Effects Of Mergers And Acquisition On The Share Price On JSE Listed Firms

by

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ABSTRACT

Given the constant challenges faced by the South African economy and businesses, companies have to find ways in order to experience growth. In the pursuit of growth, companies can do it through organic or inorganic approaches, such as Mergers and Acquisition (M&A). Organic growth and inorganic growth are seen as compliment and not substitutes, therefore when organic growth reaches its ceiling, inorganic growth comes in to sustain the growth speed. Regardless of the economic conditions. M&A by South African firms to continue.

With the continuous growth in the M&A activities in South Africa further studies are needed in order to determine whether there is value being created to the shareholders. Studies conducted in South Africa regarding M&A transaction focused on the announcement of M&A, the analysis of the effect of the method payment in M&A and the announcement of M&A when the merging is either with a private or public company. To the knowledge of the research, no evidence is present with regards to a study conducted on the effect M&A transaction have on value creation based on the type of merger acquiring companies enter into. Additionally based on the type of merger, which of the mergers yield a better return.

This research evaluates the effect of M&A on the share price of Johannesburg Stock Exchange (JSE) listed companies. This study does not only examines the effect of M&A on the share price on JSE listed acquiring companies but also investigate whether there is a difference in the outcomes between horizontal and vertical merger types.

The study was conducted using M&A transactions that were approved during the period of 2009 – 2019, resulting in a sample totalling 45 companies. An event study method was used to calculate the cumulative average abnormal returns (CAAR) over a 21 day event window. The results observed in the study indicate that M&A transactions do not significantly influence stock returns. However, the JSE listed acquiring companies showed positive reactions when it came to Horizontal merger transactions compared to the Vertical mergers.

Given that M&A transactions do not significantly influence stock returns, companies should engage in M&A transactions based on the motives of the companies and goals needed to be

achieved in order to create value. Not to enter in M&A transactions solely for the purpose of wanting to drive the share price.

Keywords: *Mergers and Acquisition, horizontal mergers, vertical mergers, average abnormal returns, cumulative average abnormal returns, South Africa*

DECLARATION

I, Mokgadi Ramphele declare that this research work that is presented in this dissertation is my own, except where otherwise indicated and acknowledged. It is submitted for the degree of Master of Management in Finance and Investment at the University of the Witwatersrand, Johannesburg and has not been submitted for any degree at any other university.

Ramphele

Signature Date: 31 March 2023

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CHAPTER ONE: INTRODUCTION TO THE RESEARCH

1.1 BACKGROUND

With the continuous desire by companies to compete and stay on top in the market and continue to be successful compared to their competitors, they will explore business ventures that will lead them to succeed. Given the challenges companies constantly face, companies need to evolve in order to stay ahead, this has led to companies spending substantial amount of money and time on the development of products growth strategies and expansion into new markets (Duksaitė & Tamošiūnienė, 2009). In the journey of achieving the growth strategies put in place in order to get ahead of their competitors, those avenues of organic growth do not always end with value creation and in fact they can be substantially more costly compared to the value they create (Ndlovu, 2017).

Mergers and acquisition (M&A) for ages have long been a popular element of corporate strategy, it equally represents an important alternative for strategic expansion through inorganic growth. Maximizing wealth by generating profits is one of the most important objectives for companies (Denning, 2011). Companies obtaining value creation through M&A can be looked at in two perspective which is the increase in profitability and shareholders wealth (Gurr, 2018).

M&A play a critical role in the development policies and strategies for companies, they make it possible for companies to participate in the creation of both financial and operational synergies for improved use of present resources and access to greater strategic knowledge, resulting in reducing competition in the market by increasing market share and increasing barriers to entry (Ibrahimi, 2018). This seems to be the approach most companies choose to make part of their strategy as opposed to the internal growth.

Apart from growth and synergies motives, there are several other reasons that drive companies to engage in M&A, which are widely reported; Horizontal and vertical integration (Gaughan, 2007). Horizontal integration refers to the increase in market share and market power that results from acquisitions and mergers of rivals. Vertical integration refers to the merger or acquisition of companies that have a buyer-seller relationship (Duksaitė & Tamošiūnienė, 2009).

The horizontal and vertical merger are the two most common transactions companies enter into for inorganic growth, both mergers will result into reducing competition directly and indirectly. In the last two decades the horizontal merger growth has taken off while previously, vertical merger growth was the dominating strategy model and this shift was brought upon by the evolution of managerial approaches, however, the vertical mergers strategy is expected to become more prevalent (Ibrahimi, 2018).

According to Statista Research Department (2022), over 500,000 M&A deals have been completed globally since 2010. The yearly figure has fluctuated significantly in value since, but increased overall, exceeding 63,000 during 2021. Goldman Sachs, JPMorgan, and Morgan Stanley advised on the largest number of M&A deals. The highest value reported was of over four trillion U.S. dollars which was achieved in 2014. Since then, annual deal values have risen and fallen irregularly. In 2015, a value close to that of the highest value of the time period was achieved, after which deal values started to slowly decline. In 2021, M&A deal value reached an approximate 5.9 trillion U.S. dollars (Statista, 2022).

South Africa's strategic position as a "gate- way" to the rest of Africa (which has six of the world's fastest growing economies) as well as its relatively strong institutions, developed financial markets, and advanced services sector make it well placed to both contribute to, and benefit from African development in the future (David et al., 2020). South African based firms, provide their knowledge, expertise and understanding of the local and regional risks, and have been active in pursuing M&A both locally and in Africa. UNCTAD's World Investment Report 2019 records USD8.7 billion worth M&A in Africa by South African-based firms. Out- bound M&A are expected into Sub-Saharan Africa by South African firms to continue. There is plenty of "dry powder" in the hands of private equity. Organic growth is considered to not be sufficient for companies and they should deploy resources and capital in the pursuance of growth and retain their competitiveness (David et al., 2020).

This research will focus on determining the effect of mergers and acquisition on the share price on JSE listed companies and this is done by determining if the mergers and acquisitions motives create improvement intended by management when entering in these transactions (vertical and horizontal motivated) and to determine how this type of merger entered can affect the share prices of the listed companies, comparing vertical and horizontal mergers and acquisition. The analysis will be done on M&A deals done by JSE companies as the acquirers during a period window of 2009 – 2019 that were approved the competition tribunal of south Africa.

1.2 PROBLEM STATEMENT

In the study conducted by Thakoor (2020) private investment and the improvement of productivity is being discouraged by the slow growth in South Africa that is caused by structural constraints that relate to market inefficiencies that increases the cost of doing business and it has gotten worse over time.

Given the above challenges faced by the economy and South Africa companies must find ways in order to experience growth within their industry and the economy. In the decision for companies to grow there are options to either be organic, which usually take a substantial amount of time to accrue any returns or inorganic growth through M&A. According to Jacob (2006), the question then becomes which one between organic and inorganic growth can result in better returns. Both types of growth cannot be considered as substitute but rather complementary, firms enter into M&A transactions due to the limited opportunities that come from organic growth because there is a ceiling with regards to that growth and in order to sustain the growth speed, inorganic growth is considered (Jacob, 2006).

Amongst the motives for inorganic growth through M&A, include economies of scale, risk spreading, cost cutting, synergies, defensive drivers and global reach, taxes benefits, and excess debt capacity, leverage borrowing, knowledge, and technology today are major motives behind mergers (Schuler, 2001). Majority of the above factors/motives listed are connected closely to profitability and are expected to lead to the impacting of profitability in a positive manner. There were 472 successful listed M&A deals in South Africa in 2021 (up from 389 in 2020 and 458 in 2019) with a total deal value of ZAR 927 billion (up from ZAR306 billion in 2020 and ZAR413 billion in 2019) (Katz et al., 2022).

Some empirical literatures have indicated that merged firms perform better than individual firms, whereas some studies suggest otherwise. The study of Edi and Leony (2019) has suggested that firm's performance has decreased after M&A but the quality of earnings after M&A have insignificant increases. There is lack of consensus in these studies to whether M&A leads to increased profitability and share price, which warrants further research.

The main and broader research problem is whether M&A create improvement intended by management when entering in these transactions (vertical and horizontal). The specific research problems of interest in this study include, whether M&A transactions influence the share prices of the listed companies, and whether the effect of M&A transactions on share price significantly differ between vertical and horizontal M&A.

1.3 RESEARCH QUESTION

Main research question

Do M&A create improvement intended by management when entering in a M&A transaction, and are the effects different between these two forms of mergers?

Sub-Research Questions

1. Do M&A improve the share price of the listed companies?
2. Do vertical and horizontal mergers result in different effects on share price

1.4 RESEARCH PURPOSE AND OBJECTIVE

This research aims to measure the effect of M&A on the share price of JSE listed companies specifically examining whether vertical and horizontal M&A create improvement intended by management when entering in these transactions, and elaborate on their comparison.

1. To investigate the effect of M&A transactions on the share price of the JSE listed companies.
2. To investigate whether vertical and horizontal mergers result in different effects on share price

1.5 SIGNIFICANCE OF STUDY

All efforts are made to improve the profitability of any commercial organization and financial results of the companies are vital which shows the claims and commitments of the management of the respective company. The financial results of a company have a very strong relationship with the share price of that company (Arif, 2015). Share price of a company is such a factor which is normally beyond the control of the management of the company as share prices of majority of the corporations are fixed through open market and demand and supply rules, so the relationship of the profitability and share price has vital rule as it needs to be studied further. There are organic and inorganic growth approaches that are taken to increase the profitability of companies, in turn potentially increasing the share price, M&A is the most inorganic growth approach to achieve this. Many times, profitability does not improve yet the relative impact on share price is still expected (Arif, 2015).

