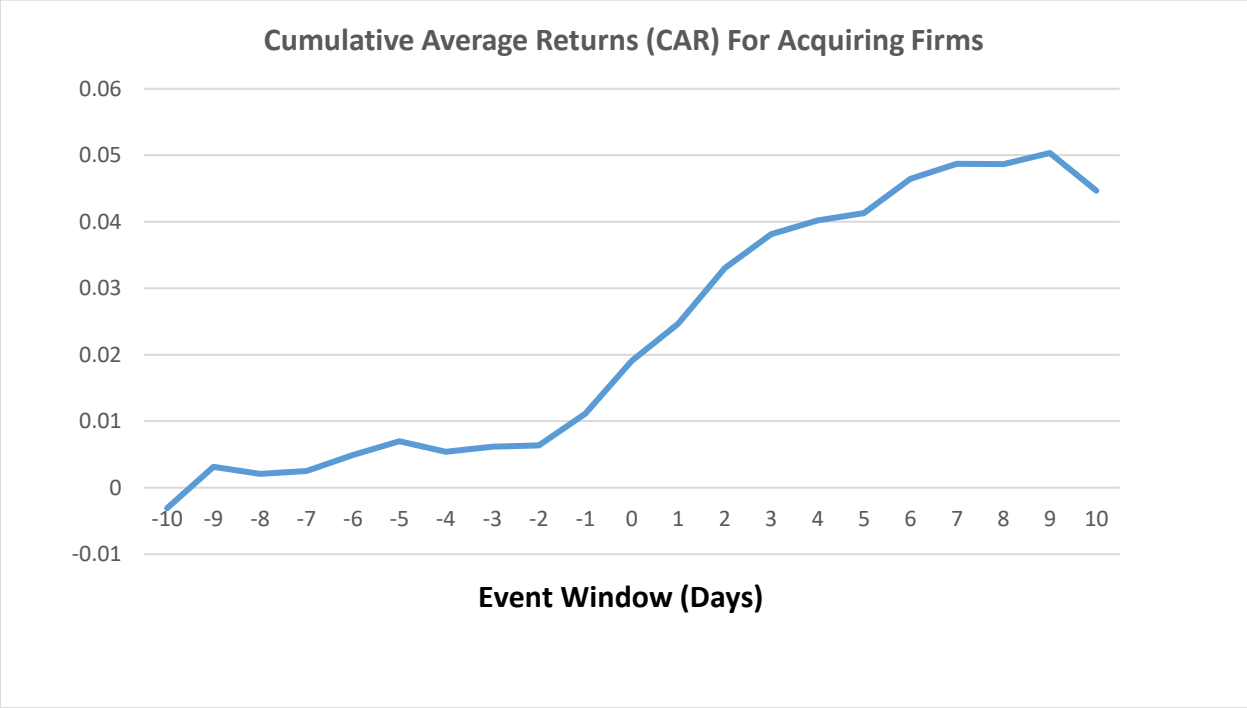


Figure 3: Cumulative Abnormal Returns (CAR) for acquirer firms listed on the Johannesburg stock Exchange for announcements during an event window period (-10,0,10) days

The Cumulative Abnormal Returns (CAR) is derived from the sum of the Abnormal Returns (AR) under each event window which indicates the accumulation of abnormal returns from the stock price since the start of the event window. Figure 3 shows the plotted results of the CAR after determining the ARs from the event window. If the CAR

percentage is a positive value, then this shows value creation for shareholders and If the CAR percentage is negative, it shows a decrease in value for shareholders.

The CAR was -0.3% during -10 day in the event window and showed positive returns leading to the day of the event. CAR was positive on the event day with returns of 1.9% and remained positive throughout the event window which would mean that the shareholder's value creation was long lived due to a continuous increase in CAR in the event window before it declined to 4.5% in +10 day. The longer the event window for the acquirer shows the more increase in CAR for most days during the event.

Based on the results of the event study for the acquirer, I therefore fail to reject the null hypothesis that the acquiring firm's stocks are negative or have no effect on the stock price upon the announcement of the acquisitions.

4.3.2 Market Reaction to M&A for Target Firms

Table 9 shows median, t-value, p-value and statistical significance of the event study performed on targets in the (-10, 10) event window. The sample data is for the period between 1997 and 2017, containing 34 targets.

