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Factor configurations impacting shareholder wealth in mergers and acquisitions of acquiring companies listed on the Johannesburg Stock Exchange

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Abstract

Mergers and acquisitions are important components of corporate strategy to improve organisational performance in the current economic climate of low or slowing growth. Empirical studies that focus on one or a couple of factors are numerous, but there is limited research that studies the interplay between the factors and the importance of the various factors that impact on shareholder wealth. This study examined factors that impact on shareholder wealth of acquiring companies listed on the Johannesburg Stock Exchange who took part in merger and acquisition transactions.

A quantitative methodology was used for purposes of this research. In order to analyse the factors present at a merger and acquisition announcement and their impact on shareholder wealth, secondary data was utilised. The research utilised financial and accounting data sourced from the Thomson Reuters DataStream and McGregorBFA databases and publicly available daily share price data for shares traded on the Johannesburg Stock Exchange. The sample of listed acquiring firms were obtained from the Thomson Reuters DataStream database. Purposive sampling was employed to select the sample of 31 announcements. This was based on availability of data for all the factors that were deemed important to shareholder wealth creation.

Cumulative abnormal returns were calculated for the sample. This was split into positive or negative results and the factors that contribute to either result was analysed using fuzzy-set qualitative comparative analysis. The research concluded there are various configurations of factors that result in either positive or negative shareholder reactions. These configurations subscribe to the principles of equifinality and are asymmetrical, as they are distinct from each other and the negative reactions are not symmetrically opposite the positive reactions.

Key Words

Acquisitions, factor configurations, mergers, shareholder wealth

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other university. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

	7 November 2016
Frances la Grange	Date

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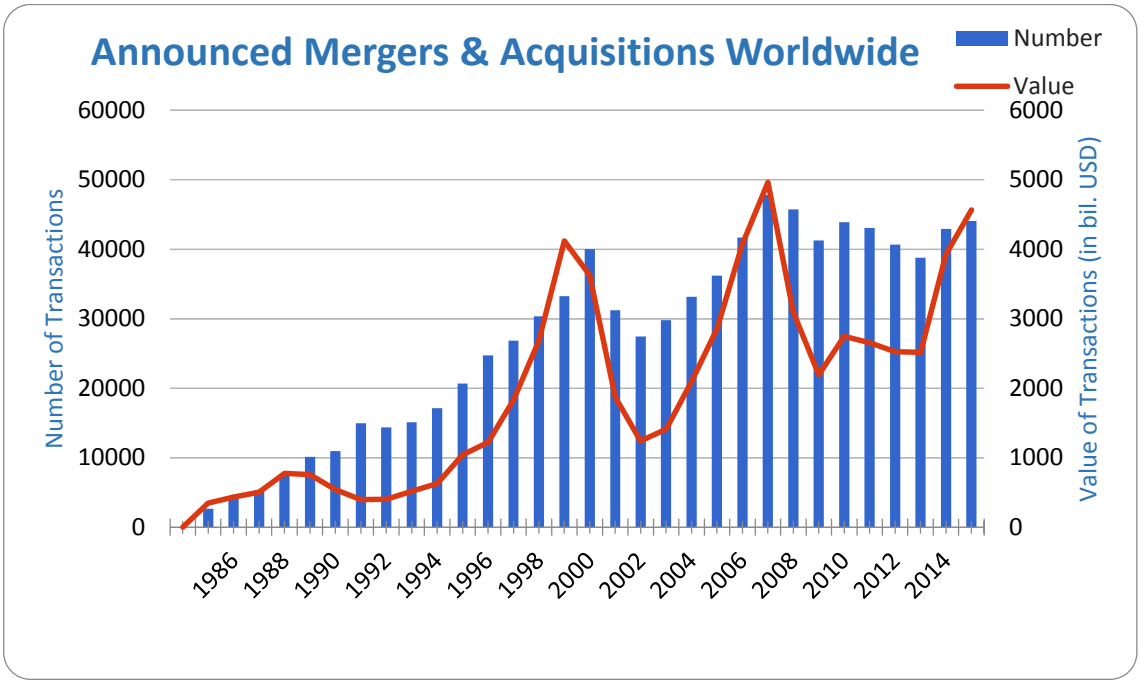
Chapter 1: Research Problem and Purpose

1.1 Introduction

Companies pursue merger and acquisition transactions as part of an inorganic corporate growth strategy. It is used to attain access to intellectual property, new products and markets – both across borders and domestic, to eliminate rivals, to reduce taxes and to diversify. Merger and acquisition transactions are of particular importance to study as there are usually large sums of money involved as well as decision making out of the ordinary way (Levi, Li, & Zhang, 2014). Analysing mergers and acquisitions is popular both in business and academic journals, but there has been a dearth in the analysis of factor configurations that impact investor perception as observed by the short-term share price performance of merger and acquisition transactions.

There has recently been a sharp increase in the value of merger and acquisition activities undertaken worldwide as can be seen from Figure 1.1. Whilst the number of deals has been fairly constant since the global financial crisis, there was a sharp decline in the value. The value has been steadily increasing and has nearly reached pre-crises levels again in 2015. Two of the largest ever merger and acquisition announcements took place during 2015: SABMiller PLC & Anheuser-Busch InBev for USD 109.3 billion and Pfizer Inc. & Allergan PLC for USD 145.8 billion (Institute of Mergers, Acquisitions and Alliances, 2015). In 2016 the Pfizer Inc. & Allergan PLC deal had the dubious honour of the largest merger and transaction deal of all time to fail.

Figure 1.1 – Worldwide mergers and acquisitions

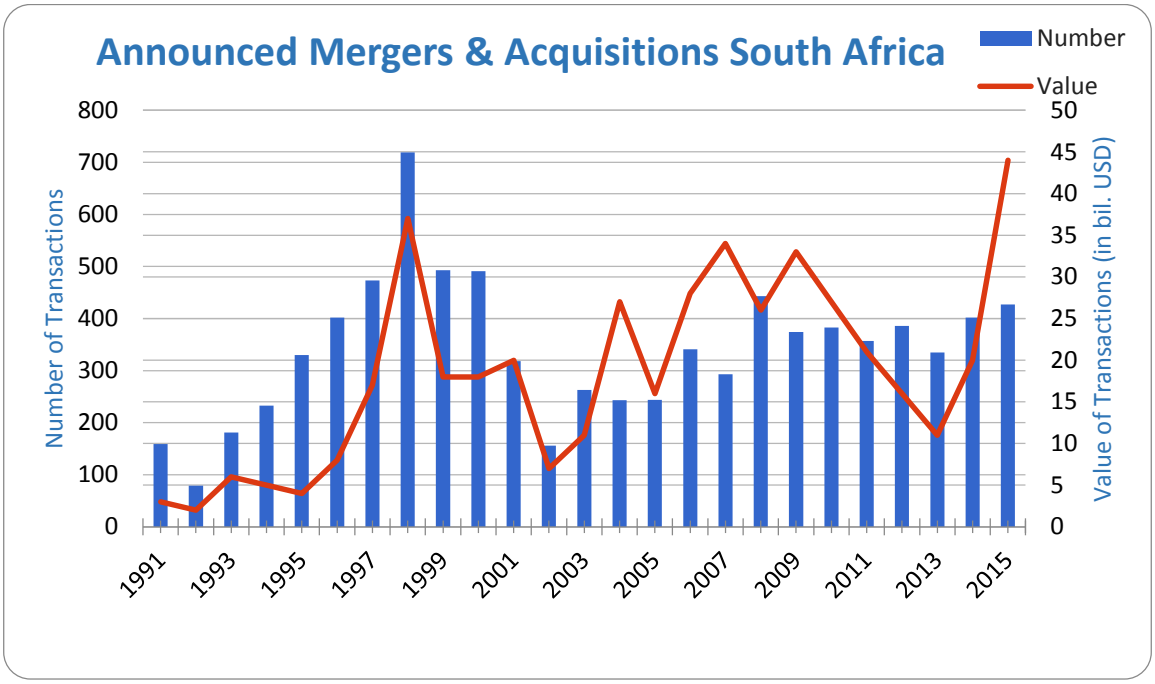


Source: Institute of Mergers, Acquisitions and Alliances (2015)

Merger and acquisition activity are expected to increase in 2016 based on a report released (KPMG, 2016b). The report further stated that developed markets will see the largest portion of merger and acquisition activity, especially the United States of America due to its relatively robust economy. There are also very specific industries targeted such as technology and pharmaceuticals. Additionally the organisations stated their appetite for merger and acquisition activity originates in a desire to fortify their competitive position (KPMG, 2016b).

From a South African context announced merger and acquisition data can be seen in Figure 1.2. The number of deals over the last few years has remained stable, but there has been a sharp decline in value. Over the last two years there was a rapid increase in the value from a decade low point in 2013.

Figure 1.2 – South African mergers and acquisitions



Source: Institute of Mergers, Acquisitions and Alliances (2015)

1.2 Research title

The research title is Factor configurations impacting shareholder wealth in mergers and acquisitions of acquiring companies listed on the Johannesburg Stock Exchange.

1.3 Research problem

The purpose of this research is to determine which configuration of factors has an impact on investor perceptions with regards to merger and acquisition announcements of South African companies listed on the Johannesburg Stock Exchange. This includes both positive and negative impacts.

1.4 Research motivation

Companies enter into merger and acquisition transactions for amongst other things growth and to keep their competitive advantage. Despite this there has been much

debate in the literature whether merger and acquisitions create shareholder wealth and increase long term operating performance. Short-term event studies of share price have shown diverse results, from a positive effect on shareholder wealth with certain factors present (Hu & Yang, 2016; Kohli, Devaraj, & Ow, 2012) to a negative effect with the absence of other factors (Humphery-Jenner & Powell, 2014).

Factors that lead to the probable success of mergers and acquisitions have also been covered, but although a few studies include multiple factors (Bauer & Matzler, 2014; Campbell, Sirmon, & Schijven, 2016; Papadakis & Thanos, 2010), the majority is only one-dimensional which can lead to distorted results as all the factors and their inter-connectivity that could possibly have an impact were not considered. In order to fully understand the success of mergers and acquisitions and the factors that influenced them it has to be studied in a multi-factor way.

As per Bauer & Matzler (2014) there have been four major schools of research in merger and acquisition literature, these are detailed in Figure 1.3.

Figure 1.3 – Merger and acquisition schools of research

M&A Issue / School of thought	Premerger phase	Postmerger phase	M&A success
Financial economic school Prominent literature: Mandelker (1974), Hassan *et al.* (2007), Jensen and Ruback (1983), Jensen (1988)	Wealth effects for shareholders; Timeframe: around the announcement day.		M&A performance measures: • Stock market-based (e.g., CAPM, CAR) • Accounting-based • Survey based
Strategic management school Prominent literature: Singh and Montgomery (1987), Kim and Finkelstein (2009), Larsson and Finkelstein (1999) and Shelton (1988)	Strategic Fit: • Relatedness • Similarity • Complementarity		
Organizational behavior school Prominent literature: Chatterjee *et al.* (1992), Datta (1991), Appelbaum *et al.* (2000), Shrivastava (1986)	Cultural Fit: • Cultural Distance • Similarity • Compatibility	Integration: • Cultural Integration • Task Integration • Degree of Integration	
Process (perspective) school Prominent literature: Angwin (2004), Ellis, Reus and Lamont (2009), Homburg and Bucerius (2006) and Jemison and Sitkin (1986)		Process: • Speed of integration • Other topics e.g. communication, etc.,	

Source: Bauer & Matzler (2014)

All of these merger and acquisition factors, whether it be in the pre-merger or post-merger phases have a potential impact on the success of the transaction and thus shouldn't be studied on its own but integrated in a holistic study. On the assumption that markets are in general rational, investors take a full view of all the factors and their potential impacts on the success of the transactions. This study aims to identify possible configurations of factors that can lead to this success.