The findings under this research study will add value to several stakeholders, adding value to investors and companies in the JSE in having knowledge on the understanding of the importance of M&A in analysing company performance. The M&A environment is dynamic, making it a requirement for practitioners of management to update themselves and contribute to the bulk of knowledge and research at the University as it would be used as a basis of reference by students for any future study in the field of mergers and acquisitions.

This will contribute to the South African literature by highlighting the effect of mergers and acquisitions on the share price given the type of merger management decided to enter. The finding of this study will contribute to improved acquisition processes and a possible subsequent improvement on shareholder value of M&As.

1.6 OUTLINE OF THE STUDY

This research report is composed of five chapters. Chapter 1 represents the introduction of the research, chapter 2 represents the literature review, chapter 3 represents research methodology that is used in the study, chapter 4 represents presentation and discussion of results and chapter 5 presents the conclusion and recommendations of the study.

CHAPTER TWO: LITERATURE REVIEW

2.1 M&A DEFINITION, INTRODUCTION AND BACKGROUND

With the fast changing world of business and the consistent desire for companies and its management to strive hard to achieve the quality and excellence in their respective fields of business and operations (Pinto et al., 2006), companies can acquire the growth in their profitability through organic and inorganic growth approaches (Defri & Crawford, 2018). To date, mergers and acquisition continue to be a popular form of corporate development, 30 000 acquisitions have been reported complete globally in 2004, total value coming in at $1,900 billion (Cartwright & Schoenberg, 2006).

According to DePamphilis (2003), Gaughan (2007) and Scott (2003), a merger is a combination of two entities that result in one entity being formed and surviving, while the merged entity cease to exist. As a result of the merger, the assets and liabilities of the merged company are taken ownership by the acquiring company. Acquiring companies identity is maintained although it may be a notable different company after the merger. According to DePamphilis (2003) acquisition can be defined in multiple way and this includes assuming ownership interest in a company, purchasing a company that can be made a subsidiary of the acquiring company, this includes the assets and liabilities of the acquired company.

Sherman (2006) argued regards to differentiating both the "merger" and "acquisition" definition, it does not matter, given that both definitions will result in at least two companies that were initially under separate ownership functioning under one ownership to achieve strategic and financial goals.

2.2 TYPES OF MERGERS AND ACQUISITIONS

In the journey of companies to maximise profitability through external growth, there are 3 options in mergers and acquisition, namely, horizontal, vertical and conglomerate.

Horizontal merger – It is defined as competitor companies offering the same goods and services, these companies combine to firm one company, companies usually engage in this type of merger in order to reduce competition and gain a greater market share. This is usually a combination of experiences that result in market dominance/power (Gaughan, 2010). This is usually done to not only increase market power but also leverage synergies and reap the economies of scale.

Vertical merger – It is defined as two companies combining to form one companies, a buyer-seller relationship is formed as a result, the two companies are in the same supply chain because each company is operating in different stages of production for the supply of the same goods and services (Gaughan, 2010). This helps the companies to reduce costs because what usually happens in this merger is that you cut off the middle man. The reason for such merger is that companies aim to seek reduction in uncertainty, transaction costs and the benefits from economies of scope, this is done by merging the upstream and downstream linkages in the value chain, (Chen & Findlay, 2003). Vertical mergers provide a competitiveness to the newly formed firm in the market over its peers due to its ability to recognize synergies in the merger.

Conglomerate merger – According to Roberts et al. (2003) is defined as companies that do not have a buyer-seller relationship nor are they competitors in the market. This is a merger of companies that are in two different markets and zero common interests. This is done in over to diversify companies industry operations, companies usually do this in order to limit or reduce business risks that they are exposed to. The synergies that relate to this type of merger are usually financial as this expands the business through competing for profitable assets.

Conglomerate M&As are deals between companies that are totally unrelated in contrast to horizontal and vertical merger and given that, conglomerate merger has the biggest risk because it is a shift in the operations of the company as a result of the M&A because they operate in different industry selling different products which usually raises confirms by investors due to the complexity of the integration procedures, making this the least preferred type of merger (Berk & Peter, 2017).

2.3 MERGER MOTIVES

2.3.1 General motives

With the decades of studies around the mergers and acquisitions, there is limited study as to why companies enter into M&A activities, what are the determinants. With the limited studies, there are different perspectives on the reason for the M&A and these are reflected by different underlying assumptions, some analyst arguing efficient markets and others not, arguing macroeconomic factors are the more of the determinants of M&A. Additionally, there are not only arguments around the determinant but to what extent do they have an impact on companies decisions to enter into such transactions (Depamphilis, 2019).

Reviews have been performed to investigate motives behind mergers and evaluate their gains and effect. According to Motis (2007) the motives as to why companies participate in M&A transactions are grouped into two parts. First being mergers motives that increase the value of the company in turn increasing the shareholder gain. Second being the merger motives that increase the wealth of the manager and not necessarily that of the value of the company. Both motives are discussed below because both motives have the ability to either destroy or create value.

2.3.1.1 Value Creation Merger motives

The motives that relate to shareholder gains mainly refers to the increase in the market value of the company, these motives benefit the shareholders of the company as the motives will result in the increase in the profits of the company that will in turn increase the market value that then increases the wealth of the shareholders (Gaughan,2010). The increase in the shareholder value is achieved through mergers that are motivated by decreasing costs, operating more efficiently and also increasing the market power and the implementation of optimal incentives to management (Motis, 2007).

Synergy gains: This is considered the primary motivation that companies would enter into an M&A transaction. The gains that can only be realised through an M&A, the value is realised from the incremental cash flows that comes to comes to the company as a resulting of the merger. The synergy can be from financial and from operating (Depamphilis, 2019). Synergies are grouped into 3 categories which are, financial, operational and managerial, this 3 synergies make up what is called the Efficiency Theory.

Operational synergy: According to Depamphilis, (2019), the gain in efficiencies come from operating synergies that consist of economies of scale and economies of scope and improved managerial operating practices. This can be done from combining operations separate units or from knowledge transfer (Trautwein, 1990). Economies of scale is seen through a reduction of total fixed costs of producing a goods or service while the volume of the goods and service increase (Motis, 2007). The joining of the two companies will reduce the fixed cost because only one fixed costs are incurred as opposed to prior when each company incurred the costs in the individual capacity. Economies of scope is seen through the reduction of the average total cost for a company that is producing two or more production because it is cheaper for the production of these assets in one company compared to two companies (Depamphilis, 2019).

Financial synergy: The financial cost saving as a result of a merger does not generate real cashflow/cost savings, it simply just redistributes the cost savings, it does not imply that this will increase the value of the company. Companies experience a lower cost of capital, according to Motus (2007), company can now borrow at competitive rates because of increased liquidity from the merger and reduced transaction costs. Additionally, synergy is achieved through investing in unrelated business, this will reduce systematic risk (Trautwein, 1990).

Managerial synergy: Synergy is realised when the acquiring company's managers have advanced planning and monitoring abilities that with benefit the performance of the target company (Trautwein, 1990). Companies are frequently finding themselves with managerial inadequacies which tend to affect performance of the company therefore larger companies tend to come with superior management knowledge and still that will then grow the company.

Enhancement of market power: According to market power theory, it is believed that the motive for companies to enter in an M&A transaction is mainly to have the ability set the prices of goods and services sold or colluding, although studies has refuted that assumption and suggests that the main reason is to improve efficiency in operations. Market power is obtain in different ways, for instance, a merger of two big companies will raise the barriers to entry in the market, according to Trautwein (1990), there is a monopoly power theory which states that M&A are planned to achieve the monopoly status from increased market power, and this is achieved reduction of supply, discouraging potential new entrants and cross-subsidising products.

2.3.1.2 Managerial self-interest Merger motives

Certain motives of companies with regards to merger are not motivated by the desire the maximise the value of the company, but in turn to increase the wealth of managers as they now more with regards to the company, this creates agency motives where the interests of managers conflicts with that on the shareholders (Motis, 2007). **Empire building** is one of the motives where the objective being that managers want to lead and control a large company under the assumption that this will lead to higher compensation, believing that compensation is directly related to the size of the company they control (Mueller, 1969). **Hubris**, also known as the "winner's curse", CEO that have successful track record with regards to acquiring target companies, making them overly confident tend to pay more than the worth of the target company (Roll, 1986). According to Roll (1986) the hubris hypothesis the gain from a merger results to a nonpositive due to incorrectly assessed target value, this is as a result of overconfidence from managers believing g that they can run the target company better, this can be an the expense of shareholders because this could lead to a value destructive merger.

2.3.2 Horizontal merger motives

Horizontal mergers are well known for the implantation of strategic action to enforce the company's presence in the market through the increasing of share price and the reduction of cost (Trautwein, 1990). A horizontal merger is believed to have a possibility of a highly successful M&A due to the substantial knowledge of the acquirer that will facilitate the integration stage given that the companies are in the same sector.