Day	Mean-u	Median	t-value	p-value
-10	0.4%	0.0006	0.0024	0.9981
-9	-0.2%	-0.0011	-0.1454	0.8853
-8	-0.7%	-0.0075	0.0854	0.9325
-7	-0.3%	-0.0033	0.1216	0.9039
-6	-0.6%	-0.0008	0.0008	0.9994
-5	-1.4%	-0.0055	-0.1629	0.8716
-4	-1.0%	-0.0059	0.0444	0.9649
-3	-0.7%	0.0000	0.1583	0.8751
-2	-1.1%	0.0021	-0.0541	0.9572
-1	-0.7%	0.0146	0.3115	0.7574
0	3.2%	0.0038	0.7146	0.4799
1	5.5%	0.0122	0.6110	0.5454
2	5.2%	0.0171	-0.0203	0.9839
3	4.0%	0.0216	-0.1543	0.8783
4	4.2%	0.0261	0.0503	0.9602
5	3.9%	0.0308	-0.0681	0.9461
6	4.0%	0.0253	-0.1071	0.9153
7	4.0%	0.0196	-0.0113	0.9911
8	3.9%	0.0162	-0.0661	0.9477
9	3.8%	0.0227	0.0109	0.9914
10	3.5%	0.0258	-0.0806	0.9363

* at 5% level of significance

Table 9: Target firm's performance during the period 1997-2017

Table 9 shows that the target firms experienced positive and also negative returns on most days during the event window. The p-values throughout the event dates indicate the level of significance at which the null hypothesis begins to get rejected. This means that the lower the p-value, the higher the chance of rejecting the null hypothesis. A significant p-value is a p-value that is less or equal to 0.05, on the table none of the p-values are significant during the event window. The results show that the p-values were higher than 0.05 throughout the event window which implies that the means and medians are all statistically insignificant at 5 percent level and as a result large p-values indicated weak evidence against the null hypothesis.

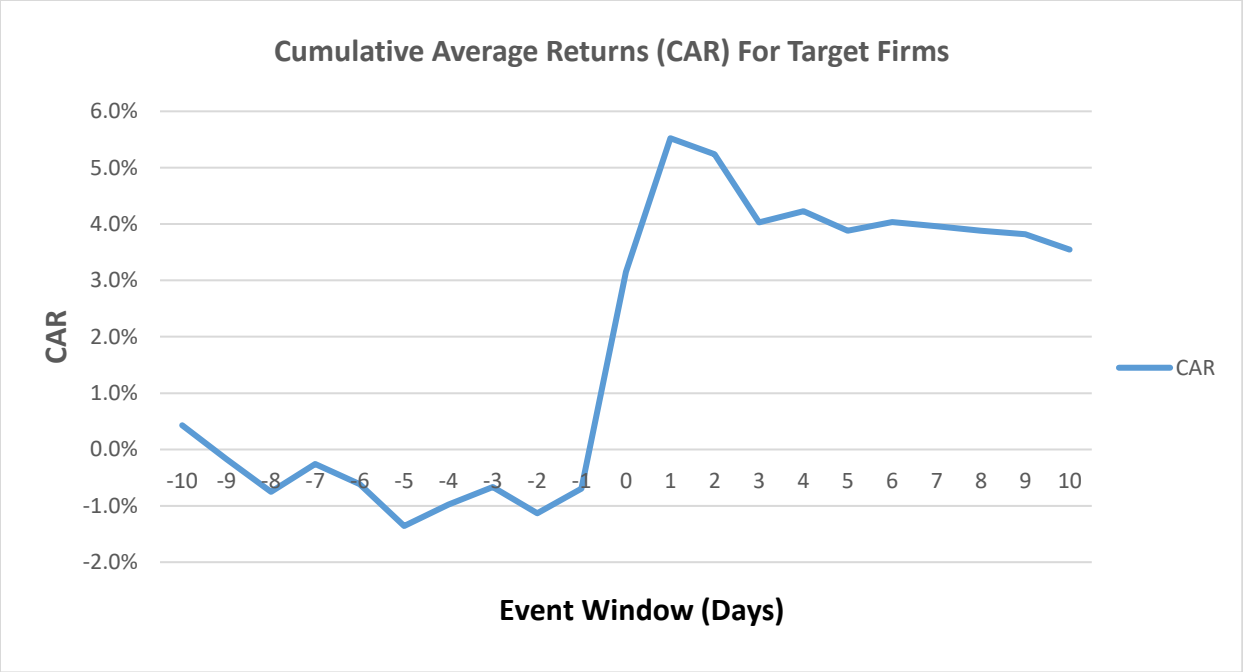


Figure 4: Cumulative Average Abnormal Returns (CAR) for Target firms listed on the Johannesburg stock Exchange for announcements during an event window period (-10,10) days

The Cumulative Abnormal Returns (CAR) is derived from the sum of the Abnormal Returns (AR) under each event window which indicates the accumulation of abnormal returns from the stock price since the start of the event window. Figure 4 shows the plotted results of the CAR after determining the ARs from the event window. If the CAR percentage is a positive value, then this shows value creation for shareholders and If the CAR percentage is negative, it shows a decrease in value for shareholders.