1.5 Supporting evidence

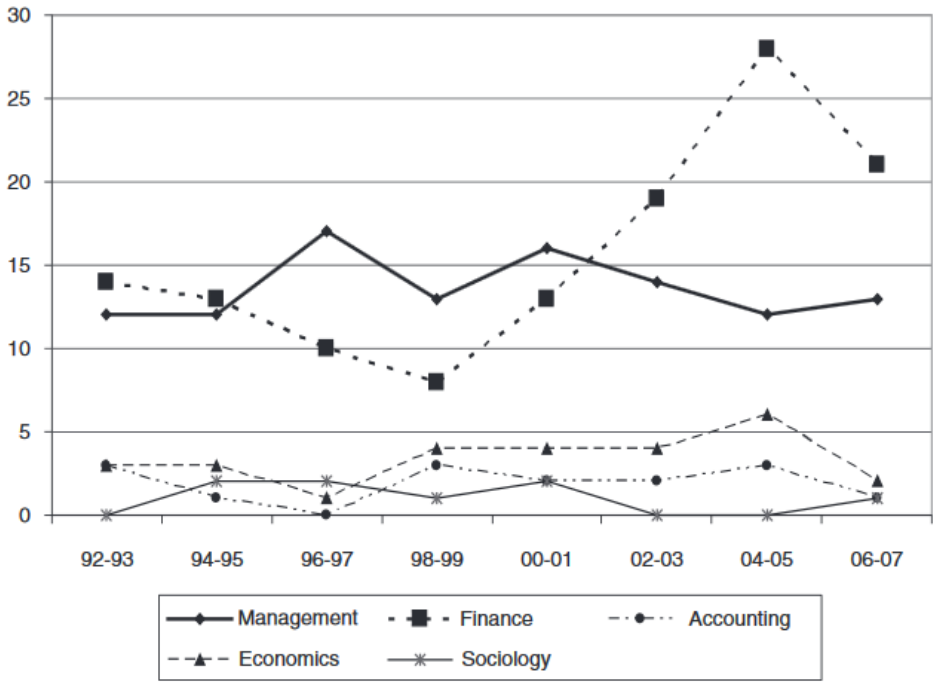
According to a study done by Haleblian, Devers, McNamara, Carpenter, & Davison (2009) merger and acquisition transactions have attracted research from multiple academic and managerial disciplines. Indicated in Figure 1.4 below are the results of where most research into merger and acquisition transactions have been focused.

Little attention has been placed on the sociology, accounting or economics aspect with most of the research focused on either finance or management (Haleblian et al., 2009). Most of these studies have focused on linear statistics and not configurations of factors (Fiss, 2007).

The intention of the study was to contribute to the fields of finance and sociology by analysing factors that impact on investor perceptions with regards to merger and accquisition announcements.

Figure 1.4 – Trends in merger and acquisition research

Figure 1
The Trends in Research on Mergers and Acquisitions
Number of Articles by Discipline



Source: (Haleblian et al., 2009)

1.6 Relevance to South Africa

According to bi-annual research done by KPMG (2016a) there has been an increase in emerging market firms acquiring both developed market targets and other emerging markets targets. South Africa as an emerging market economy will look to invest in South Africa, developed economies and other emerging markets. From this perspective, it is extremely important that South African firms know what combination of factors investors deem important to increase shareholder wealth.

1.7 Research purpose and objective

Merger and acquisition transactions are a popular pastime of the corporate world, but the impact of factors surrounding such transactions on investor perspectives have not been tested in depth, especially from an emerging market perspective.

This study attempts to add to the body of knowledge by determining the configurations of factors that investors deem important to increase shareholder wealth.

1.8 Scope

The scope of the research was limited to South African companies listed on the Johannesburg Stock Exchange who announced a merger or acquisition transaction. The research focused on the configuration of factors that have an impact on the short-term share price performance of announced merger and acquisition transactions. Given a limitation of time and access the research did not focus on all factors that could potentially have an impact on investor perceptions. In addition, the scope of the study only included acquirers who announced a merger or acquisition transaction of another listed company, irrelevant of which stock exchange they have been listed on. It therefor did not include instances where an unlisted company had a merger or acquisition transaction or a listed company announced the merger or acquisition of an unlisted company.

Chapter 2: Literature Review

The literature review starts with a discussion of merger and acquisition transactions from an emerging market perspective. Historically most of the literature has focussed on developed markets, only recently with the increase in activity from emerging markets has the research increased in this field.

Subsequently it discusses various ways success from merger and acquisition transactions have been measured and studied. This is followed by the arguments for why an integrated study that considers all type of factors in various configurations is more appropriate than studies where only one or two factors are studied in isolation.

Afterward it discusses the different types of factors identified in the academic literature and their impact on short-term share price performance. The following factors that are discussed in detail later in the chapter has been identified in the literature to have an impact on short-term share price performance: Industry relatedness, size similarity, acquisition experience, cross-border vs domestic acquisitions, deal attitude, leverage, payment method and premium paid.

2.1 Emerging markets

South Africa is an emerging market and the different factors might have diverse impacts between developed and emerging markets. Research done by Arık & Kutan (2015) on merger and acquisition transactions from 20 emerging markets found that merger and acquisition transactions created within a three-day symmetric event window a 5.17% average abnormal return for the target firms' stock. There was a much smaller wealth effect and the abnormal returns subsided in a much shorter length of time when compared to developed markets. They furthermore found support for existing literature from developed markets that both deal and relative size and a cash payment method had a positive effect and heavily regulated industries had a negative effect.

Bhagat, Malhotra, & Zhu (2011) found that emerging market firms were rewarded by the stock markets when they had cross-border acquisition announcements. They further found that better corporate governance measures were positively correlated with acquirer returns in the target country. Their findings are consistent with the bootstrapping hypothesis of Martynova & Renneboog (2009). This is where the acquirers voluntarily adjust themselves to the targets' higher corporate governance standards. A similar

finding came from the research of Buckley, Elia, & Kafouros (2014) that said through the acquisition by an emerging market multinational of a firm in a developed country the performance of the firm in the developed country is often improved.

Lebedev, Peng, Xie, & Stevens (2014) did a comprehensive summary of all the literature on mergers and acquisitions related to emerging markets. Their main findings are summarised in Table 2.1 below. Their study highlights some of the major differences between developed market and emerging market acquisitions. They identified additional antecedents in emerging markets that resulted in merger and acquisition activity, these are institutions, latecomer disadvantage and national pride. These factors are not present in developed markets. They identified additional performance drivers in emerging markets such as government involvement, institutional development and the quality of corporate governance.

Table 2.1 – Merger and acquisition findings from developed and emerging markets

Findings on mergers and acquisitions from DE and EE.

Research question	Main findings from DE	Additional new findings from EE
Antecedents	• Market (monopoly) power • Synergy gains (e.g., economies of scale) • Diversification • Reduce transaction costs • Reduce environmental uncertainty and resource dependency • Firm characteristics (e.g., M&A experience, network ties) • CEO compensation ("empire building") • Managerial hubris	• Cross-border acquisitions as a preferred mode of entry – Access to brands, technologies, and resources which help to overcome the "latecomer disadvantage" – Access to more developed institutions and corporate governance practices (from EE to DE) – Brownfield acquisitions (from DE to EE) – EE MNEs will try to leverage their home countries' comparative advantages in resources, as well as their firm-specific capabilities, by cross-border acquisitions – National pride (from EE to DE) • The quality of institutions is an especially important determinant of acquisitions in and out of EE – Institutional development in a host country facilitates acquisitions – Institutions often determine the choice of entry mode – Institutions providing higher level of protection of minority shareholders' rights are likely to facilitate M&As (by lowering the resistance of controlling shareholders) • Firm characteristics – For EE MNEs, prior M&A experience in DE tends to have stronger influence than prior M&A experience in EE – Network ties have different influence on acquisition behavior in EE compared to DE
Performance	• Acquisitions typically destroy shareholder value for the acquirer • Target firms typically gain value from M&As	• There is no established trend for the acquirer's gain – acquisitions in and out of EE may create or destroy shareholder value for the acquirer
Factors affecting performance	• Deal type • Payment type • Ownership structure (e.g., managerial ownership) • Management characteristics (e.g., experience) • Previous performance • Firm size • Prior acquisition experience • Environmental factors (e.g., merger waves)	• Institutional development (in both host and home countries) was found to improve cross-border M&A performance • Quality of corporate governance in a host country facilitates acquisition performance ("bootstrapping") • Privatization context – Strong government involvement – Target firms' managerial capabilities and overall efficiency are often quite low – Lower premiums – The amount of post-privatization investment was found to facilitate post-acquisition performance of the privatized target • Higher ownership concentration of the acquirer may positively affect post-acquisition performance (however, larger state ownership tends to provoke negative reaction of the market) • For cross-border M&As, the acquirer's country of origin (DE versus EE) has been shown to affect the different measures of the target's performance (possible differences in post-acquisition restructuring strategies)

Source: (Lebedev et al., 2014)

2.2 Performance measures

There has been much debate with little to no agreement on the measurement of success of merger and acquisition transactions (Zollo & Meier, 2008). Approaches vary from subjective to objective measurement methodologies, from long-term (up to five years after the transaction) to short-term (e.g. a few days before and after the acquisition announcement), and from a process or transaction level of analysis to an organizational level (Zollo & Meier, 2008).

Historically the success or failure of merger and acquisition transactions have been measured based on accounting parameters, the achievement of a strategic objective or on financial parameters (Vazirani, 2012). Additional measures to measure the success of a merger and acquisition transaction that have been applied have included economic measures, finance measures, which are mostly stock market based metrics, human resource management which looked at psychological and other issues and organisational research which focused on the post combination integration process and strategic management measures (Vazirani, 2012).

Frequently in the academic literature short term stock price performance and operating financial performance are preferred to measure the success of a merger and acquisition transaction above management assessment due to its perceived subjectivity and bias. In contrast to most other academic research, Bauer & Matzler (2014) used management assessment as part of their integrative research model. Papadakis & Thanos (2010) argued that to reduce the subjectivity of management assessments there is a need to rely on more than one party.

Management assessments are convenient to judge the success of a merger and acquisition transaction as the manager from the acquiring firm has a lot of knowledge about the transaction and the integration phases (Bauer & Matzler, 2014). Management assessments also have some correlation with financial performance (Papadakis & Thanos, 2010).

The potential obstacles identified when management assessments are used to judge the success of merger and acquisition transactions include positive recollection bias, manager turnover and the reluctance to participate in surveys (Bauer & Matzler, 2014). Whilst management assessment has some correlation with financial performance it has very little correlation with the stock market performance (Papadakis & Thanos, 2010).

Various academic studies have addressed whether operating performance of merging firms improve in the long term. In contrast to Healy, Palepu, & Ruback (1992); who used industry-median firms and found that the operating performance increased after a merger or acquisition; Ghosh (2001) used specially matched firms on pre-acquisition performance and size to measure whether post-merger performance improved and found no improvements. Grigorieva & Petrunina (2015) found a deterioration in ratios from firms in emerging markets and concluded it destroyed value.

While most of the studies have used accounting measures of success, there have been notable others that have used economic profit. Grigorieva & Petrunina (2015) used a sample of 80 mergers and acquisitions from emerging markets to assess whether mergers and acquisitions have a positive economic profit and found that economic profits have a similar return as accounting profits.

2.2.1 Short term share price performance

There have been no consistent results with regards to the cumulative abnormal returns on a merger or acquisition announcement. Much research has been done on the immediate impact on the share price after merger and acquisition announcement, mostly using standard event study methodology. As an example, a standard event study methodology and regression analysis were used to study mergers and acquisitions in India and found that cross-border acquisitions, especially in a technology intensive sector created significantly higher wealth gains than domestic acquisitions (Kohli & Mann, 2012). Another study done on Indian firms also found that the announcement returns for Indian firms for the period 1995 – 2011 were significantly positive, but that they declined and turned negative towards the end of the period (Banerjee, Banerjee, De, Jindra, & Mukhopadhyay, 2014).