According to Ziva (2017) and Gross and Lindstädt, (2005-2006) there are multiple reasons that a horizontal merger is expected of enhancing profitability:

1. Reduction of competition as due to less companies operating in the industry, this is known as the market power hypothesis, this enhances the market share of the company and increased control over the pricing. Under the diversification theory, the merged company can exploit geographical expansion and product offering of a greater variety, this would be reducing systematic risk.
2. Due to the operational similarities between the merging companies, there is advanced level of achieving a successful integration over a short space of time.
3. High benefit from economies of scale and scope, this is achieved through eliminating duplication of equipment and redundancy in the workforce, this reduces a lot of costs.

2.3.3 Vertical merger motives

It is believed that M&A creates value for merged companies that is worth more than when the companies are under separate individual ownership, the strategic growth being more control over the steps of the supply chain (Grava & Sotiriadou, 2019). There is growth in the separate stages of the supply chains due to the synergies that are a result of efficient operations, cost reduction and expansion in the company. According to Stuckey and White(1993) evidence suggests that companies in adjacent stages of their supply chain tend to have more market power. According to Zhang (2013) and Kedia et al. (2011), there are multiple reasons that a horizontal merger is expected of enhancing profitability:

1. There are operating, financial and managerial synergies, vertical merger provides a better flow of information between stages of production in the supply chain, this in turn results in the reduction of cost.
2. It increases the ability to shut out rivals, vertical mergers are detrimental to the competitors of the target company, due to the rationing of inputs, shutting out competitors and price discrimination, this has a potential of increasing the market share of the target company.
3. Considerations made with regards to competition, market structure and demand uncertainty and most importantly the cost-efficiency are the biggest motives in deciding to enter in vertical mergers than an independent supplier. A better product quality in promised in the vertical merger and a potential to sell products at a lower price due to cutting off the middle man.

2.4 M&A IN SOUTH AFRICA

According to Green and Izzard (2022) and Thakoor (2020), South Africa has been seeing a slow growth and economic recessions issues prior to the covid pandemic. Although this might be seen as a country to requires economic recovery, Green and Izzard (2022) have conducted a research that shows that more than 430 transaction with an estimated value of R750 billion in M&A activities just in 2022 alone. In 2021 there was a decline in M&A observed but the fundamental reason for the M&A still remain in place with South African companies still providing good financial result seen to be attractive when it comes to valuations. There were 472 successful listed M&A deals in South Africa in 2021 (up from 389 in 2020 and 458 in 2019) with a total deal value of ZAR 927 billion (up from ZAR306 billion in 2020 and ZAR413 billion in 2019).

According to ICLG (2023), M&A transactions is South Africa by both public and private M&A are governed by the Companies Act, 71 of 2008 and the Companies Regulations, 2011. There is also the Financial Market Act, 19 of 2012 that contains insider trading and market abuse rules when applying public M&A. In the process of the approval of M&A transaction, consideration over the governing legislature is taken into consideration and the approval process conducted multiple assessment and the two most important ones are, firstly the potential threat of the merger to markets with regards to competition, why the merger lessen or prevent competition significantly. Secondly, the interest of the public considered in the approval of the merger, this criteria ranges, this include but not limited to employment, the ability for small and medium business controlled by historically disadvantaged persons to enter the market and compete etc.

2.5 THEORETICAL LITERATURE

The Efficient Market Hypothesis is what the event study methodology is centred around, the EMH speaks to how the stock price fully reflects all publicly available information. Assuming that once the information becomes available, it is quickly reflected in the share price and the past cannot be used to determine the randomness of the future. According to the EMH the share price is reflective of the current fair value of the share at that point in time, there is no way of determining a fair value more accurate since that all the information that could be used to calculate the fair value is available to the public and therefore already priced into the stock (Fama, 1970; Fama et al., 1969). Fama et al. (1969) identifies 3 relevent subsets for the EMH which are the weak form, semi-strong and the strong form and the difference between the 3 levels is that what information is useful and which is not. In the weak form of an EMH, the share price is believed to reflect all currently available data. In the semi strong EMH, the price of the shares are adjusted for for new information and Strong form, theory believes that the share price reflects all public and private information, believing that no investor can beat the broader market on a risk adjusted basis over the long run.

The actual price of an individual share price in an efficient market is believed to be reflective of all available information, basing this on historical events and the events the market expects to take place (Fama et al., 1969). Studies recently concluded by Ndlovu (2017) have made use of the event study method that measures the abnoral return significance in determining the value creation M&A transactions have on the to shareholders wealth, where the analysing of share price of the acquiring company over time is a performance measure of M&A. This assumes an efficient market assumption. One can then assume that under the guide of EMH that the JSE is an efficient market and that the announcement of M&A transaction by companies will be represented in their share price.

Efficiency Theory communicates that the efficiency companies aim to achieve and grow the company that will result in the value creation to shareholders. In the study conducted by Trautwein (1990), it is believed when dealing with efficiency theory, proper planning is done with regards to M&A and are completed in order to achieve the goals set out. Companies participate in M&A transaction with the sole aim of achieving market power and efficiency, efficiencies detailing that of financial, operation and managerial Depamphilis (2019). Detailed elaboration on the 3 synergies that drive efficiency are found in this study, chapter 2 under 2. 2.1 general motives.

2.6 EMPIRICAL LITERATURE

This section reviews related studies on the topic. Ficici (2018) studied the market response to M&A announcement in order to observe the value creation that shareholders will get using the event study method. Their study shows that shareholders of the acquiring companies do not earn significant positive or negative abnormal returns, or average cumulative abnormal returns. Overall conclusion was that M&A announcement has resulted in insignificant value was created for the shareholders.

Kedia et al. (2011) explored the market reactions to the vertical mergers and also correlated the returns with prediction based on industrial organization theories, this was tested using the Use Table Metrix containing value of commodity flow and found support that the vertical mergers between partners with the market power can be successful, especially in the industrial organization literature. The sample used significant higher returns can be associated with the deals. The study further suggests that with the right motives, any type of merger can be beneficial, it also has added findings that horizontal mergers seem to work by increasing efficiencies, vertical mergers are best when they take advantage of non-competitive environments. Similar study was conducted by Moeller et al. (2005) over the 1990s and Fan and Goyal (2006), which yield similar results to that of Kedia et al. (2011).

A study by Grava and Sotiriadou (2019) investivates the market reaction to horizontal and vertical M&As evidence from automotive industry. They examined the Average Abnormal Returns (AAR) and the Cumulative Average Abnormal Returns (CAAR) of both bidder and target for both type of mergers and the overall conclusion to the study reveals that the CAARs for both acquiring and target companies in vertical merger in all event windows were positive while that of horizontal has revealed mostly negative figures. The study conducted resulted in a different outcome with the study conducted by Kedia et al. (2008), where horizontal mergers resulted in significantly higher returns and vertical recorded negative abnormal returns after the year 1996. Grava and Sotiriadou (2019) believe that due to them yielding contrasting results to Kedia et al. (2008) vertical M&A from 2008 till recently have been revised in the audience of corporate management and investors, shareholders then encouraging vertical mergers as a means of efficiency and profitability in turn value creation being an expectation.

2.7 CONCLUSION ON LITERATURE

Based on the empirical evidence provided above, one can note that there is no clear outcome with regards to the M&A transaction increasing the company value that in turn increases the shareholders' value, some studies show a positive value while some others do not. There are multiple reasons that could support this mixed evidence and it boils down to the merger motives. As seen above, there are risks that the merger is a result of managers interest as opposed to the interest of the company. Geographically, In view of the above literature review and existing limited knowledge on the topic from a South African context, one cannot infer that the result of the studies conducted in other geographic locations for example developed countries like the US and emerging markets like South Africa will yield the same results and reactions, therefore one can argue that the market reaction and results may differ as a result of different factors.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 INTRODUCTION

Chapter 3 represents the research methodology and this seeks to address the research question in chapter 1 and this is organised as follows: Section 3.2 Data; and Section 3.3 Research design.

3.2 DATA

This study focuses on the effect of M&A transactions of the share price of listed JSE companies, using the data which was sourced from Bloomberg. This data needed to be reported into two main parts which were separated. The first part of the data looks at the horizontal merger for JSE listed companies and second part looks at the vertical mergers.

In the determination of the type of merger, whether horizontal or vertical, the study considered M&A deals that took place from period 2009 to 2019, the reason for the time period used in the study is to exclude deals from before and during 2008 due to the financial crises and its impact to the market and shareholder behaviour and the spill overs that could have existed in 2008. A further exclusion of M&A transactions after 2019 is due to Covid-19 in 2020 that has impacted the market both negatively and positively. This study will then be focussing on the acquiring JSE listed companies where the merger is considered to be a large merger under the Section 11(5)a to c of the Competition Act, given the size of the M&A transaction, this will ensure and increase the probability that the economic gains as a result of the transaction can be detected.

Data regarding the announcement dates, acquirer and target company names were extracted from Bloomberg, resulting in a total of 686 M&A transactions being retrieved. A categorization process for the 686 M&A transaction was completed in order to classify the data between the 4 type of merger, namely; horizontal, vertical, conglomerate and investor. The merger by type classification was guided by the Competition Tribunal of South Africa that provides report on the approval M&A transactions. This reports assesses the type of transactions both companies enter into, the operations of both and company reasoning for mergers in order to conclude that the companies entering in the M&A transaction are either a horizontal, vertical, conglomerate. Conglomerate and investor were excluded from the analysis because our study only focuses on horizontal and vertical M&A transaction type.