The CAR was 0.4% during -10 day in the event window and from -10 day, it was mostly negative returns until the event day where CAR was 3.2%. CAR remained positive till +10 day which would mean that the shareholder's value creation for targets was long lived due to the upward trend in CAR in the event window, however, the longer the event window for the target shows, the more CAR decrease during the event.

Based on the results of the event study for targets, I therefore fail to reject the null hypothesis that target stocks are negative or have no effect on the stock price upon the announcement of the acquisitions.

4.4 Market Reaction to M&A by Industry

4.4.1 Market Reaction to M&A for Acquiring Firms by Industry

The event study for acquirer consisted of 49 bidders in various industry for JSE listed companies. As shown in the descriptive statistics, the largest industry in the sample is the financial sector, representing 57% of the final sample of acquirer M&As with communications and basic materials following by representing 27% and 6% respectively, the count is insignificant for industries such as consumer cyclical and basic materials with seven and five total counts respectively.

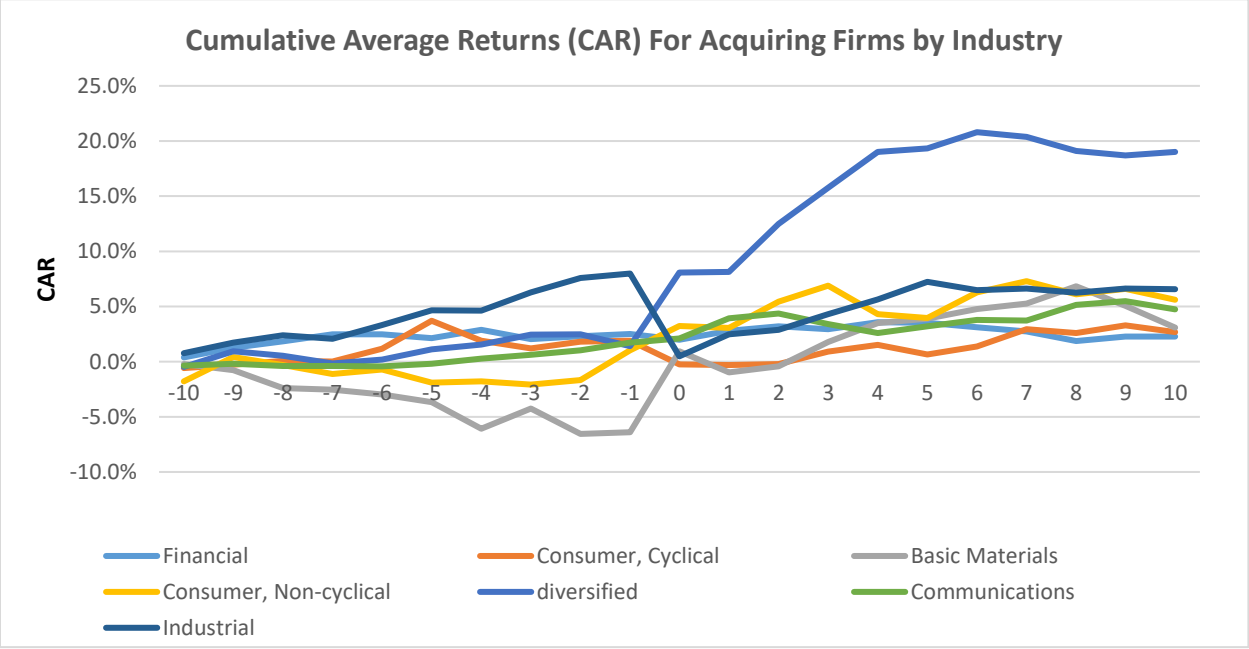


Figure 5: Cumulative Abnormal Returns (CAR) for acquirer industry firms listed on the Johannesburg stock Exchange for announcements during an event window period (-10,10) days

Figure 5 shows the CAR of each industry during (-10,0,10) in the event study. The CAR for -10 day ranged between -1.8% to 0.8% with Consumer Non-cyclical industry having the lowest -10-day CAR and Industrial having the highest CAR with the rest of the industries mostly negative. CAR was positive on the event day for Financial, Basic materials, Consumer Non-cyclical, diversified, communication and Industrial, but negative for Consumer cyclical which would imply that the market responds negatively to consumer cyclical M&A for acquirers.