Bruner (2002) did a consolidation of shareholder return studies for mergers and acquisitions, both from a target and acquirer perspective and both positive and negative results. The results of the study are in the Tables 2.3 and 2.4 below. Of the 44 studies reviewed, 20 showed negative abnormal returns of which 13 were significant at the 0.05 level. Furthermore 24 of the 44 studies showed positive abnormal returns of which 17 were significant at the 0.05 level. The overall conclusion reached by this study was that aggregate abnormal returns to acquiring firms are zero.

Table 2.2 - Negative returns for acquirers

Study	Sample Period	Sample Size	Event Window (Days)	Cumulative Abnormal Returns
Langetieg (1978)	1929-69	149	(-120,0)	-1.61%
Dodd (1980)	1970-77	60 66	(-1,0)	-1.09%** Successful -1.24% ** Unsuccessful
Asquith et al. (1987)	1973-83	343	(-1,0)	-0.85%**
Varaiya & Ferris (1987)	1974-83 1974-83	96 96	(-1,0) (-20,80)	-2.15%** -3.9%**
Morck, Shleifer, & Vishnay (1990)	1975-87	326	(-1,0)	-0.70%
Franks, Harris, & Titman (1991)	1975-84	399	(-5,5)	-1.45%
Servaes (1991)	1972-87	384	(-1,Close)	-1.07%**
Jennings & Mazzeo (1991)	1979-85	352	(-1,0)	-0.8%**
Bannerjee & Owen (1992)	1978-87	57	(-1,0)	-3.3%**
Byrd & Hickman (1992)	1980-87	128	(-1,0)	-1.2%**
Healy, Palepu, & Ruback (1992)	1979-84	50	(-5,5)	-2.2%
Kaplan & Weisbach (1992)	1971-82	271	(-5,5)	-1.49%**
Berkovitch & Narayanan (1993)	1963-88	330	(-5,5)	-$10 MM
Sirower (1994)	1979-90	168	(-1,0)	-2.3%**
Eckbo & Thorburn (2000)	1964-83	390	(-40,0)	-0.30%
Mulherin & Boone (2000)	1990-99	281	(-1,+1)	-0.37%
Mitchell & Staffird (2000)	1961-93 366	366 366	(-1,0)	-0.14%** -0.07%
Walker (2000)	1980-96	278 278	(-2,2)	-0.84%** -0.77%
DeLong (2001)	1988-95	280	(-10,1)	-1.68%**
Houston et al. (2001)	1985-96	27 37 64	(-4,1)	-4.64%** (1985-90) -2.61% (1991-96) -3.47%** (all)

***Significant at the 0.05 level or better*

Source: Adapted from (Bruner, 2002)

Based on the above summary there has been wide-ranging results for different studies undertaken. The smallest statistically significant negative short-term cumulative abnormal return was -0.8% whilst the largest was -4.64%. The event window varied between (-120, 0) to (-20, 80). The sample size also varied between 27 and 399.

Table 2.3 - Positive returns for acquirers

Study	Sample Period	Sample Size	Event Window (Days)	Cumulative Abnormal Returns
Dodd & Ruback (1977)	1958-78	124 48	(0,0)	+2.83%** Successful +0.58% Unsuccessful
Kummer & Hoffmeister (1978)	1956-70	17	(0,0)	5.20%** Successful
Bradley (1980)	1962-77	88 46	(-20,+20)	+4.36%** Successful -2.96% Unsuccessful
Jarrell & Bradley (1980)	1962-77	88	(-40,+20)	+6.66%**
Bradley, Desai, & Kim (1982)	1962-80	161	(-10,+10)	+2.35%** Successful
Asquith (1983)	1962-76	196 89	(-1,0)	+0.20% Successful +0.50% Unsuccessful
Acquith et al. (1983)	1963-79	170 41	(-20,+1)	+3.48%** Successful +0.70% Unsuccessful
Eckbo (1983)	1963-78	102 57	(-1,0)	+0.07% Successful +1.20%** Unsuccessful
Malatesta (1983)	1969-74	256	(0,0)	0.90% Successful
Wier (1983)	1962-79	16	(-10, cancellation date)	3.99% Unsuccessful
Dennis & McConnell (1986)	1962-80	90	(-1,0) (-6,+6)	-0.12% +3.24%**
Jarrel, Brickley & Netter (1987)	1962-85	440	(-10,5)	+1.14%**
Bradley, Desai, & Kim (1988)	1963-84	236	(-5,5)	+1 %**
Jarrel & Poulsen (1989)	1963-86	461	(-5,5)	+0.92%**
Lang, Stulz, & Walkling (1989)	1968-86	87	(-5,5)	0%
Loderer & Martin (1990)	1966-84	970 3401	(-5,0)	+1.72%** 1966-68 +0.57%** 1968-80

Study	Sample Period	Sample Size	Event Window (Days)	Cumulative Abnormal Returns
		801		-0.07% 1981-84
Smith & Kim (1994)	1980-86	177	(-5,5) (-1,0)	+0.50% -0.23%
Schwert (1996)	1975-91	666	(-42,126)	+1.4%
Maquieira et al. (1998)	1963-96	55 47	(-60,60)	+6.14%** non-conglomerate deals -4.79% conglomerate
Lyroudi, Lazardis, & Subeniotis (1999)	1989-91	50	(-5,5)	0%
Eckbo & Thorburn (2000)	1964-83	1261	(-40,0)	+1.71%**
Leeth & Borg (2000)	1919-30	466	(-40,0)	+3.12%**
Mulherin (2000)	1962-97	161	(-1,0)	+0.85%**
Kohers & Kohers (2000)	1987-96	961 673 1634	(0,1)	1.37%** cash deals 1.09%** stock 1.26% whole sample

***Significant at the 0.05 level or better*

Source: Adapted from (Bruner, 2002)

For the positive abnormal returns there were also large variances. The largest statistically significant positive short-term cumulative abnormal return was +6.6% whilst the smallest was +0.57%. There was a wide range of sample sizes, with them being between 16 and 3 401, whereas event windows varied between (0, 0) and (-42, 126).

Thus merger and acquisition transactions have shown either positive, negative or no abnormal returns with a conclusion reached that aggregate abnormal returns to acquiring firms are zero (Bruner, 2002). Most of the above studies focused only on one factor, or maybe a few factors. The principle of equifinality, which states there are various ways to reach the same end result, was not taken into consideration. Understanding which factors and which combination of factors have a potential impact on shareholder wealth creation will assist in predicting which merger and acquisition announcements will create shareholder wealth and which will destroy it.

2.2.2 Event study methodology

Fama, Fisher, Jensen, & Roll (1969) carried out a seminal work on event study methodology. Since then this has become the most widely used method to investigate finance related studies. Masulis, Wang, & Xie (2007) advocated the use of event study methodology in merger and acquisition transactions. According to Krishnakumar & Sethi (2012) short-term event study methodology has been the most popular method adopted by researchers in merger and acquisition transactions. Although this is a widely used and accepted method, caution should be applied as confounding events could have an impact on the results (McWilliams & Siegel, 1997).

Abnormal returns are measured as the difference between the expected and actual return of the share (Krishnakumar & Sethi, 2012). The use of the market model is also preferred to the Capital Asset Pricing Model ("CAPM") (Krishnakumar & Sethi, 2012; Masulis et al., 2007).

The following equation is used to estimate the potential abnormal returns using the market model (Krishnakumar & Sethi, 2012):

$$R_{ik\tau} = \alpha_{ik} + \beta_{mi} R_{m\tau} + \varepsilon_{ik\tau}$$

- $R_{ik\tau}$ is the expected market return
- α_{ik} is the intercept term
- β_{mi} is the sensitivity of the return on the firm to market returns
- $R_{m\tau}$ is the return on the market portfolio
- $\varepsilon_{ik\tau}$ is the error term

An event window for the estimation period of 200 days are typically used ranging from -250 to -50 days before the event. Various timeframes has been used to calculate the short-term event window ranging from (-1, +1) to (-49, +50) to (+25, +100) (Krishnakumar & Sethi, 2012). According to McWilliams & Siegel (1997) shorter time periods are less sensitive to confounding events than longer term studies.

2.2.3 Multidimensional studies

When investors make decisions they look at a multitude of factors, either consciously or subconsciously (Campbell et al., 2016). Aspects that influence their perceptions include historical performance of merger and acquisition transactions and what factors were present at those events. They will also take into consideration their interactions with management and their opinions with regards to the success of prior merger and acquisition transactions.

Papadakis & Thanos (2010) argued that merger and acquisition performance should be studied more holistically as multi-dimensional, since one-dimensional studies may be to blame for the contradictory results. Most of the research on short-term share price performance only focus on the wealth gains or losses to shareholders from cumulative abnormal returns after the announcement of a merger or acquisition. Papadakis & Thanos (2010) compared the cumulative abnormal returns, managers' subjective assessments and operating financial performance and found no correlation between the cumulative abnormal returns and either the managers' subjective assessments or operating financial performance.

As can be seen from the above there have been contradictory results to both operating performance and short term share performance. This can be because of various reasons, or a configuration of factors that impact on the reason. For short term share performance studies, work from the social sciences or behavioural economics should be employed, as humans are multidimensional, social creatures. Various multidimensional studies has been done using either different factors, different measures of performance as well as the different schools of thought. Papadakis & Thanos (2010) compared the results between accounting measures, stock market returns as well as management's subjective assessment. Regression analysis that used explanatory variables such as whether it was foreign or domestic, related industry, etc. has also been used to determine the main sources of value creation in foreign acquisition announcements (Kohli & Mann, 2012).

A more holistic approach that focused on European SME's as a centre of growth has also been taken (Bauer & Matzler, 2014). This has been done by combining three schools of thought into one model (strategic management, organisational behaviour and organisational process) to generate a deeper understanding of the interdependencies (Bauer & Matzler, 2014).

Campbell et al. (2016) undertook a multidimensional study by using fuzzy-set methodology to focus on configurations of nine factors that created the most shareholder value. They found various configurations leading to both good and bad reactions.

2.2.4 Fuzzy-set methodology

Investors are likely to seek patterns and integrate pieces of information into a whole especially as ambiguity increases (Rindova, Ferrier, & Wiltbank, 2010). Thus they are more likely to look at merger and acquisition transactions as a cohesive whole dependent on multiple configurations or gestalts rather than individual factors (Campbell et al., 2016).

Fuzzy-set methodology study cause and effect, which of the various factors and configurations of factors cause performance either bad or good in merger and acquisition transactions. It organises complex cause and effect relationships through typologies that offer configurations that can be used to forecast differences in an outcome of interest. (Fiss, 2011).

Gestalts or typologies are highly successful in portraying cause and effect relationships but also have significant challenges. Their most appealing features, the holistic approach and the combination of complexity with parsimony, are also their greatest disadvantage as theorising usually ends once the typology is identified and the causal mechanism that drives it are not understood (Fiss, 2011). Configurational analysis highlights the principle of equifinality, which refers to the fact that there are different routes to the same result (Fiss, 2007).