The criteria of the chosen companies were as follow

1. The acquiring company needs to be a JSE listed company. This is done in order to make an event study analysis and the estimation of the abnormal returns.
2. The merger needs to be classified as a large merger per the Section 11(5)a to c of the Competition Act.
3. The JSE listed companies that were involved in M&A transaction from the period 2009-2019.
4. The companies need to have been approved and completed the merger deals between the period of 2009-2019.

With the above criteria and requirements, 45 M&A transactions were considered. The share prices of the JSE listed companies were also sourced from Bloomberg and the period of collection was 250 days before and after the announcement date.

Total M&A transaction selected for this study, the number of deals that are as a result of a vertical and a horizontal M&A during the period of 2009-2019 are broken down in Table 1.

Table 1:Total horizontal and vertical M&A during period 2009 – 2019

M&A TYPE	NUMBER	PERCENTAGE
HORIZONTAL	25	56%
VERTICAL	20	44%
TOTAL	45	100%

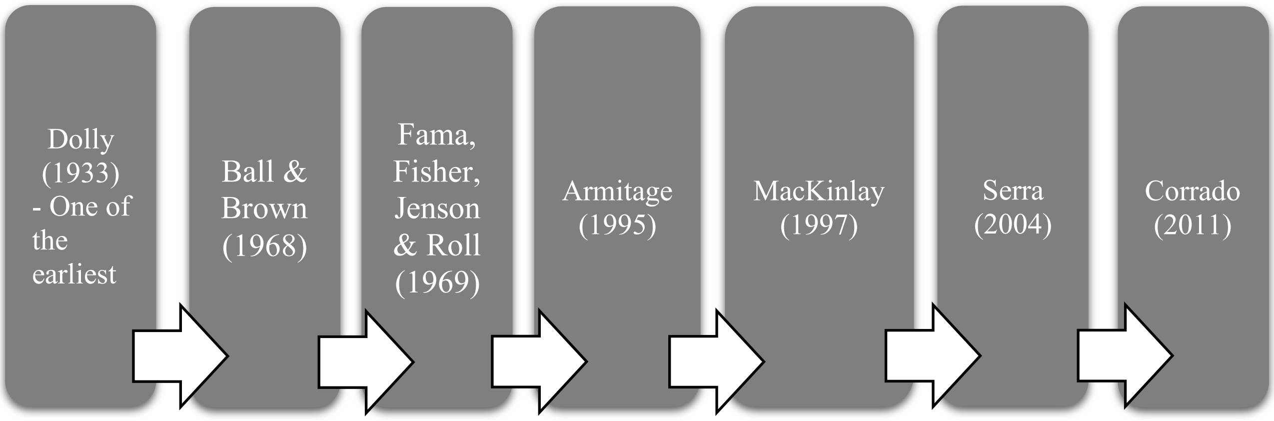
(Source: Researcher's own computation)

3.3 MODEL AND ANALYTICAL METHOD

The study conducted is based on the event study methodology where it investigate the Average Abnormal Returns together with the Cumulative Average Abnormal Returns that are caused by the announcement of M&A to JSE listed companies between the period of 2009 and 2019.

There has been a great evolution of the event study methodology which predates 1933 and proven to be relevant to date and has been one of the most frequently used tools in financial research. Diagram below exhibits the famous literature related with event studies.

Figure 1: Famous literature related with event studies



(Source: Researcher's own computation)

3.3.1 Event Study

The event study method used in this study to investigate the effect of M&A on share price. In this line of literature, an event study is a tool that is applied to measure the impact of an event on stock return of a company. According to McWilliams and Siegel (1997), an event methodology is meant to determine whether there is an abnormal share price effect that is associated with an event that was unanticipated. According to the Efficient Market Hypothesis, stock price fully reflects all publicly available information, therefore if the financial markets are informationally efficient there should be an immediate reaction to the event of the M&A announcement date and no further reaction on the days to follow.

According to MacKinlay (1997), using of financial data, an event study can be used in order to measure the impact of a specific event on the value of a company, provided the efficiency of the market. An event study has many applications and in the accounting and finance space, it has been applied to a field of company specific and events which also include M&A transaction (list examples of such studies that applied event study in the area of M&A). In the study to investigate the abnormal returns that are caused by the announcement of M&A, the study considered the use of Market Model as the approach. The Market Model is a statistical model that relates the returns of a given security to that of a market portfolio return (MacKinlay, 1997). The market model assumes that the returns follow a single factor, only using the market return (Event Study Tools, n.d.).

The objective of the study is to determine the effect of M&A on the share price of JSE listed companies, whether abnormal returns will be created for the shareholders. The starting point is determining what the "normal returns" would have been had there not been any M&A announcement to the market. Data shares prices was collected for a period of a 250 days prior and after the announcement period, daily share prices were used in this study.

The steps that have been followed are described below:

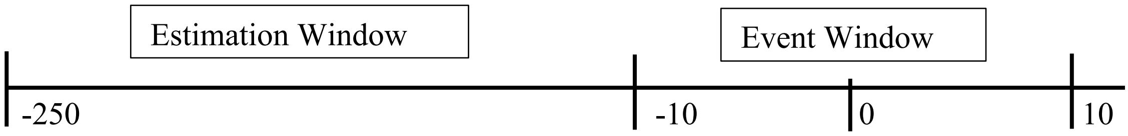
1. Upon the collection of the share prices of the target companies, a calculate of the daily log returns of the target companies together with the related market index, log returns are used because it helps to improve linearity of data. The benefit in using returns and not the share price is that they are unit-free therefore there is no need to convert to any unit, this further allows a comparison. In order to calculate the returns a natural logarithm was used as seem below per Equation 1.

   $$R_{it} = \ln(P_{it} / P_{i(t-1)}) \quad (1)$$

   Where: R_{it} represents the return over time period t for stock *i,* P_t and P_{t-1} represent the prices of the stock *i* over period *t* and *t* – 1 respectively.

2. The study seeks to analyse if share prices of the JSE listed companies will display abnormal returns around the event window, this are noted to be the returns one receives that are in excess of their expected returns after the compensation of risk and the event being the announcement of an M&A transactions by the JSE listed companies. An event window period was identified to be a span over a period of -10 days to 10 days around the announcement date being day 0, therefore making the event window (-10, 0, +10). An estimation window detailed at a total of 240 day, this illustrated a window from 250 to 11 days prior to announcement (-250, -11), this is the window that will provide the needed information to specify what is considered the "normal return".

Figure 2: Estimation and Event Window



(Source: Researcher's own computation)

$$E(R_{it}) = \alpha_i + \beta_i * R_{mt} + \varepsilon_{it} \qquad (2)$$

Where: $E(R_{it})$is the expected return at time t and α_i is the intercept and β_i is the slope that were estimated through the use of OLS regression of the Expected Returns which will be used in the estimation of the Abnormal Returns. R_{mt} is the market return and $\varepsilon_{it}$is the error term, which is assumed to be zero with regards to the market model.

The Abnormal Returns are defined as the difference between the actual returns and the predicted returns of the security. This is expressed in the 3rd equation below.

$$AR_{it} = R_{it} - E(R_{it}) \qquad (3)$$

Where: AR_{it} is the Abnormal Returns and R_{it} is the actual return and $E(R_{it})$ is the expected return.

Average Abnormal Returns (AAR_{it}) was calculated which is the abnormal returns for all N stocks aggregated at each time t for each day in the event window.

$$AAR_{it} = \frac{1}{N}\sum_{i=1}^{N} AR_{it} \qquad (4)$$

Once AAR_{it} found, a calculation of the Cumulative Average Abnormal Returns ($CAAR_t$) was done which were estimated over T days the event window, this is calculated to create a broader picture of the consequences of the M&A announcement to the acquiring companies.

$$CAAR_{it} = \sum_{t=1}^{T} AAR_{it} \qquad (5)$$

T-test are performed in order to test the statistical significance for both the Average Abnormal Returns (AAR_{it}) and Cumulative Average Abnormal Returns ($CAAR_t$) through the use of t-test analysis.

$$t(AAR_{t)} = \frac{AAR_t}{S(AAR_t)} \tag{6}$$

Where $S(AAR_t)$ is the standard deviation and is calculated as per equation 7 below.

$$S(AAR_t) = \sqrt{\sum_{t=1}^{T_0} \frac{\sum AAR_t^2}{T_0 - 1}} \tag{7}$$

$$t(CAAR_t) = \frac{CAAR_t}{\sqrt{T * S(AAR_t)}} \tag{8}$$

Upon the comparison of the t-test figures to the t-test values, one could then be able to conclude on the rejection or failure to reject the null hypothesis. The study used the parametric t-test, which is a statistical tool for the evaluation of the mean of one or more populations using hypothesis testing, it is meant to communicate the differences between the mean and as well as the differences are due to chance and this is used under the assumption that the data is normally distributed (Wisebox, 2022).

Upon the comparison of the t-test figures to the t-test values, one could then be able to conclude on the rejection or failure to reject the null hypothesis. In the study, a parametric t-test was used, which is a statistical tool for the evaluation of the mean of one or more populations using hypothesis testing. (Wisebox, 2022).