The results show a highly positive change of 8.1% return for diversified industries which would imply that this industry is mostly favourable. Furthermore, CAR for most of the industries remained positive through the event window from the event day which shows that the shareholder value creation was long lived. Furthermore, the highest CAR is the diversified industry CAR of 19% followed by Industrial and consumer non-cyclical at 6.6% and 5.6% respectively.

4.4.2 Market reaction to M&A for Target Firms by Industry

The event study for target consisted of 34 targets in various industry for JSE listed companies and the summary below shows the breakdown of the sample by industry. The largest industry contributing to the sample by deal value is the financial sector with 36% of the sampled transactions, followed by consumer cyclical which had 21% contribution of the total deal value during the period of 1997 and 2017. The industry with the most deal counts in the sample is basic materials with eight followed by consumer cyclical and financial industry with seven and eight respectively.

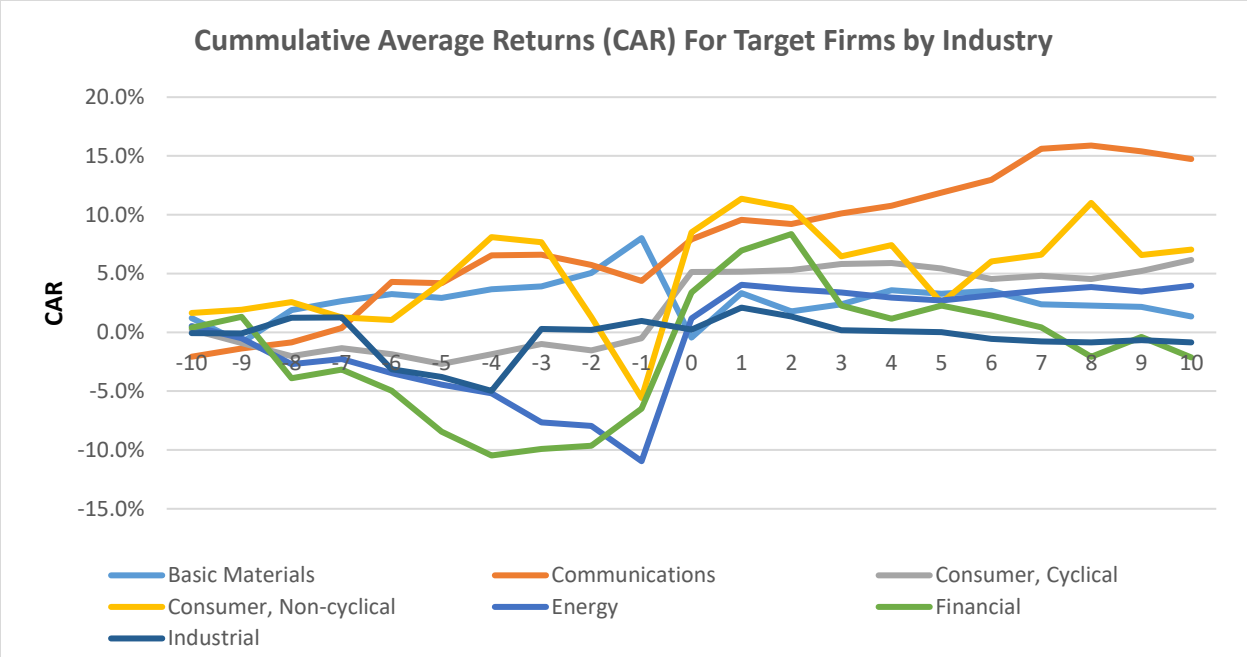


Figure 6: Cumulative Abnormal Returns (CAR) for target industry firms listed on the Johannesburg stock Exchange for announcements during an event window period (-10,10) days

Figure 6 shows the CAR of each industry during (-10,0,10) in the event study. The CAR for -10 day ranged between -2.1% to 0.6% with the communications industry having the lowest -10-day CAR and consumer cyclical having the highest CAR. CAR was positive on the event day for all the industries except basic materials which would imply that the market responds negatively to basic materials M&A for targets. The results show a high positive result of 8.5% for consumer non-cyclical followed by communications and consumer cyclical with 7.9% and 5.1% respectively, which implies that these industries are mostly favourable compared to the other industries captured in the event study.