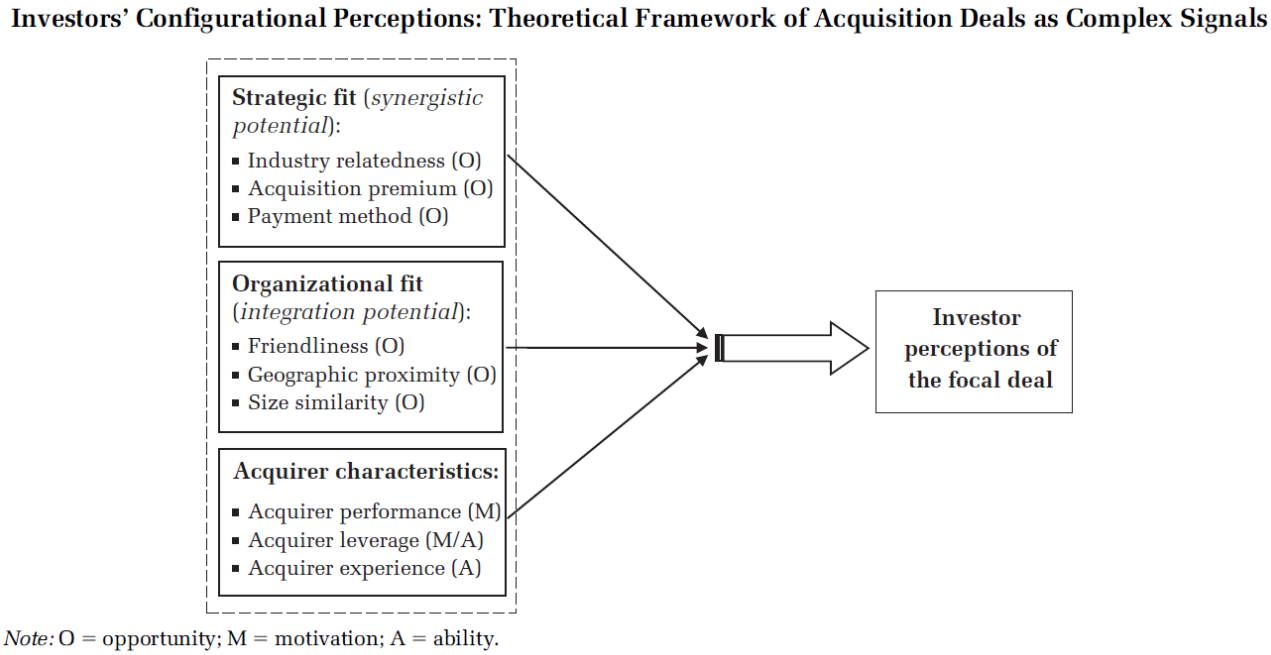
2.3 Factors that influences merger and acquisition performance

The model from Campbell et al. (2016) in Figure 2.1 below identified nine factors that impact on investor perception. They further classified these in strategic fit which encompasses industry relatedness; acquisition premium and payment method; organisational fit which includes friendliness, geographic proximity and size similarity; and finally acquirer characteristics which includes acquirer performance, acquirer leverage and acquirer experience. Another study analysed the relationships between

leverage, premium, payment method and cross-border and their impact on shareholder wealth (Hu & Yang, 2016). Previous studies discussed the interplay between cultural fit, strategic complementarity or industry relatedness and the speed and degree of integration (Bauer & Matzler, 2014). Further studies debated the interactions between size, governance, deal attitude and speed of deal closure (Humphery-Jenner & Powell, 2014). Based on the above studies as well as other studies the following factors were deemed to be the most important for this research and discussed in more details below: Relatedness, size similarity, acquisition experience, cross-border versus domestic, deal attitude, leverage, payment method and premium.

In most of the studies there were different findings between different researchers. For example, some found when stock is the payment method the premium tends to be higher. The findings were in most cases looked at in isolation. This study aimed to redress that and took a consolidated view of all the factors that could influence – for example looking at if the transaction is cross-border or not in combination with all the other factors. Cross-border transactions tend to be paid in cash and not stock (Urbšienė, Nemunaitytė, & Zatulinas, 2015). By looking at combination for premium between cross-border, stock etc., a more informed view can be taken.

Figure 2.1 – Configuration perceptions of investors



Source: (Campbell et al., 2016)

2.3.1 Relatedness (Strategic fit)

Rahman & Lambkin (2015) through an in-depth study of 45 mergers and acquisitions transactions in the United States of America between 1990 and 2000 found the ratio of sales and administrative expenses to sales reduced and there was a growth in sales revenue but there was no improvement in the return on sales. They speculated this might have been due to higher production costs as these merger and acquisition transactions took place in highly related industries. They furthermore stated if the merger and acquisition transactions takes place in a mature industry between firms with low sales growth there is little reason to expect the combined firm will increase its growth. This is another reason that return on sales might not improve.

Historically the majority of mergers and acquisitions literature had assumed that relatedness in terms of resource or product market similarity would lead to improved post-acquisition success (King, Dalton, Daily, & Covin, 2004). Based on a detailed analysis of the quality and pricing of various products acquired through merger and acquisition transactions evidence was found of value creation (Sheen, 2014). Furthermore there is a convergence of quality when two manufactures merge with related economies of scale and a drop in prices (Sheen, 2014). This is in contrast to the study done by Rahman & Lambkin (2015) that showed the realisation of synergistic benefits are the exception and not the norm.

In addition to this King et al. (2004) suggested that not only similarity but complementarity of resources and products should be researched as this could lead to increased post-merger and acquisition success. Recently there has been an increase in research on strategic, resource and product complementarity. Bauer & Matzler (2014) claimed based on their study of SMEs in Europe that strategic complementarity is more important for post-merger success than similarity. Research further suggests that firms that diversify have less economies of scale to pursue but retain more brands and have an overall higher market share (Sheen, 2014).

Although acquisitions and mergers between firms with complementary resources and technologies allow the acquirer to learn, this might not be the main source of value (Grimpe & Hussigner, 2014). A bigger source of value for which firms are willing to pay a premium is the pre-emptive patents that allow the firms to learn, to threaten competitors and to secure market exclusion (Grimpe & Hussigner, 2014).

2.3.2 Size similarity (Integration potential)

As an emerging economy South Africa invests in both other emerging economies as well as developed economies. Emerging economies are often characterised by weak governance environments. In a weak governance environment in an emerging economy, investment in a larger firm could earn significantly higher announcement returns as well as have an increased likelihood of better operating performance (Humphery-Jenner & Powell, 2014). This could be as a result of the fact that larger firms often have political connections and market power and that the deals are completed faster (Humphery-Jenner & Powell, 2014).

In contrast to the findings above, a study of publicly listed American corporations between 1990 and 2007 found that the acquisition of a large target destroys more shareholder wealth than the acquisition of a smaller target (Alexandridis, Fuller, Terhaar, & Travlos, 2013). In addition research has found that the premium paid for large acquisitions are in general less than for smaller acquisitions (Alexandridis et al., 2013). Bauer & Matzler (2014) found that relative size determines cultural fit and as relative size increases the potential for common ground decreases.

A study done by Humphery-Jenner & Powell (2011) on Australian firms that had no anti-takeover provisions found they had value-enhancing take-overs by large firms, both in the short run and long run operating performance. This suggests the market for corporate control was functioning well as firms that did not do value-additive take-overs were taken over themselves.

2.3.3 Acquisition experience

There has been mixed results on the influence of prior acquisition experience on post-merger operating financial performance from the academic literature (Bauer & Matzler, 2014). Various theories from the social sciences have been applied to how firms learn and how this applies to merger and acquisition transactions.

Transfer theory of learning refers to the process by which certain experiences influences subsequent actions (Ellis, Reus, Lamont, & Ranft, 2011). Prior acquisition experience that related to size, cultural and industry similarity was used by Ellis et al., (2011) to investigate acquisition experience on subsequent performance. They found that only if the experience is applied in similar circumstances will it be positive, otherwise it can be

negative. Evidence from a study of more than 700 French firms' acquisitions in the United States of America also concluded that although firms might learn from smaller failures, large failures are damaging to future merger and acquisition activities (Meschi & Métais, 2015).

The diversity of the top management teams could also have a positive impact on learning from prior acquisition experience. Diverse top management teams learn more from prior acquisition experience and have less acquisitions (Nadolska & Barkema, 2014).

Research done by Buckley et al. (2014) indicated that only specific types of experience increase the performance of the target; and prior acquisition experience is not always advantageous and might even have undesirable consequences. Experience is very type specific, if the emerging market multi-national has experience in Greenfield investment it can't be transferred to acquisition experience. In contrast to the resource based notion that intangible assets are more important, investment in a manufacturing concerns is largely dependent on the emerging market multi-nationals' tangible assets. For emerging market multi-nationals intangible assets have an insignificant performance impact, which is consistent with the view that emerging market multi-nationals invest in developed markets to source intangible assets rather than to transfer knowledge and intangible assets. There are also differences between acquisitions in developed and developing markets which impact on the acquisition experience (Buckley et al., 2014).

A study done on Indian firms during the period 1995 – 2011 also found the more acquisitions a firm did, the lower were the announcements returns (Banerjee et al., 2014). The study didn't offer any further explanations as to why, but noted the more acquisitions that have been made the lower the announcement returns.

2.3.4 Cross-border vs Domestic (Integration potential)

Cross-border transactions have been undertaken for a variety of reasons such as technological opportunities, strategic resources, product differentiation, etc. (Sun, Peng, Ren, & Yan, 2012). Sun et al. (2012) further argued that companies from emerging economies engaged in cross-border acquisitions to gain a comparative ownership advantage driven by dynamic learning, institutional facilitation and constraints, national-industrial factor endowments, reconfiguration of the value chain and value creation.

Studies of ASEAN countries and Polish multi-nationals found a deterioration in operating performance of the combined firm after a cross-border merger and acquisition transaction (Klimek, 2014; Rao-Nicholson, Salaber, & Cao, 2015), even though in the case of the multi-nationals their size and market power improved (Klimek, 2014). This was especially true for transactions taking place during a financial crisis (Rao-Nicholson et al., 2015),

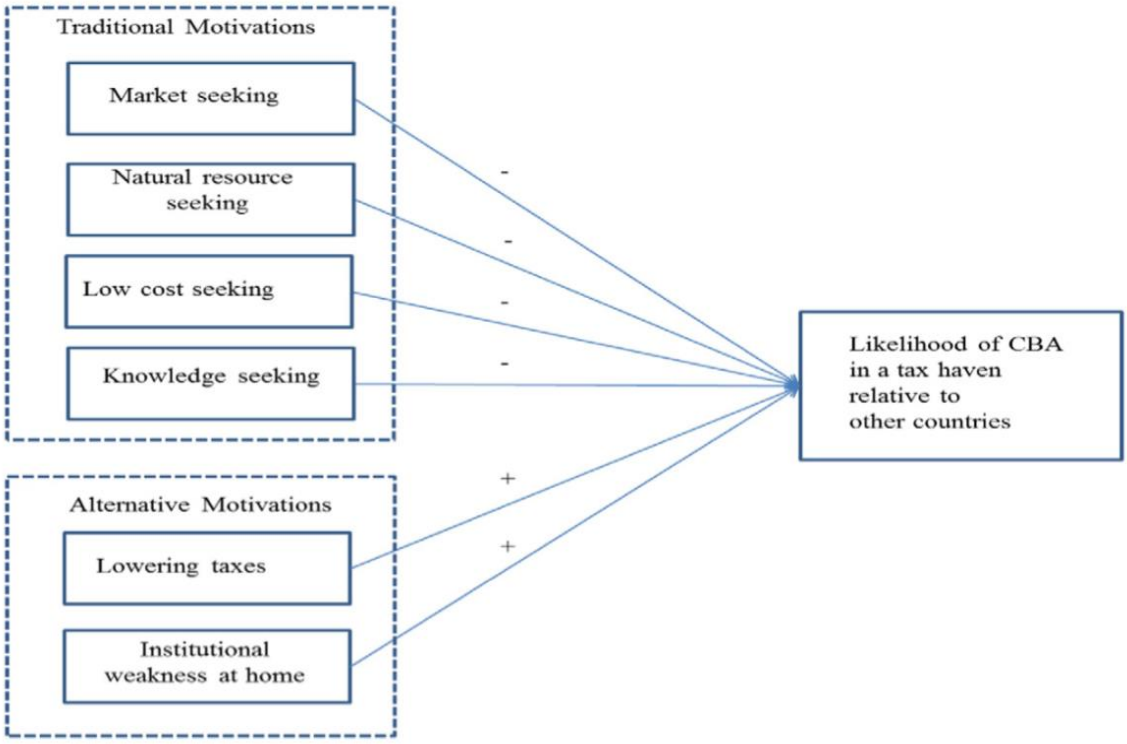
Research done by Buckley et al. (2014) showed the target firm's performance in a developed country is influenced by the idiosyncratic resources held by the emerging market multi-national as they explained how target firms benefit from resources owned by other parts of the organisation, exploit complementarities and became part of a wider network.