3.4 SUMMARY

Chapter 3 describes the data and the research methodology used in the evaluating and analysing the effect of M&A announcement on the share price of the acquiring company. The first part of this chapter looked at the data and how and where the data was sourced and filtered to reach the final desired sample for testing. The second part looked into the research design, the study used the event study methodology in order to test the data, the use on abnormal returns in order to test the impact M&A transactions have on the share price of JSE listed companies. Market Model was used in the studies as seen in the formulas above, the model was used to determine the expected returns, an Ordinary Least Square regression were done in order the estimate the parameter to be used in the Market Model e.g. intercept, slope etc., which was then used this to determine the AAR and CAAR and tested the null hypothesis using the T-test.

CHAPTER FOUR: PRESENTATION, INTERPRETATION AND DISCUSSION OF RESULTS

4.1 INTRODUCTION

This chapter will focus on the presentation, interpretation and discussion of the results of the study. Section 4.2 presents the results for the first objective, that is, to investigate the effect of M&A transactions on the share price of the JSE listed companies. In this case, both vertical and horizontal mergers are analysed as one. Section 4.3 presents the results for the second research objective of the study, that is, investigating whether there is a difference in the effect of M&A on share price when comparing Horizontal versus Vertical forms. Section 4.4 provides a detailed discussion of the results presented in both objectives. Section 4.5 providing a summary view.

4.2 OBJECTIVE 1: EFFECT OF M&A ON SHARE PRICE

4.2.1 Abnormal average return

The results of the event study is presented for acquiring companies that participated in either a Horizontal or Vertical M&A transaction during the period of 2009 to 2019, the acquiring company being a JSE listed company. The study looked at 45 M&A transactions of which 20 are horizontal and 25 are vertical M&A transaction, a Market model method was used in the event study and this was used to calculate the expected returns from there proceeded to use the expected returns to calculate the Abnormal returns which were the difference between the actual returns and the expected returns, then proceeded to calculate the average abnormal returns daily on the sample of the 45 M&A transactions and same approach to calculate the horizontal and vertical M&A average abnormal returns.

Abnormal returns are calculated in order to measure the true extent of profits or losses/ measuring the financial impact to the share price as a result of the M&A announcement. In this study, AAR is used to analyse and determine if the AAR are significantly different from zero, below is a descriptive statistic table for the full 45 M&A Transaction which creates a summary view of the features of the data sample.

The descriptive statistics over the event window period which is 10 days pre and post M&A announcement and day 0 being the announcement day (-10,0,10) totalling 21 days as seem below details the full sample used in the study, which are 45 companies that are listed on the JSE and participated in M&A transaction between 2009 – 2019. Note that 25 of the M&A are considered Horizontal mergers and the 20 M&A are considered Vertical mergers. A full sample mean of -0,01% is observed which is closer to zero, this can be implied that the most of the acquiring companies in the sample engaged in the M&A transaction have abnormal returns close to zero, indicating a negligible impact of the M&A announcement to the share price. There is a o,33% standard deviation; this is relatively small and can be considered that the share prices in the sample have minimal volatility. The maximum AAR value is 0,51% and a minimum AAR value is -0,92%, there is a small difference between the maximum and minimum AAR of -0,41%. This could be indicating a normal movement in the share price of the acquiring companies around the M&A announcements. The median in the sample is -0,02% which is slightly less than the mean of the data, presenting a slightly positively skewed data. A positive skewed data distribution indicates the likeliness that there will be frequent small losses observed and few large gains (Oasis Wall Street, 2013).

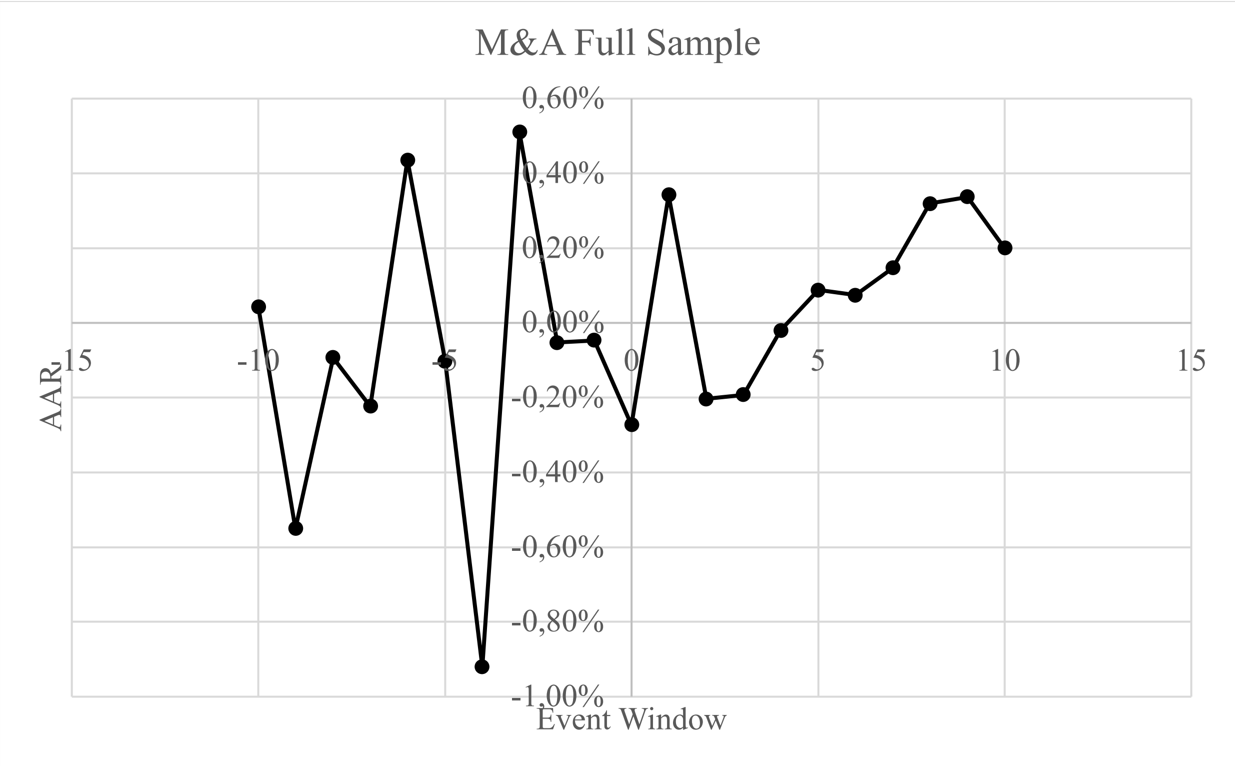
Table 2: Descriptive statistics for M&A Sample

Mean	-0,0086%
Median	-0,0203%
Standard Deviation	0,3342%
Sample Variance	0,0011%
Minimum	-0,9200%
Maximum	0,5099%
Sum	-0,1814%
Count	21

(Source: Researcher's own computation)

Figure 3 below exhibits the AAR over the 21-day event window period (-10,0,10) day 0 being the announcement date. Over the 21 days of the event window period that is inclusive of day 0, being the announcement date, the plot clearly indicates the movement of AAR, showing both negative and positive AAR depending the returns being above or below the x-axis. Both negative and positive AAR over the 21 day period ranging from -1% to 1% but more positive AAR are exhibited post announcement date versus pre announcement. The highest spike was observed pre-announcement on day (-3) and day (-6) over the event window, one can raises possibility of information leakage because this two spikes are the highest reported against the whole 21 day event window period, and given the positive AAR observed in the post announcement, this indicates that the market reacted most positively after the M&A announcement. A slightly more negative returns are observed over the event window and some of the negative returns are closer to zero in the below graph which is in line with the sample mean which is negative at 0,01% but closer to 0%

Figure 3: Average Abnormal Returns for M&A for acquiring company listed on the JSE for period 2009 to2019 with event window of -10 to 10 days



(Source: Researcher's own computation)

Table 3 shows the results of CAAR which were calculated using the AAR, this creates a view of the sum of abnormal returns over a period of time. This allows the investors to measure the performance of the share price over a specific time frame, CAAR speaks to period over time whereas AAR speaks to a point in time . The table below also analyse the significance of AAR, at a 5% level of significance, meaning AAR was tested for significance at 95% confidence level.

Table 3: AARs of full M&A Sample over the window period				
DAY	AAR	T-TEST	P-VALUE	CAAR
-10	0,04%	0,02	0,5068	0,04%
-9	-0,55%	(0,23)	0,4116	-0,51%
-8	-0,09%	(0,04)	0,4850	-0,60%
-7	-0,22%	(0,09)	0,4640	-0,82%
-6	0,44%	0,18	0,5702	-0,39%
-5	-0,10%	(0,04)	0,4835	-0,49%
-4	-0,92%	(0,38)	0,3545	-1,41%
-3	0,51%	0,21	0,5820	-0,90%
-2	-0,05%	(0,02)	0,4915	-0,95%
-1	-0,05%	(0,02)	0,4924	-1,00%
0	**-0,27%**	**(0,11)**	**0,4559**	**-1,27%**
1	0,34%	0,14	0,5552	-0,93%
2	-0,20%	(0,08)	0,4671	-1,13%
3	-0,19%	(0,08)	0,4689	-1,33%
4	-0,02%	(0,01)	0,4967	-1,35%
5	0,09%	0,04	0,5143	-1,26%
6	0,07%	0,03	0,5120	-1,18%
7	0,15%	0,06	0,5238	-1,04%
8	0,32%	0,13	0,5515	-0,72%
9	0,34%	0,14	0,5544	-0,38%
10	0,20%	0,08	0,5323	-0,18%

(Source: Researcher's own computation)

In the above table, one can observe that during the 21 day event window period, On average, there is a positive value post M&A announcement at 0,11%, there is a positive AAR but not significant, the probability of a positive value being linked to the M&A announcement is minimal and possibly a result of other factors. There is no value that is statistically significant, given the null hypothesis that the share price of the acquirer does not increase or decrease significantly due to an M&A transaction.