Chapter summary

The chapter presents the distribution of acquirer and target M&A deals from JSE listed companies for the period 1997-2017. The results and key findings of the event study are presented for acquirer and target samples derived from M&A activities carried out by JSE

listed companies over the past two decades. Lastly, the chapter summarises the results by industry to show which industries in South Africa had the most favourable reaction by the market and which ones had the least.

The study showed that shareholders for acquirers and targets do not earn statistically significant positive abnormal returns around the announcement. When analysing the event study results by industry for acquirers, diversified industry M&As yield the most favourable results, followed by consumer non-cyclical and communications industry and for targets, the consumer non-cyclical is most favourable, followed by communications and consumer cyclical respectively, when comparing CARs.

CHAPTER 5: Discussion and Conclusion

5.1 Introduction

This chapter concludes the thesis by outlining the discussion, based on the findings from the research. The chapter is structured as follows; Section 5.2 covers the discussion of the findings. Section 5.3 concludes the discussions from the study and provides insights into further studies.

5.2 Discussion

The current study used an event study methodology to determine the value creation of mergers and acquisitions that occurred in South Africa over the past two decades. Furthermore, the study investigated the value creation by industry to identify which industry created more value when comparing CARs. About 49 acquirer and 34 target companies were included in the analysis.

The results show that there were statistically insignificant returns for shareholders in mergers and acquisitions in South Africa for bidding and target firms in the short term during the event announcement dates. The results support the research from Eckbo and Thorburn (2000) for Canada, Sorheim and Lerkerod (2015) focusing on Nordic countries, Franks et al. (1988) for the UK, Bhabra and Huang (2013) for China, but differs from Campa and Hernando (2004) who reported zero CAR for European acquirers and Hazelkorn, Zenner, &Shivdasani (2005) who showed insignificant negative returns for US bidding companies. Alexandris, Petmezas, &Travlos (2010) studied M&A using global data and concluded that public acquisitions at best yield zero abnormal returns around the deal announcement and mean acquirer abnormal returns are at least non-negative within the rest of Europe, Japan, rest of Asia, South Africa and South America.

The statistical significance was run at 5% significance level and shows that CAR for acquirers was not statistically significant in any of the event windows which is consistent with the results of Ndlovu (2014), Mushidzhi and Ward (2004) and the study of Smit and Ward (2007) who did similar studies for South Africa. The results show that in the event day, acquirers earn less abnormal returns in M&A than targets which means target firms benefited the most from mergers and acquisition. This finding is consistent with the results of Ndadza (2014) and Kaufeler (2012). Uhlenbruck et al. (2017) explained that acquiring companies create little value due to failure to create synergy, too high premiums, selection of wrong targets, ineffective processes of integration, amongst others.

The industry results for acquirers shows that diversified industry M&As yield the most favourable results compared to focused industries. This finding is similar to Sorheim and Lerkerod (2015). The results for acquirers are followed by consumer non-cyclical and communications industry and the results for communications differs from Kiymaz and Baker (2008) who found negative abnormal returns in the US communications industry. For targets, the consumer non-cyclical is most favourable, followed by communications and consumer cyclical respectively. Similar to Kiymaz and Baker (2008), targets generally earn positive short term returns but the magnitude of the returns differs substantially by industry.

5.3 Conclusion

The conclusion of the study is that both acquiring and target firms do not create statistical significant returns overall, some industries have high positive cumulative average returns, and some do not have positive cumulative average returns which implies that can be positive, negative or indifferent from zero, depending on the industry type when analysing the cumulative abnormal returns.

Overall, the results both support and contradict evidence from other markets which suggests that stock markets are not similar across the world but could also be due to the sample not matching the sample population and size of other research, however, this supports the need for further research which is discussed in the next section.

5.4 Further Research

The study consisted of 83 acquirers and targets for JSE listed companies which might be a small population and does not represent a wider pool of M&A and was not able to capture all industries in South Africa. Increasing the sample size and capturing all the industries in South Africa can be considered, and also the addition of other countries similar to South Africa. The study focused on the short-term effects of value created from M&A, further studies can consider the long-term value creation for the largest deals completed in South Africa to test whether they did create long term value for shareholders and if they had a positive economic value when the economy is not stagnant.

The study focused on JSE listed companies with significantly high announced transaction values; by relaxing some of the criteria applied to extend the research to non-listed acquisitions with various announced deal values would add to the body of mergers and acquisitions in South Africa. Furthermore, extending the research to cross border mergers and acquisitions to see if the Industry results for high abnormal returns still hold should be undertaken.

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