Research into cross-border merger and acquisition transactions from developed economies contend that the different institutional contexts of the home country is of importance (Jones & Temouri, 2016). The authors further argue there is an increased likelihood of a subsidiary in a tax haven if the firm is located in a more liberal market economy in contrast to the firm located in a more coordinated market economy (Jones & Temouri, 2016).

Emerging market economies also engage in cross-border merger and acquisition transactions to tax havens (Chari & Acikgoz, 2016). Research done by Chari & Acikgoz (2016) on the top ten emerging market economies who engages most in cross-border merger and acquisition activities, showed that 18% of all cross-border mergers and acquisitions were to tax havens in 2010. This was contrasted to only 7% of cross-border merger and acquisition activities from advanced economies to tax havens.

Traditionally cross-border merger and acquisition activities were undertaken for market, knowledge, natural resource and low cost seeking (Chari & Acikgoz, 2016). This has been augmented from an emerging market perspective with searches for tax savings and because of institutional weakness in the home country (Chari & Acikgoz, 2016). These can be seen summarised in Figure 2.2 below.

Figure 2.2 – Emerging market cross-border transactions



Source: Chari & Acikgoz (2016)

2.3.5 Deal attitude

Active resistance, such as white knight or golden parachute complicates valuation and integration. Research by Campbell et al. (2016) found that antitakeover provisions complicates valuation and integration, and research done by Atanassov (2013) found antitakeover provisions or laws stifle innovation. This was measured as the number of patents filed. This can be mitigated by alternative governance provisions such as leverage, large shareholders, product market competition and pension fund ownership.

Work done by Krishnan, Masulis, Thomas, & Thompson (2012) found that deals subject to shareholder litigation have significantly lower completion rates but much higher premiums when completed. The shareholder litigation substitutes for rival bidders and low-ball bids during waves of friendly single-bidder offers. They further found the offer-price adjustment is significantly higher for litigated offers than non-litigated offers. The expected rise in share premium offsets the fall in probability that the deal will go through, but this is not fully anticipated in the stock reaction.

2.3.6 Leverage

A study that used international databases that has information from both developed and emerging markets, Hu & Yang (2016) found that firms with higher leverage are less likely to undertake a cross-border merger and acquisition transaction, but are more likely to be the target of such a transaction. Highly leveraged acquirers' offers contain a lower cash element and they pay a lower premium (Hu & Yang, 2016; Uysal, 2011). In most instances cash funded implies that it is actually debt funded (Karampatsas, Petmezas, & Travlos, 2014). Hu & Yang (2016) further found overleveraged acquirers are more inclined to offer stock payments when undertaking cross-border mergers and acquisitions. They also raise more equity on capital markets after the deal, whilst under-leveraged acquirers tend to increase their leverage after the deal.

Hu & Yang (2016) found that leverage plays an important role in market reaction to cross-border merger and acquisition announcements as there is a positive correlation between leverage and short-term abnormal returns. A study done by Uysal (2011) similarly found the market reacts favourably to acquisition announcements from overleveraged firms. This could be because the overleveraged firms are more selective with regards to their target choices. This also offers support for the view that investment choices are influenced by a firm's capital structure (Uysal, 2011).

Uysal (2011) that there is a significant negative effect of overleverage on acquisitions made by overleveraged firms, but the inverse is not true for under-leveraged firms. Furthermore the study suggested overleveraged firms change their capital structure when they anticipate an acquisition through the issue of equity to reduce their leverage ratios. The study concluded that both acquisition choices and structures influence a firm's target capital structure.

2.3.7 Payment method

The various methods to pay for merger and acquisition transactions include: cash, debt (leverage), stock, earn-out payments or a combination of these. All of these have different impacts on the short-term share price performance. Research has found that cash acquisitions have improved the cash flow performance significantly (Ghosh, 2001). In addition earn-outs have outperformed cash offers but not stock offers (Kohli & Mann, 2013).

Bidders that used earn-out payments generated materially higher announcement and post-acquisition value gains as the earn-outs were used to mitigate the cost of information asymmetry and valuation risk (Barbopoulos & Sudarsanam, 2012). Earn-outs are also used to motivate to retain managers and share the risk of future performance (Kohli & Mann, 2013). Uncertainty with regards to the target's future value as well as an increase in the earn-out period should increase the earn-out ratio of the deal (Lukas, Reuer, & Welling, 2012).

Studies done by Kumar & Bansal (2012) in domestic merger and acquisition activities in India found positive statistically significant returns for a multi-day event window around the announcement for acquisitions financed by cash rather than stock.

The risk aversion of both buyer and seller is expressed through the design of an optimal mixed payment scheme. The buyer queries the true value of the assets and the seller, who is paid in shares, have reservations about the future synergies (de La Bruslerie, 2012). A cash payment method could be the result of expected acquisition gains above a minimum threshold as well as from contextual pressures or challenges for control (de La Bruslerie, 2012, 2013). He further found the method of payment and the premium are interdependent with a positive relationship between them, a higher premium goes with higher levels or full cash payments. Additionally firms with a high stock value and high growth potential don't finance through equity. A shortfall of both these studies is that investor perceptions weren't tested, only the ideal structure from an acquirer and target perspective.

Gao (2011) confirmed prior research done that acquirers who paid with stock whilst they had cash reserves signalled that their stock was overvalued. This can be either attributed to agency cost of free cash flow or adverse selection.

Vermaelen & Xu (2014) examined to which extent payment method could be explained or predicted by market timing or fundamental reasons such as capital structure. They found in the majority of cases it can be predicted. Some exceptions are; in some cases when the models predicted stock payments, cash was used instead and significant unpredicted positive abnormal returns were experienced for up to two years afterwards. When cash was predicted and stock was offered instead, the bids were in generally hostile and failed.

Cash funded usually means debt funded (Karampatsas et al., 2014). There is also a positive relationship between the bidder's credit rating and a cash payment method.

Unused debt capacity between the counter parties determines the choice of cash method which further corroborates the credit rating assumption.

Boateng & Bi (2014) found in a study in China that stock-financed acquisitions outperformed cash-financed acquisitions but the structures of Chinese corporates should be kept in mind as well as the fact that this study was undertaken during the boom time of Chinese markets. They also found overvalued firms have a powerful incentive to acquire using stock, which is similar to results from developed market studies.

2.3.8 Premium

There are many reasons for firms to pay a premium, it could be the belief that the target's stock is undervalued, or the acquirer wants to pay with its own overvalued stock. The premium a firm pay is important as it impacts the return on investment going forward. A seminal work done on hubris by (Roll, 1986) states that managerial hubris is as much of a reason for offering a high premium as taxes, synergies and inefficient target management. Firms from emerging countries might pay a higher premium when they invest in developed countries due to national pride (Hope, Thomas, & Vyas, 2011; Lebedev et al., 2014).

With the option of stapled finance, the playing field is more level with the result of more aggressive bidding and thus higher premiums paid (Povel & Singh, 2010). Stapled finance is where financing is added on by the investment bank as an optional extra to assist the bidder to make a good offer. The seller has to compensate the investment bank for the cost of the loss-making loans, but the beneficial effect from the stapled finance more than offsets this (Povel & Singh, 2010).

Another reason for a premium paid could be anchoring bias. Malhotra, Zhu, & Reus (2015) argued that anchoring bias has an effect on premiums paid as the acquisition premiums are based on similar sized deals that directly precedes the current deal.

A study done by Urbšienė et al. (2015) confirmed prior research that developed market acquirers tend to pay lower premiums than emerging market acquirers. They illustrated this through a study that showed premiums paid by Chinese acquirers for companies in Europe are nearly double that from European acquirers for similar companies in Europe.

Various social identity theories have been investigated why corporate boards behave in certain ways. Group polarisation theory suggests that if directors leaned towards a

higher premium based on past deals that after a board meeting they would be willing to pay an even higher premium. If they leaned towards a low premium after a board meeting the premium would be even lower after the meeting. Minority acquisition expertise and the degree of demographic homogeneity among directors reduced group polarisation significantly. Group polarisation is a distinct and fundamental group decision making bias. (Zhu, 2013)

Premiums paid can be for synergies, yet Ismail (2011) found that synergies don't explain the increase of non-value-maximising merger and acquisition pursuits of some firms. Overpayment by acquiring firms are more likely if they perceive an opportunity as a good investment. This can be due to low growth potential, if the target firm is large and has higher pre-merger operating performance and greater growth potential.

Work done by Simonyan (2014) had four different reasons for premium. First, market misevaluation was higher during periods of market undervaluation and investor pessimism as well as the inverse. It was also positively related to stock market volatility and negatively to prior stock market return. Secondly, the premium paid in recent past was positively correlated. Thirdly, regulated industries just before deregulation had significantly lower premiums than deregulated industries. Lastly, industries in a consolidation phase commanded higher premiums.

Most of the recent research about the impact of gender on board representation on merger and acquisition activities has been consistent. Research has shown there is an inverse association between female board participation and the number and size of merger and acquisition transactions (Chen, Crossland, & Huang, 2016; Dowling & Aribi, 2013; Levi et al., 2014)

Based on social identity theory, boards with greater female representatives will have more rigorous debates and take longer to reach decisions with increased thoroughness in decision making and comprehensiveness (Chen et al., 2016). Studies done on American and British firms found that the higher the female representation on a board the lower the level of both large and small acquisitions (Dowling & Aribi, 2013; Levi et al., 2014) and the lower the premium paid (Levi et al., 2014). This might be because women are less overconfident than men and less motivated by empire building (Levi et al., 2014).

2.6 Summary and conclusion to the literature review

In summary, based on a review of the available literature, there are a variety of factors that could potentially have an impact on shareholder perceptions of merger and acquisition announcements as measured by short-term share price performance. Despite the popularity and growth in merger and acquisition transactions the configurations of factors that lead to positive and negative shareholder reactions are not known. This is especially true in the case of emerging markets.

The standard methodology used when undertaking short-term share price performance studies, especially to calculate cumulative abnormal returns, is event study methodology. Short-term event studies are better than long-term studies as they are less sensitive to confounding events. Furthermore, fuzzy-set methodology can be useful.

The eight factors above and the potential motivations behind them are well known to investors. In cases where they suspect potential hubris or any other negative motivation or combination of motives, they will show their displeasure with the resultant negative cumulative abnormal returns. In case of the opposite where they think it is a good deal there will be positive cumulate abnormal returns.

Based on the literature survey, this study aimed through the application of event study methodology to calculate the cumulative abnormal returns and use these in the fuzzy-set qualitative comparative analysis. This was used to evaluate which configuration of factors led to positive shareholder reactions and which configuration of factors led to negative shareholder reactions.

Chapter 3: Research Question

The purpose of the research is to determine what configuration of factors are important to investor perceptions in the emerging market of South Africa as witnessed by changes in short-term share price performance. The literature review provided an overview of factors studied that have an impact on merger and acquisition success as well as short-term share price performance.

According to the literature review event studies should be used to study short-term share performance. The following research question will be tested:

3.1 Research Question:

Based on the principal of equifinality, there are unique configurations that lead to positive investor reactions as witnessed by short-term share price performance which are asymmetrical to the configuration of factors that lead to negative investor reactions.