4.2.2 Cumulative average abnormal returns

The below table was computed in order to analyse the results of CAAR which was calculated using the AAR to compute the multiple intervals presented, this creates a view of the sum of abnormal returns over a period of time, this allows the investors to measure the performance of the share price over a specific time frame, especially given how biased the event window can be due to its short window. CAAR of acquiring companies that are listed on the JSE are showed on the below table. The observation was mostly negative CAAR in the event windows and the total window period (-10,+10) was negative but was also not statistically significant. Throughout the multiple intervals displayed in table 4, there is no interval that statistically significant, but one can also observe that there has been a negative CAAR pre-announcement but positive CAAR post announcement, this could be indicative of a positive outlook from the market regarding the upcoming mergers.

Table 4: CAARs of M&A Sample over event window period			
INTERVAL	CAAR	T-TEST	P-VALUE
CAAR(-10 +10)	-0,1814%	(0,0166)	0,4934
CAAR(-10 -1)	-0,9998%	(0,1363)	0,4462
CAAR(+1 +10)	1,0914%	0,1488	0,5587
CAAR(-5 +5)	-0,8700%	(0,1125)	0,4555
CAAR(-5 -1)	-0,6115%	(0,1250)	0,4506
CAAR(+1 +5)	0,0145%	0,0030	0,5012
CAAR(-1 +1)	0,0223%	0,0065	0,5026
CAAR(-1 0)	-0,3197%	(0,1307)	0,4484

(Source: Researcher's own computation)

4.3 OBJECTIVE 2: EFFECTS OF M&A - VERTICAL VERSUS HORIZONTAL MERGERS

4.3.1 Horizontal M&A Average abnormal returns

The descriptive statistics over the event window period (-10,0,10) as seem below details the Horizontal sample used in the study are 25 companies that are listed on the JSE and participated in M&A transaction between 2009 – 2019 The results for AAR when looking at horizontal mergers alone are shown in Table 5. The mean (-0,06%) in the horizontal sample is not insignificantly different from zero indicating that abnormal returns of acquiring companies that participated in horizontal M&A transaction are close to the zero value resulting in negligible share price impact. Share prices in the sample have minimal volatility this is observed by a 0,61% standard deviation. The median in the sample is 0,04% which is greater than the mean of the data, presenting a negative skewed data. A negative skewed data distribution indicates the likeliness that there will be frequent small gains observed and few large loses (Oasis Wall Street, 2013).

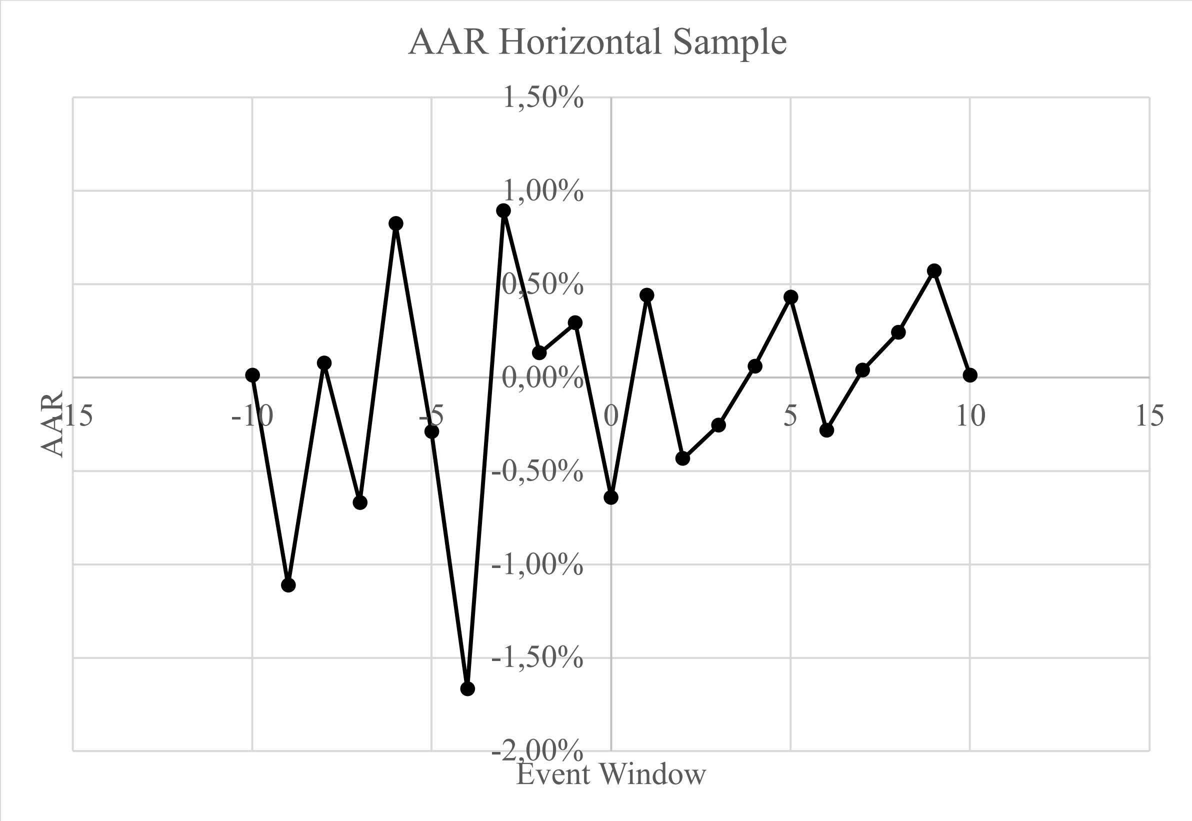
Table 5: Descriptive statistics for Horizontal M&A Sample

Mean	-0,0639%
Median	0,0373%
Standard Deviation	0,6149%
Minimum	-1,6673%
Maximum	0,8912%
Sum	-1,3410%
Count	21

(Source: Researcher's own computation)

Figure 4 below exhibits the AAR over the 21-day event window period (-10,0,10) day 0 being the announcement date. Negative and positive AAR are observed throughout the event window that ranges from -2% to 1% but positive AAR are mostly exhibited post announcement date versus pre announcement. Pre-announcement day (-3) exhibit the highest AAR, whereas the window periods prior to day -3 indicate random values this raises possible leakage of information. Positive AAR are observed post M&A announcement, indicating a positive market reaction to the horizontal mergers. Slightly more negative returns are observed over the event window but the negative returns are closer to a zero moving in line with what is observed as the sample mean which is negative at 0,06% but closer to 0%.

Figure 4: Average Abnormal Returns for Horizontal M&A for acquiring companies listed on the JSE for period 2009 to 2019 with event window of -10 to 10 days



(Source: Researcher's own computation)

According to the Table 6 below that looks at Horizontal M&A, the study examined the average abnormal returns of acquiring companies and have observed both positive and negative values around the announcement date seen as day 0 and none of the values are considered to be statistically significant. Although there was no value considered to be statistically significant, one can observe a negative reaction in the announcement by the market on the merger on day 0.

Table 6: AARs of Horizontal M&A Sample over the event window period				
DAY	AAR	T-TEST	P-VALUE	CAAR
-10	0,01%	0,00	0,5015	0,01%
-9	-1,11%	(0,35)	0,3631	-1,10%
-8	0,08%	0,02	0,5097	-1,02%
-7	-0,67%	(0,21)	0,4164	-1,69%
-6	0,82%	0,26	0,6024	-0,87%
-5	-0,29%	(0,09)	0,4634	-1,16%
-4	-1,67%	(0,53)	0,3000	-2,83%
-3	0,89%	0,28	0,6106	-1,94%
-2	0,13%	0,04	0,5165	-1,81%
-1	0,29%	0,09	0,5367	-1,51%
0	**-0,64%**	**(0,20)**	**0,4196**	**-2,16%**
1	0,44%	0,14	0,5552	-1,72%
2	-0,44%	(0,14)	0,4454	-2,15%
3	-0,26%	(0,08)	0,4679	-2,41%
4	0,06%	0,02	0,5077	-2,35%
5	0,43%	0,14	0,5538	-1,92%
6	-0,28%	(0,09)	0,4645	-2,20%
7	0,04%	0,01	0,5047	-2,16%
8	0,24%	0,08	0,5301	-1,92%
9	0,57%	0,18	0,5714	-1,35%
10	0,01%	0,00	0,5013	-1,34%

(Source: Researcher's own computation)

In the above table, one can observe that during the 21 day event window period, On average, there is a positive value post M&A announcement at 0,08%, there is a positive AAR but not significant, the probability of a positive value being linked to the M&A announcement is minimal and possibly a result of other factors. There is no value that is statistically significant, given the null hypothesis that the share price of the acquirer acquiring another similar line of business does not increase or decrease significantly due to an M&A transaction.

4.3.2 Horizontal M&A Cumulative average abnormal returns

The below table 7 looks at the CAAR for horizontal M&A, CAAR of acquiring companies that are listed on the JSE are showed on the below table. Observed mostly negative CAAR in the event windows and the total window period (-10,+10) together with most of the CAAR intervals was negative but was also not statistically significant, but one can also observe, just like the full M&A sample in table 4 that there has been a negative CAAR pre-announcement but positive CAAR post announcement, this could be indicative of a positive outlook from the market regarding the upcoming mergers.

Table 7: CAARs for Horizontal M&A Sample over the event window period

INTERVAL	CAAR	T-TEST	P-VALUE
CAAR(-10 +10)	-1,3410%	(0,0952)	0,4623
CAAR(-10 -1)	-1,5134%	(0,1602)	0,4368
CAAR(+1 +10)	0,8161%	0,0864	0,5342
CAAR(-5 +5)	-1,0479%	(0,1052)	0,4584
CAAR(-5 -1)	-0,6439%	(0,1022)	0,4596
CAAR(+1 +5)	0,2397%	0,0381	0,5151
CAAR(-1 +1)	0,0891%	0,0200	0,5079
CAAR(-1 0)	-0,3514%	(0,1116)	0,4559

(Source: Researcher's own computation)

4.3.3 Vertical M&A Abnormal average returns

The Descriptive statistics over the event window period (-10,0,10) as seem below details the Vertical sample used in the study are 20 companies that are listed on the JSE and participated in M&A transaction between 2009 – 2019. Observed a vertical sample mean of 0,05% which is closer to zero, this can be implied that the most of the acquiring companies in the sample engaged in the M&A transaction have abnormal returns close to zero, indicating a negligible impact of the Vertical M&A announcement to the share price. There is a 0,25% standard deviation this is relatively small and can be considered that the share prices in the sample have minimal volatility. The median in the sample is 0,08% which is greater than the mean of the data, presenting a negative skewed data. A negative skewed data distribution indicates the likeliness that there will be frequent small gains observed and few large loses (Oasis Wall Street, 2013).

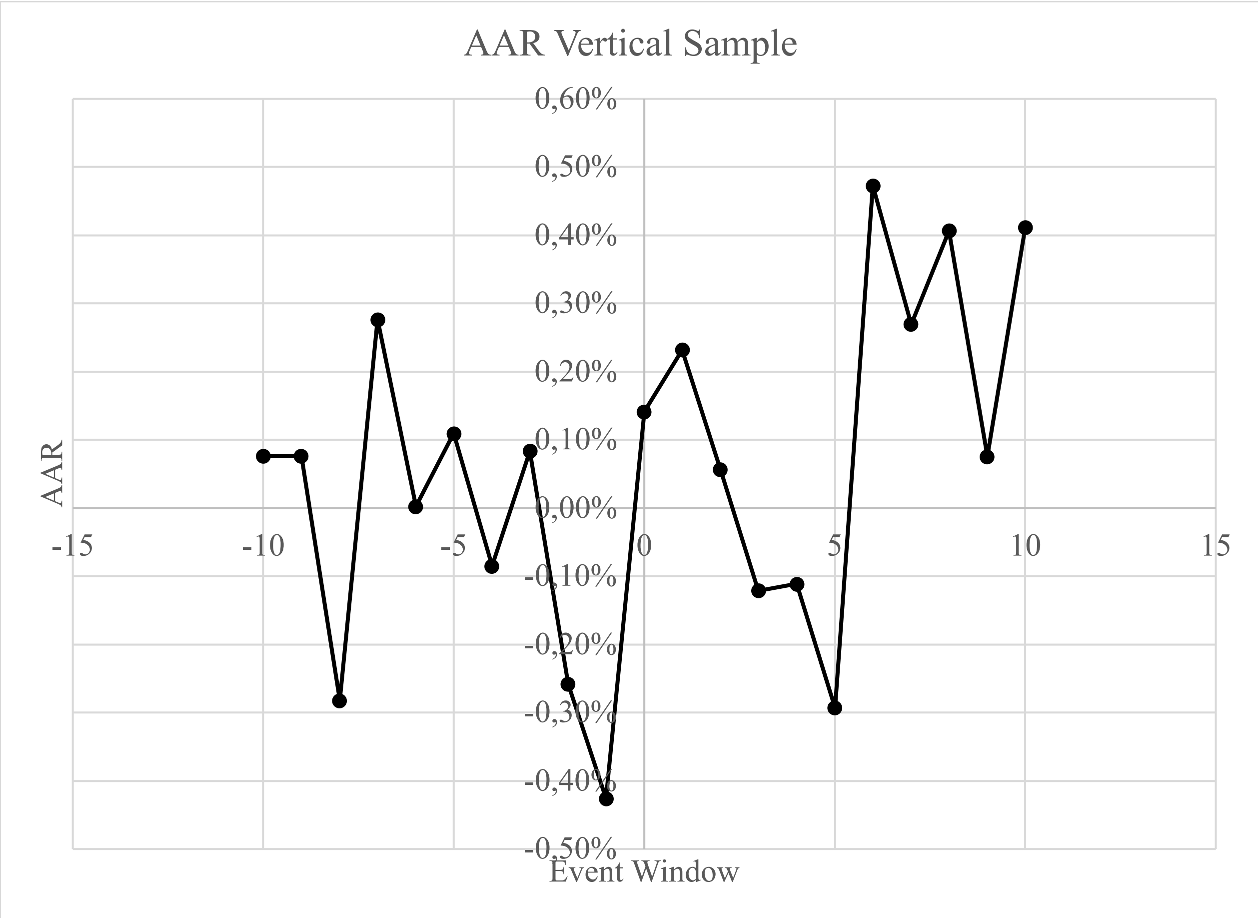
Table 8: Descriptive statistics for Vertical M&A Sample

Mean	0,0531%
Median	0,0759%
Standard Deviation	0,2459%
Sample Variance	0,0006%
Minimum	-0,4257%
Maximum	0,4727%
Sum	1,1146%
Count	21

(Source: Researcher's own computation)

Figure 5 below exhibits the AAR over the 21-day event window period (-10,0,10) day 0 being the announcement date. Over the 21 day period, observed both negative and positive ranging from -1% to 1% but more positive AAR are exhibited post announcement date versus pre announcement. The highest spike was observed pre-announcement on day (-3) as a negative value compared to previous days that exhibited relatedly positive abnormal returns, one can raises possibility of information leakage and given the positive AAR observed in the post announcement, this indicates that the market reacted mostly is mostly positive around the Vertical M&A announcement. Observed a slightly more positive returns over the event window and some of the positive returns are closer to zero in the below graph which is in line with the sample mean which is positive at 0,05% but closer to 0%

Figure 5: Average Abnormal Returns for Vertical M&A for acquiring companies listed on the JSE for the period 2009 to 2019 with event window of -10 to 10 days



(Source: Researcher's own computation)

According to the Table 9 below that looks at Vertical M&A, using the Marked model method its observed that both positive and negative values around the announcement date seen as day 0 and none of the values are considered to be statistically significant. Although there was no value considered to be statistically significant, one can observe a positive reaction in the announcement by the market on the merger on day 0.

Table 9: AARs of Vertical M&A Sample over the event window period				
DAY	AAR	T-TEST	P-VALUE	CAAR
-10	0,08%	0,05	0,5195	0,08%
-9	0,08%	0,05	0,5197	0,15%
-8	-0,28%	(0,18)	0,4280	-0,13%
-7	0,28%	0,18	0,5707	0,15%
-6	0,00%	0,00	0,5006	0,15%
-5	0,11%	0,07	0,5281	0,26%
-4	-0,08%	(0,06)	0,4782	0,17%
-3	0,08%	0,05	0,5215	0,26%
-2	-0,26%	(0,17)	0,4341	0,00%
-1	-0,43%	(0,28)	0,3921	-0,43%
0	**0,14%**	**0,09**	**0,5363**	**-0,28%**
1	0,23%	0,15	0,5593	-0,05%
2	0,06%	0,04	0,5144	0,00%
3	-0,12%	(0,08)	0,4689	-0,12%
4	-0,11%	(0,07)	0,4715	-0,23%
5	-0,29%	(0,19)	0,4252	-0,52%
6	0,47%	0,31	0,6195	-0,05%
7	0,27%	0,17	0,5688	0,22%
8	0,41%	0,26	0,6033	0,63%
9	0,08%	0,05	0,5194	0,70%
10	0,41%	0,27	0,6045	1,11%

(Source: Researcher's own computation)

In the above table, one can observe that during the 21 day event window period, On average, there is a positive value post M&A announcement at 0,14%, there is a positive AAR but not significant, the probability of a positive value being linked to the Vertical M&A announcement is minimal and possibly a result of other factors. There is no value that is statistically significant, given the null hypothesis that the share price of the acquirer acquiring a different supply chain business does not increase or decrease significantly due to an M&A transaction.

4.3.4 Vertical M&A Cumulative average abnormal returns

The below table 10 looks at the CAAR for vertical M&A, CAAR of acquiring companies that are listed on the JSE. Observe a positive CAAR in the event windows period (-10,+10) although was not statistically significant, although throughout multiple CAAR intervals the results were mostly negative CAAR but none of them are statistically significant. One can observe that there has been a negative CAAR pre-announcement but positive CAAR post announcement just like the total M&A and horizontal M&A observations, this could be indicative of a positive outlook from the market regarding the upcoming mergers.