Chapter 4: Research Methodology

4.1 Introduction

The purpose of the research is to determine which configurations of factors have either a positive or a negative impact on investor perceptions of acquiring companies listed on the Johannesburg Stock Exchange. Extant knowledge from the literature review was used to select the appropriate methods to analyse the configuration of factors as well as selecting the factors that should be included in the study.

A quantitative research design was used with data from secondary data sources to test it. Saunders & Lewis (2012) states that data from secondary sources are the best way to do time series studies as the data has been collected in a consistent way over a period of time. Secondary data is also good as the data is already in the public domain and available in software compatible forms (Saunders & Lewis, 2012).

The population was drawn from the Thomson Reuters DataStream database accessible through the Gordon Institute of Business Science Information Centre. Company specific information including financial ratios were obtained from the McGregor BFA database also accessible through the Gordon Institute of Business Science Information Centre. The data collected included share price and index information and key financial ratios such as leverage.

To analyse the configurations of factors that impact investor perception as measured by short-term share price performance, the short-term share price performance first had to be calculated.

Short-term share price performance was calculated using standard event study methodology. The following is discussed in more detail below:

- The length of the event study window; and
- The application of the market model.

To analyse the configurations fuzzy-set qualitative comparative analysis was used. Details included below:

- Fuzzy-set qualitative analysis explained

The research design, method and unit of analysis, population, sampling method, data collection, and analysis process are also discussed.

4.2 Short-term announcement returns

Event study methodology was used to evaluate if there were any abnormal effects on share price performance as the result of an unanticipated corporate event or announcement. The study was performed to calculate the cumulative abnormal returns to use as an input to analyse the factors that has an effect on investor perceptions of merger and acquisition success.

According to McWilliams & Siegel (1997) event study methodology is popular as it is not as easy for insiders to manipulate stock prices as accounting profits. Additionally they state stock prices are supposed to reflect the true value of firms as they are the discounted value of all future cash flows and all other relevant information is incorporated. A later study done by Krishnakumar & Sethi (2012) found event study methodology is the most popular practice used by researchers to determine the share price performance at the occasion of a merger or acquisition announcement.

The following assumptions must be valid to apply an event study methodology (McWilliams & Siegel, 1997):

- Efficient markets – this implies that share prices incorporate all relevant, available information and any new information is rapidly incorporated into the share price. It also implies the use of a short event window, as a long even window assumes market inefficiency;
- Unanticipated events – there has been no previous hint of the event, traders only gain information through the announcement. Any abnormal returns can therefore be assumed to be a result of the announcement. If there had been any leakages with regards to the event, the use of event study methodology is problematic; and
- Confounding events – this is based on the claim that there are no other events that could influence the outcome, there are no other confounding events.

McWilliams & Siegel (1997) identified the following confounding events that might impact the study:

- announcements of:
  - an impending merger;
  - a new product;
  - unexpected earnings;
- a change in a key executive;
- declaration of dividends;
- filing of a large damage suit; or
- signing of a major government contract.

McWilliams & Siegel (1997) further stated the short-term event window is more appropriate than a longer event window as the longer the event window the more challenging it is to control for confounding events. They advocated an event window of either three or five days. Arık & Kutan (2015) found emerging market firms lose value quicker and thus also encouraged a short event window. Masulis et al. (2007) also advised a short time period should be used to not capture substantial noise.

To provide perspective to the short-term even period, a time period of 200 days should be used to estimate the market model parameters (Chang, Choi, & Huang, 2015; Masulis et al., 2007). This should start 210 days before the announcement date and end 10 days before the announcement date (Chang et al., 2015). Chang et al. (2015), Fischer (2015) and Masulis et al. (2007) all advocated the use of the market model as superior to the capital assets pricing model ("CAPM") to calculate the expected benchmark returns.

4.3 Fuzzy-set qualitative comparative analysis

In chapter two a variety of factors were identified that could influence the perception of investors and thus the short-term share price performance of merger and acquisition announcements. Fuzzy-set theoretic methodology will be used to identify the configuration of factors that lead to both positive investor reactions and negative investor reactions. Fuzzy-set analysis lies between conventional quantitative and qualitative analysis. It combines the complexity of case analysis with a degree of generalisability through formal analysis (Crilly, 2011).

Bell, Filatotchev, & Aguilera (2014), Campbell et al. (2016) and Fiss (2011) used Fuzzy-set theoretic methodology to test investors' perceptions with regards to corporate events such as mergers and adquisitions, initial public offereings (IPOs) and organization research. Set theoretic methodology is especially useful where a number of factors are involved and where the winning combination of factors are not sure.

A set theoretic methodology uses configurations and is based on the concept of equifinality, that is dependent on the way that various factors are arranged they will lead to different outcomes or stated differently there are various combinations of factors that will lead to the same result (Crilly, Zollo, & Hansen, 2012; Fiss, 2007; Ragin, 2006a). Whilst non-linearity and equifinality is thus stressed, empirical research has largely focused on statistical methods such as linear regression. This has resulted in various disparities where linear regression for example treats variables as competing instead of focusing on the configurations of the various combinations of factors and their outcomes (Fiss, 2007). Set-theoretic methodology is also based on asymmetry, the presence or absence of particular factors leads to different outcomes in contrast to a correlation approach where the presence of a factor lead to a certain outcome and the absence of the factor leads to the opposite outcome (Crilly et al., 2012; Fiss, 2007, 2011).

4.4 Research Design

A causal design was followed as the main purpose of the study was to understand the effects various configurations of factors have on investor perceptions as evidenced by the short-term share price performance (Saunders & Lewis, 2012).

Information was retrieved from the Thomson Reuters DataStream and McGregor BFA databases accessible through the GIBS Information Centre in order to study the impact the factor configurations have on the short-term share price performance.

The following steps were taken in the design:

- The identification of listed acquiring companies on the Johannesburg Stock Exchange from the Thomson Reuters DataStream database;
- A clean up of data to obtain a final sample of companies for analysis;
- Short-term share price performance was calculated and analysed for abnormal performance, both positive and negative;

- The configurations of causal factors that lead to positive or negative short-term share price performance were determined.

4.5 Method of analysis

Statistical tests were done through utilisation of the Data Analysis tool and Data Analysis Plus add-in in Microsoft Excel. Regression analysis on the share price for all companies in the sample was calculated and used to determine cumulative abnormal returns.

The research question with regards to the configurations of causal factors impact on short-term share price performance was tested using fuzzy-set qualitative comparative analysis ("fsQCA") software developed by Ragin, Drass, & Davey (2006). This software is freely available from the University of Arizona's Department of Sociology's website and has been widely used in fuzzy-set qualitative comparative analysis tests, such as studies done by Campbell et al. (2016); Crilly (2011) and Crilly et al. (2012).

4.6 Unit of analysis

The unit of analysis was the share price and financial information of an individual company listed on the Johannesburg Stock Exchange that had announced, as the acquiring company, a merger or acquisition transaction. The unit of analysis for the short-term share price performance was the listed acquirer's share price. The unit of analysis for the configuration of factors was the cumulative abnormal returns calculated from the listed acquirer's share price.

4.7 Population

The population included all acquiring companies who announced a merger or acquisition transaction and were listed on the Johannesburg Stock Exchange. Data was sourced from the Thomson Reuters DataStream database which has a record of global merger and acquisitions statistics. From this data the sample was selected.

4.8 Sampling method

The ideal methodology would have been probability sampling, however given the insufficient quantity of announcements with all factors present, the sample was selected based on purposive sampling (non-probability sampling). In contrast to statistical tests, this is not a problem for fuzzy set qualitative comparative analysis as it does not require large sample sizes or probability sampling (Fiss, 2011).

The criteria for the sample was:

- Acquiring company must be listed on the Johannesburg Stock Exchange.
- There must be a merger and / or acquisition where control was obtained. According to accounting standards at least 50% of the firm needs to be acquired for control
- Data for all the factors tested must be available for both the acquirer and the target
- Share price data for the period must be available for the acquiring company.

4.9 Data collection process

The study utilised secondary data obtained from Gordon Institute of Business Science Information Centre Databases and publicly available information.

The following sources were used:

- The Thomson Reuters DataStream database to identify, for acquiring companies listed on the Johannesburg Stock Exchange, merger and acquisition announcements. The following factors were included in the data downloaded:
    - cross-border in nature / where the target was located
    - four-week premium
    - number of acquisitions
    - consideration structure
    - acquirer and target macro industry
    - deal attitude
    - acquirer and target total assets to calculate the size of the acquisition
- McGregor BFA for company specific data such as the historical share prices and leverage ratios.

4.10 Data analysis process

The analysis of the data took place in three distinct phases as noted under Research Design:

Phase One: Merger and acquisition announcements

The Thomson Reuters DataStream database was used to identify all announcements in which a South African company acquired more than fifty percent of the assets or the shares of a target as this translates to control. Other factors that were included in this list was whether the transaction was cross-border in nature, the main industries of both the acquirer and the target, and the consideration structure of the deal – whether it was paid in cash, shares, or combination. As well as whether the deal was friendly, hostile or neutral and the four-week premium paid / offered. The announcement date for each of the transactions was recorded. The list included both listed and unlisted companies, it also showed whether the ultimate parent was listed in case when the acquirer was unlisted. Only listed companies were used to test the investor perceptions.

The detailed steps taken to obtain and clean the data are described below:

- The data was obtained in the form of an Excel spreadsheet from the Thomson Reuters DataStream database. This included all mergers and acquisitions of at least fifty percent of either the assets or the share capital for all acquiring South African companies between the period 1 January 2000 and 22 July 2016. The following factors were also selected to be included in the Excel spreadsheet:
    - details of both acquirer and target size;
    - whether the deal was friendly, hostile or neutral;
    - the consideration structure – whether cash, stock or a combination;
    - the experience of the acquirer, i.e. how many acquisitions have been undertaken;
    - whether the deal was cross-border in nature and in which country was the target;
    - the industries of both the acquirer and the target;
    - the four week prior to announcement premium

Where data was missing for any of the above factors the merger or acquisition was removed from the sample.

- Acquirers that were not listed on the Johannesburg Stock Exchange were removed from the sample. In the case where the ultimate parent of the acquirer was listed their details were used.
- Where more than one acquisition was announced on the same day by the same acquirer, all the transactions were excluded from the sample as it would be impossible to identify which factors caused the change in the share price.
- Where it was not possible to obtain historical share prices or financial information for an acquiring company from the McGregor BFA database, it was excluded from the sample.

Phase Two: Cumulative abnormal returns

The daily returns and the daily expected returns were calculated for the listed companies that remained in the sample after the data was cleaned in phase one. The difference between the two were the abnormal returns.

Cumulative abnormal returns were calculated using standard event study methodology that employs the market model as specified by Brown & Warner (1985) as referenced by Vermaelen & Xu (2014) and Fischer (2015). The FTSE JSE index was used as the market portfolio. The event study was calculated over a period of five days as suggested by Masulis et al. (2007) as it captures most of the announcement returns without the noise. The event study started two days before the announcement and ended two days after the announcement. A relatively short time frame was used as Arık & Kutan (2015) noted that emerging market firms lose value quicker.

Both Masulis et al. (2007) and Chang et al. (2015) stated that a time period of 200 days should be used to estimate the market model parameters. Masulis et al. (2007) also confirmed that a short time period should be used to not capture substantial noise.

Chang et al. (2015) used a period of 200 days starting 210 days before announcement date and ending 10 days before for the market model. The equation for the market model used by them and Soongswang (2011) is:

$R_{ik\tau} = \alpha_{ik} + \beta_{mi}R_{m\tau} + \varepsilon_{ik\tau}\ \forall\tau \in [-210, \cdots, -11]$,

$R_{ik\tau}$ is the daily return for target *i* with acquirer *k,* and $R_{m\tau}$ is the market return.