Table 10: CAARs of Vertical M&A Sample over the event window period

INTERVAL	CAAR	T-TEST	P-VALUE
CAAR(-10 +10)	1,1146%	0,1616	0,5637
CAAR(-10 -1)	-0,4258%	(0,0920)	0,4636
CAAR(+1 +10)	1,3991%	0,3023	0,6179
CAAR(-5 +5)	-0,6712%	(0,1376)	0,4457
CAAR(-5 -1)	-0,5753%	(0,1865)	0,4266
CAAR(+1 +5)	-0,2373%	(0,0769)	0,4696
CAAR(-1 +1)	-0,0523%	(0,0240)	0,4905
CAAR(-1 0)	-0,2843%	(0,1843)	0,4274

(Source: Researcher's own computation)

4.4 DISCUSSION OF RESULTS

4.4.1 Objective 1: Effect of M&A on share price

In the study, it is observed that the AAR does not deviate away from the mean which shows insignificant difference from the value zero. Although more positive returns are observed post the M&A announcement and a positive AAR is maintained from day 5 which indicates that shareholders approve the M&A transactions, the AAR are not statistically significance. The was a huge positive spike in the AAR leading to the announcement and later decreased but not to the level of prior negative AAR but this movement observed is not significant enough to conclude on a potential information leak. Ndlovu (2017) conducted a study to evaluate the effect of M&A announcement on JSE listed companies and the study yielded different results, the study exhibited positive AARs prior to the announcement and negative AARs post announcement. The study was conducting over the period 2003-2013, this incorporated the financial crises, this impacted the market and shareholder behaviour. Mgilane (2019) conducted his study over the period 2011 to 2016 and results were similar as it reported negative AAR prior to the announcement and positive AAR post announcement. Results are similar possibly due to the study period being similar, although in this research a study is conducted over the longer periods.

It is also observed that the statistically significance test run indicate that the share price of the acquirer does not increase or decrease significantly due to an M&A transaction. Indicating that M&A transaction are not truly value adding to the acquirer's shareholders. There are multiple reason that lead to this conclusion, which includes the market being sceptical about M&A transaction due to risk attached to entering in such transaction. These results align with similar studies that have been conducted on M&A transactions on JSE listed companies as acquirers (Ndlovu, 2017; Mgilane, 2019). According to Ndlovu (2017) and Mgilane (2019), they both observed statistically insignificant results although time periods of studies differ but the same event study method was used as well as the study being conducted over JSE listed companies.

4.4.2 Objective 2: Effects of M&A - vertical versus horizontal mergers

As seem in the object 2 results, both type of mergers do not result in statistical significance and the share price of the acquiring companies does not increase of decrease significantly to the M&A announcement, Vertical mergers exhibit higher abnormal returns compared to

Horizontal mergers, the difference does not seem large. The Horizontal standard deviation is more volatile compared to Vertical merger, this could be due to multiple reason like Horizontal mergers having a greater sample than the Vertical merger. Both types of mergers do not present statistically significant AARs, on announcement day (0) one observes a negative AAR of -0,64% in horizontal mergers and a positive AAR of 0,14% is seen in the Vertical mergers, this may indicate a shareholders disapproval for the horizontal mergers transaction whereas in the Vertical mergers, an approval by shareholders is being indicated.

Comparing the results of both merger types, there are both similarities and differences on the announcement date, there is a positive reaction by the market as seen with the positive AAR, although it is not statistically significant. Both merger types experience both negative and positive AAR over the 10 days post announcement but horizontal mergers experiences more negative whereas vertical experiences more positives. This indicates that the market was more receptive of the vertical mergers compared to the horizontal.

In addition, CAARs showed totally different results for both types. In horizontal mergers, CAARs in almost all intervals is positive but on the other side, vertical mergers indicate more negative abnormal returns and in the CAAR intervals presented. Vertical merger seem to be showing more volatility and positive reactions to horizontal mergers rather than the vertical one. This does not align with a study conducted on market reaction to horizontal and vertical M&A by Grava and Sotiriadou (2019) where an event study method was used. The differences in the study could be due to not only the geographic reason but Grava and Sotiriadou (2019) only looked at automotive industry. A study conducted by York et al. (2012) observed a similar result on their study, an event study method.

4.5 SUMMARY

In chapter 4, a presentation and interpretation of the results of this study is completed. One can observe that the AAR does not deviate and there is no statistical significance with regards to the CAAR, this can be translated as the M&A transactions not having an impact of the share price of acquiring JSE listed companies. One can also observe that although there is no impact to the share price, there appears to be better performance around Vertical mergers in comparison to the Horizontal mergers although they both do not exhibit a statistical significance that translate that the movement in the returns are as a result of the M&A, let alone the type of merger.

CHAPTER FIVE: SUMMARY AND CONCLUSION

5.1 CONCLUSION

M&A are constantly seen as growth alternative due to the saturation over organic growth, therefore, the inorganic growth M&A provides to companies compliment the organic growth (Thakoor, 2020). The share price of companies have a very strong relationship with the financial performance of the companies (Arif, 2015). Companies are always seeking ways to grow, this is seen through increases in the M&A activities, therefore continuous need to further researches on M&A transactions exists. Given are continuous contradicting findings around M&A studies, additional studies are needed and continue to be updated.

Studies have been conducted in South Africa regarding M&A transaction focusing on the announcement of M&A, the analysis of the effect of the method payment in M&A and the announcement of M&A when the merging is either with a private or public company. In this research, focus is on the effect of M&A on the share prices of JSE acquiring companies. Furthermore, analysing the effect M&A has on the acquiring companies when participating in a horizontal merger compared to a vertical merger.

An event study method approach is used in this study to get an understanding over the reaction of the market with regards to M&A announcement over an event window of 21 days, 10 days pre and post announcement with day 0 being the event date. A sample of 45 M&A transactions used was made up of horizontal and vertical mergers over the period 2009 – 2019. The method used in the study assists in determining the effect of M&A on the share price and further investigate whether the outcome differs depending on the type of merger.

Regarding the first objective that speaks to the effect of M&A on the share price, it is observed that the AAR does not deviate away from the mean, indicating insignificant difference from the value zero. Although more positive returns are observed post the M&A announcement and a positive AAR is maintained from day 5 which indicates that shareholders are approve the M&A transactions, the AAR are not statistically significance. The CAAR were also insignificantly different to the mean over the event window period, further implying that M&A transaction do not create any abnormal returns. Thus, M&A does not have a significant impact on the share price of the acquiring company. This results are similar to a study conducted by

Ndlovu (2017) on M&A announcements and its impact on value creation for JSE listed companies in the period 2003 – 2013.

Regarding the second objective that speaks to the effect of M&A on the horizontal merger share price vs vertical merger share price, both M&A types do not result in a statistical significance AAR and the share price of both acquiring companies do not increase of decrease significantly to the M&A announcement, but Vertical mergers exhibit higher abnormal returns compared to Horizontal mergers, the difference does not seem large. This aligns with a study conducted on market reaction to horizontal and vertical M&A by Grava and Sotiriadou (2019). The is a study conducted by York et al. (2012) that suggests that's vertical merger tend to underperform in comparison to the horizontal merger. This has yielded different results to the results presented in this research, together with that of Grava and Sotiriadou (2019) but it is important to note that the York et al. (2012) study was conducted on the Biopharma industry whereas this study focuses on the entire industry.

5.2 RECOMMENDATIONS

An event study method was used to calculate the cumulative average abnormal returns (CAAR) over a 21 day event window. The results observed in the study indicate that M&A transactions do not significantly influence stock returns. However, the JSE listed acquiring companies showed positive reactions when it came to Horizontal merger transactions compared to the Vertical mergers although the difference can be seen as immaterial.

Given that M&A transactions do not significantly influence stock returns, companies should engage in M&A transactions based on the motives of the companies and goals needed to be achieved in order to create value. Not to enter in M&A transactions solely for the purpose of wanting to drive the share price.

5.3 LIMITATIONS

The event study methodology within a 21 days window looking at 10 days pre and post announcement only illustrates the short-term effects of M&A on the share prices of acquiring companies. In the evaluation of performance of M&A transactions, a consideration to investigate the long-term effects of M&A transactions is equally as important. The long-term investigation could have been conducted over multiple event window periods with an extended time period.

The study only focussed on JSE listed acquiring companies due to the lack of readily available information regarding the acquiring companies that are not listed on the JSE. Therefore generalising the observed results on the effect of M&A transaction to non-listed companies would be incorrect.

The study only focused on large M&A transaction, this could be a small representation of M&A transaction that occur. M&A transaction considered small and medium could possibly yield different results, therefore generalising the result of the effect of M&A transaction on share price to all listed companies would also be incorrect.

Based on the knowledge of this research, there is still significant room to further study the effect of M&A on the share price JSE listed companies.

5.4 FURTHER STUDY SUGGESTIONS

Further study can be conduction by doing the following.

I. Increasing the sample size and further incorporating small and medium size M&A in the sample.
II. Consideration to conglomerate mergers to compare the 3 types of mergers.
III. Study considering both short term and long term effect on M&A on the share price of listed companies.
IV. A study conducted on industry specific companies because some industries see value being created when participating in horizontal mergers as opposed to vertical merger and vice versa.
V. A study can be conducted to analyse the effect of both the acquiring and bidder companies, analysing which companies benefit more.

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