Standard practise was followed and the β_{mi} was used to compute a predicted abnormal return for the event window and subtracted from the actual return to arrive at a cumulative abnormal return with the following formula:

$$\mathrm{CAR}_{ijt}[\pm d] \equiv \left\{ \prod_{\tau=-d}^{+d} (1 + \hat{\varepsilon}_{ij\tau}) \right\} - 1 \quad \forall d \in \{2\}$$

Phase Three: Analysis of the configuration of factors that investors find significant

The cumulative abnormal return calculated in Phase Two was added to the Excel extract obtained in Phase One. Additionally, the leverage of the acquirer, identified as the debt to equity ratio, was downloaded from the McGregor BFA database and added to the Excel spreadsheet.

The data was saved in a comma delimited file format and uploaded into fsQCA. The variables were calibrated through the fsQCA software to a scale between 0 and 1. Where 1 is fully in, 0.50 is the crossover and 0 is fully out (Ragin, 2006b). In order to ensure that no cases were dropped from the data, 0.95 was used for fully in, 0.501 where a small constant of 0.001 was added for the cross-over and 0.05 for fully out (Campbell et al., 2016; Fiss, 2011). Where possible the variables were calibrated to external benchmarks based on the merger and acquisition literature and the sample characteristics (Campbell et al., 2016).

For the discrete variables such as the consideration structure, a cash payment was considered fully in at 0.95, combination of cash and stock payment as the cross-over at 0.501 and a stock payment was considered fully out at 0.05.

After the data was calibrated it was analysed as a fuzzy set truth table algorithm. The truth table is a data matrix that has all the combinations of the various factors. For each row of variables it has the following variables (Ragin, 2006b):

- Number – the number of cases that is higher than the cross-over point of 0,5. It includes the cumulative percentage of cases;
- Consist – the degree to which the membership of that row is a consistent subset of membership of the outcome;
- Pre – alternative measure of fuzzy set consistency based on a quasi-proportional reduction in error calculation;
- Product – the multiplication of consist and pre. This is used to identify gaps in the upper ranges of set-theoretic consistency to establish a consistency threshold for the outcome.

The cases should be classified as relevant or irrelevant based on the frequency which is the number of cases with a membership greater than 0.5. The relevant cases should have a cumulative percentage of at least 75% (Ragin, 2006b). Next the cases should be identified that are consistent subsets of the outcome. The column called consist should have a value larger than 0.75. Anything lower than this indicate substantial inconsistency (Ragin, 2006b).

Once the final truth table is constructed the data should be analysed. The researcher here needs to select whether the factors will have a positive, negative or don't care impact on the final result. The final output will be the complex solution where there are no counterfactuals, the parsimonious where a logically simpler solution is used and the intermediate solution where the input from the researcher whether the factors are positive, negative or no impact were used to create the solutions.

4.11 Data integrity

Reputable databases and sources were used to source data, but despite this data was neither complete nor perfect. The following concerns were identified:

- Historical share prices and financial ratios were sourced from the McGregor BFA database, for the period 2000 to 2016, for each company. It was noted that for some years some of the companies did not contain data. These companies were subsequently removed from the sample.

4.12 Limitations

The following will act as possible limiting elements on the research:

- There might be factors, such as advisors or performance, that could also have had an impact on merger and acquisition success but the data was difficult to put a value on or to find;
- The study was limited to the period 2000 to 22 July 2016 for companies listed on the Johannesburg Stock Exchange. There wasn't sufficient information available to test every one of the years;
- Probability sampling techniques could not be used and judgemental sampling was applied. The study might not be statistically representative of the population as there was sampling bias. The result may therefore not be possible to use to infer factor configurations that apply to all acquiring firms. There might be both positive and negative factor configurations that were not highlighted by the study;
- For the cumulative abnormal returns a more appropriate benchmark would have been either an equal weighted index or a control portfolio;
- Some of the factors such as friendliness was easy counterfactuals, which means that their presence or absence had no impact on the configurations; and
- The number of acquisitions factor was the total acquisitions by the firm as at the date of report, there were no indications as to when they took place.

Chapter 5: Results

5.1 Introduction

This chapter sets out the results of the research question with regards to which configurations of factors lead to positive investor reactions and which configurations of factors lead to negative investor reactions as described in Chapter 3. The detailed discussion of the results is contained in Chapter 6.

Chapter 5 presents the sample obtained, which was then used in the statistical and fuzzy-set qualitative comparative analysis. The results of the event study analysis of the short-term share price performance are presented first as the fuzzy-set qualitative comparative analysis build on these. This is followed by the configurations of factors that lead to positive investor reactions and the configurations that lead to negative investor reactions.

5.2 Sample selection

The sample was generated in distinct phases. The first phase utilised the Thomson Reuters database accessed from the GIBS Info Centre. Data for 1 275 deals was obtained for Mergers and Acquisitions in which more than 50% was acquired, from 1 January 2000 up till 22 July 2016. Next all deals for which no consideration structure (whether the deal was cash, shares, etc.) was available were removed, this left 438 deals. Then all deals for which there were no premium data were removed, and 60 deals were left. Subsequently all acquirers or ultimate parent that was not listed on the Johannesburg Stock Exchange were removed which left a sample of 43. The sample was then visually examined and any anomalies removed, i.e. cases of duplicate entries where two acquisitions were announced on the same day.

Financial and share price information for the sample was downloaded from the McGregor BFA database. In cases where the share price performance was not available for the selected period, the deal was removed from the sample. This left a final sample of 31.

See Tables 5.1 and 5.2 below for details on the sample selected and some descriptive statistics.

Table 5.1 – Sample selected

Number	M&A Deal Number	Target Name	Acquirer Name	Announcement Date	Included in Final Sample
1	1901379040	Ellerine Holdings Ltd	African Bank Investments Ltd	2007/08/20	Included
2	1010105040	African Partnerships Ltd	African Harvest Ltd	2000/03/23	
3	2488668040	Infrasors Holdings Ltd	Afrimat Ltd	2013/01/18	Included
4	1023502040	LTA Ltd	Aveng Ltd	2000/07/10	Included
5	1452481040	Avis Southern Africa Ltd	Barloworld Ltd	2003/11/20	Included
6	1172877040	Credcor Ltd	BOE Ltd	2001/03/27	
7	1823637040	Consol Ltd	Newshelf 809(Pty)Ltd / Brait SE Ltd	2006/12/19	Included
8	2221361040	Clapham House Group PLC	Nandos Group Holdings Ltd	2010/09/17	
9	2424305040	Pangbourne Properties Ltd	Capital Property Fund Ltd	2010/11/24	Included
10	1023483040	Moresport Holdings	Vestacor Ltd	2000/07/06	Included
11	1217494040	Corpcapital Bank Controlling Company Ltd	CorpGro Ltd	2001/07/10	
12	1217488040	Corpcapital Ltd	CorpGro Ltd	2001/07/10	
13	961483040	Dome Resources NL	Durban Roodepoort Deep Ltd	2000/01/12	Included
14	2138083040	Cape Empowerment Trust Ltd	Dynamic Cables RSA Ltd	2009/12/14	
15	2589346040	B&W Instrumentation & Electrical Ltd	ELB Group Ltd	2013/11/04	Included
16	1587850040	Relyant Retail Ltd	Ellerine Holdings Ltd	2004/05/17	Included
17	1421897040	Wetherlys Investment Holdings Ltd	Ellerine Holdings Ltd	2003/07/23	Included
18	2194172040	Barnard Jacobs Mellet Holdings Ltd	FirstRand Ltd	2010/06/21	Included
19	2696070040	Acucap Properties Ltd	Growthpoint Properties Ltd	2014/11/12	Included
20	1372820040	Abelle Ltd	Harmony Gold Mining Co Ltd	2003/02/26	Included
21	1839997040	African Platinum PLC	Impala Platinum Holdings Ltd	2007/02/14	Included
22	2203113040	CIC Holdings Ltd	Imperial Holdings Ltd	2010/07/13	Included
23	1178582040	Tourism Investment Corp Ltd {Tourvest}	Imperial Holdings Ltd	2001/04/26	Included
24	2045219040	JCI Ltd	Investec Ltd	2009/01/22	
25	2560632040	Xceed Resources Ltd	Keaton Energy Holdings Ltd	2013/08/26	Included

Number	M&A Deal Number	Target Name	Acquirer Name	Announcement Date	Included in Final Sample
26	1069167040	Computer Configurations Holdings Ltd	MGX Holdings Ltd	2000/11/13	
27	2424286040	Avusa Ltd	Richtrau 229(Pty)Ltd	2012/06/12	
28	1736327040	Prism Holdings Ltd	Net 1 Applied Technology	2006/02/09	
29	2278595040	Mvelaphanda Resources Ltd	Northam Platinum Ltd	2011/02/08	Included
30	2645547040	Premium Properties Ltd	Octodec Investments Ltd	2014/06/10	Included
31	2043377040	Madison Property Fund Managers Ltd	Redefine Income Fund Ltd	2009/01/15	
32	2043374040	ApexHi Properties Ltd	Redefine Income Fund Ltd	2009/01/15	
33	1831636040	S A Retail Properties Ltd	SA Corporate Real Estate Fund	2007/01/17	Included
34	1207723040	Thuthukani Group Ltd	Saambou Holdings Ltd	2001/06/12	Included
35	1764225040	Real Africa Holdings Ltd	Sun International Ltd	2006/03/27	Included
36	2596311040	Witwatersrand Consolidated Gold Resources Ltd	Sibanye Gold Ltd	2013/12/11	Included
37	1163895040	Relyon Group PLC	Steinhoff International	2001/08/10	Included
38	2472682040	Amalgamated Appliance Holdings Ltd{AMAP}	The Bidvest Group Ltd	2012/11/28	Included
39	1205799040	Paragon Business Communications Ltd	The Bidvest Group Ltd	2001/07/16	Included
40	1006899040	I-Fusion Holdings Ltd	The Bidvest Group Ltd	2000/05/15	Included
41	2431117040	Dangote Flour Mills Plc	Tiger Brands Ltd	2012/07/04	Included
42	2606990040	Control Instruments Group Ltd	Torre Industrial Holdings Ltd	2014/01/13	Included
43	2626868040	David Jones Ltd	Woolworths Holdings Ltd	2014/04/09	Included

Table 5.2- Descriptive statistics

Descriptive Statistics		Initial Sample	Final Sample
Population Size		1,275	
Population Start Date		2000/01/01	
Population End Date		2016/07/22	
Sample size		43	31
Number of acquisitions per year			
2000		6	4
2001		7	4
2002		0	0
2003		3	3
2004		1	1
2005		0	0
2006		3	2
2007		3	3
2008		0	0
2009		4	0
2010		4	3
2011		1	1
2012		3	2
2013		4	4
2014		4	4
2015		0	0
2016		0	0
Form of the deal			
Cash Only		27	21
Stock Only		13	8
Cash and Stock Combination		3	2
Deal Value		**R'm**	**R'm**
Mean		250.87	288.89
Median		67.06	83.40
Standard Deviation		426.83	470.12
Minimum		1.19	3.69
Maximum		2,015.99	2,015.99
Count		43	31
Deal Attitude			
Friendly		40	29
Unsolicited and Neutral		2	2
Hostile		1	1

Descriptive Statistics		Initial Sample	Final Sample
Cross Border Deal			
Yes		9	8
No		34	23
Acquirer experience			
Median		2	2
Standard deviation		4,13	4,69
Minimum		1	1
Maximum		20	20
Sum		127	109
Premium			
Mean		26.86	35.86
Median		21.62	31.13
Standard deviation		40.45	40.99
Minimum		-55.91	-37.50
Maximum		140.59	140.59
Cumulative abnormal returns			
Mean			0.92
Median			-0.22
Standard deviation			6.17
Minimum			-7.37
Maximum			21.99
Industry relatedness			
Same industry		28	19
Different industries / Diversification		15	12
Size similarity**			
Larger target		22*	20
Smaller target		9*	6
Similar sized target		7*	5

**data missing*

***similar size was if the acquirer was up to 1.5 times bigger*

5.3 Short-term share price performance

An event study was used to compute the cumulative abnormal returns (“CAR”) for the sample of 31 companies over a period of five days as advocated by (Masulis et al., 2007). The market model with the JSE FTSE index as the market index around an event window of [-200,-11] was used to calculate the regression equations, with the announcement

date classified as the event date. This was then used to calculate cumulative abnormal returns around a narrowed short term window of [-2,+2]. The regression equations are included as Appendix A.

5.4 Configurational factors

Detailed below are the factors whose impact on investor reactions were tested. They have been calibrated in fsQCA according to the principals detailed below each heading. Refer to Appendix B for details of the factors and calibrations.

5.4.1 Acquirer's experience

The acquirer's experience was calculated by the amount of acquisitions they did (Schijven & Hitt, 2012) from the period 2000 from the information in the sample pulled from the Thomson Reuters DataStream database. Based on a visual evaluation of the information contained in the population (Campbell et al., 2016), 15 prior acquisitions were selected as high experience or fully in (around the 90th percentile), two as the cross-over point (3.4 was the mean and two the median) and one acquisition as low / no experience and fully out. Roughly a third of the data was fully out.

5.4.2 Payment method

Three types of payment methods have been identified: Cash only, cash and stock combination and stock only (Campbell et al., 2016; Golubov, Petmezas, & Travlos, 2012; Uysal, 2011). The cash only has been calibrated as fully in, in roughly two thirds of all the data. The cash and stock combination is the cross-over point and the stock only is fully out.

5.4.3 Geographic proximity

Geographic proximity has been identified as cross-border transactions and operationalised through a three-point ordinal scale (Campbell et al., 2016; Schijven & Hitt, 2012). Transactions that had taken place in the same country (South Africa) has

been identified as fully in, transactions that had taken place on the same continent (Africa) as the cross-over point and transactions that had taken place outside of the African continent as fully out.

5.4.4 Relatedness

Relatedness was operationalised by comparison of the macro industries of the acquirer and the target. If the acquirer and target is in the same macro industry and it is a horizontal acquisition it has been classified as fully in, and a score of zero as fully out when it was an unrelated acquisition (Campbell et al., 2016).

5.4.5 Friendliness

The data downloaded from the Thomson Reuters DataStream database identified the deals as either friendly, unsolicited, hostile or neutral. If the deal has been classified as friendly it has been calibrated as fully in, this was the majority of the deals. If the deal was classified as hostile it was calibrated as fully out and for both unsolicited or neutral has been classified as cross-over (Campbell et al., 2016).

5.4.6 Premium

The data downloaded from the Thomson Reuters DataStream database included the four-weeks' premium to announcement date. The four weeks premium to announcement date was used as advocated by Hayward & Hambrick (1997) and Malhotra et al. (2015). The sample over the period from 2000 to 2016 included all relevant deals in the population with sufficient information. The sample distribution was used to select the thresholds, 92.74 the 90th percentile for fully in; 21.62 as the crossover (50th percentile) and 0 and below for fully out, i.e. the absence of premium (or the 20th percentile).

5.4.7 Leverage

Leverage was taken as the debt-to-equity ratio from the acquirer's capital structure (Campbell et al., 2016). The threshold for high leverage or fully in, was set at 6.186

(approximately the 90th percentile in the sample), the cross-over point was set at 1.05 (the median of the sample), and 0.228 was set as fully out (approximately the 10th percentile of the sample).

5.4.8 Acquirer-target size similarity

The size similarity between the acquirer and the target was measured as the ratio of the acquirer firm's total assets to target firm's total assets (Campbell et al., 2016). This was calibrated as 1 for fully in, which is approximately the 90th percentile of the sample. 0.50 for the cross-over point – the target is half the size of the acquirer; and 0.19, the target is approximately 19% of the acquirer, for fully out which is the median of the sample. The small percentage of the sample of firms where the target firm is in actual fact bigger than the acquirer firm does not change the interpretation. This still signals probable integration complications as this can result in a "merger of equals" of similarly large firms (Campbell et al., 2016).

5.4.9 Investor reactions

Investor reactions are measured through the conventional short-term event study methodology of cumulative abnormal returns. This remains the most commonly used performance metric in both finance and strategy (Brown & Warner, (1985) as referenced by Vermaelen & Xu, 2014); (Fischer, 2015; Haleblian et al., 2009). The cumulative abnormal return is used as the dependent variable as it represents through the unexpected change in stock price the investors reactions to the event (Godfrey, Merril, & Hansen, 2009; McWilliams & Siegel, 1997), whilst it has already taken into account all that was known about the firm previously. An event window of five days was used as advocated by Masulis et al. (2007). A short time period was used to avoid confounding events or noise (Masulis et al., 2007; McWilliams & Siegel, 1997).

Previous studies into merger and acquisition announcements has found that market reaction is in general either neutral or slightly negative (Bruner, 2002; Haleblian et al., 2009; King et al., 2004). Based on this a neutral return of "0%" is set as the cross-over point. Fully in was calibrated as "5%" and fully out as "-5%". These values were chosen that obviously well-received merger and acquisition announcements corresponds to economically large effects. Fully in represented approximately the 83rd percentile. Fully

out represents approximately the bottom 10 percent of all acquisition returns over the period. The mean of the sample was 0.65% and the median -0.22%.

Fuzzy-set qualitative comparative analysis allows for the determination of asymmetric causality. This is the analysis of the factors that leads to the absence of the outcome, or in this case the negative shareholder reactions (Campbell et al., 2016). Thus when the negative shareholder reactions was measured, the causal conditions were measured in the opposite direction and the inverse of the measures above were used (Campbell et al., 2016).

5.5 Analysis

The research done by Fiss (2007, 2011) on organisational typologies or configurations, indicated that the use of either inductive analysis, which consists mainly of cluster analysis, or deductive analysis, which uses deviation score analysis, is inadequate to for a deeper understanding of the causal nature of configurations. Fuzzy-set qualitative comparative analysis, as a subset of set-theoretic methods, is highly suitable for testing configurational theory as it explicitly conceptualize cases as combinations of factors and emphasizes that it is these very combinations that give cases their uniqueness (Bell et al., 2014; Crilly, 2011; Fiss, 2011). Fuzzy-set qualitative comparative analysis do not disaggregate cases into independent, analytically separate cases with positive and negative outcomes as symmetric opposites, but treat configurations as diverse cases with the same outcome achieved through multiple combinations or configurations (Bell et al., 2014; Fiss, 2011). This is a divergence from conventional, variable-based approaches (Fiss, 2011).

Fuzzy-set qualitative comparative analysis was used as this is an analytical technique that allows detailed analysis of causal conditions that contribute to an outcome (Fiss, 2011), in this case investor perceptions with regards to factors that impact on shareholder wealth. This type of analysis uses Boolean algebra and algorithms to allow for the logical reduction of complex, numerous causal conditions to identify the outcome of interest associated with the combinations of attributes / configurations. It is not based on a given probability distribution and as such is nonparametric which make sample representativeness less relevant (Fiss, 2011). Furthermore the data was calibrated based on substantive knowledge and not the sample mean. This reduced sample dependence and the of sample representativeness. It was also conceived as a small-N approach with a sample size between 15 and 40 cases (Fiss, 2011) into which the

sample size used of 31 fits perfectly. Fuzzy-set qualitative comparative analysis combines the factors that give a specific outcome instead of isolating net, independent effects of single factors (Bell et al., 2014). Causal symmetry between positive and negative factors are also not assumed but the principal of equifinality is (Bell et al., 2014).

After all the factors were calibrated, a "fuzzy truth table" was created which is a data matrix that summarised the property space of the eight attributes or factors. Boolean algebra was then used to calculate the property space that consists of 2^k logically possible combinations, where k is the number of causal contributes under consideration (Campbell et al., 2016; Fiss, 2011). The data matrix covers all possible combinations and each row is associated with a specific combination of characteristics. This is further sorted on the basis of the values of the attributes, with different rows having no cases to many cases. (Fiss, 2011).

The truth table is constructed based on the minimum number of cases required in a given configuration for a solution to be considered and a minimum level of consistency (Bell et al., 2014; Campbell et al., 2016; Fiss, 2011). After the frequency restriction was imposed at least 80% of the cases were retained as recommended by literature (Bell et al., 2014; Campbell et al., 2016). A threshold of six cases/configurations, which encompasses 87% of the sample, was employed. Consistency is where there is a consistent key outcome, or the degree to which cases that share a combination of conditions "agree". Furthermore, high consistency indicates a given configuration almost always leads to the outcome of interest; on the other hand, low consistency means a given configuration is not reliably related to the outcome of interest (Campbell et al., 2016). A subset is perfectly consistent based on a value of 1. A priori raw consistency threshold was set at a value greater than 0.75, above the minimum threshold of 0.75 (Campbell et al., 2016; Ragin, 2006a). The threshold of 0.80 was used to ensure the overall final solution consistency was above this (Campbell et al., 2016; Crilly, 2011). Based on counterfactual analysis the truth table uses the software's Boolean algorithm to logically reduce or simplify the configurations. The intermediate solution lies between the parsimony / complexity continuum. The algorithm removes causal conditions from the complex solution that are inconsistent with existing knowledge in the intermediate solution. In contrast, the parsimonious solution represents the most reduced form of the solution as it is based on all simplifying assumptions, including the difficult and easy counterfactuals (Campbell et al., 2016). Both solutions were reported following extensive research by Bell et al. (2014); Campbell et al. (2016) and Fiss (2011), which allowed the determination of both core and peripheral conditions. Core conditions are part of both the intermediate and the parsimonious solution, while peripheral or contributing conditions are absent from the

parsimonious solution. These conditions are represented graphically below in Table 5.3 for each configuration presented (Campbell et al., 2016)

The inclusion or exclusion of factors for the intermediate solution is based on extensive knowledge of the literature. For the positive investor reactions as evidenced by a positive, cumulative abnormal return the following factors where either present or absent:

- Payment (absent)
- Relatedness (present) (King et al., 2004; Sheen, 2014)
- Leverage (absent)
- Premium (present)
- Attitude (present)
- Geographic (present) (Buckley et al., 2014)
- Size (indifferent)
- Experience (absent) (Buckley et al., 2014; Meschi & Métais, 2015)

The negative investor reactions as evidenced by negative, cumulative abnormal returns included the following:

- Size (present) (Alexandridis et al., 2013)
- Leverage (present)
- Premium (present)
- Relatedness (absent)
- Experience (absent) (Buckley et al., 2014)
- Payment (indifferent)
- Attitude (indifferent)
- Geographic (indifferent)

From these the complex, parsimonious and intermediated solutions were built for both positive and negative factors.

Only configurations with a consistency level above 80 were included in the solution. An acceptable consistency level is above 75-80 as it shows that the configurations (Bell et al., 2014; Campbell et al., 2016).

5.6 Configurations that impact on investor perceptions

Table 5.3 - Factor configurations

Configurations of merger and acquisition deals and investor reactions							
Reactions		**POSITIVE**				**NEGATIVE**	
Configuration		1	2a	2b	3	4a	4b
Acquirer characteristics							
Acquirer leverage	M/A	⊗	⊗			●	●
Acquirer experience	A	⊗	⊗	⊗	⊗	⊗	⊗
Strategic fit							
Relatedness	O		●	●	●		
Acquisition Premium	O	⊗	●	●	⊗	●	●
Payment	O	●	⊗	⊗	●	●	●
Organizational fit							
Attitude	O		●	●	●	●	●
Geographic proximity	O	●	●	●	●		●
Size similarity	O	⊗		⊗	●	●	
Consistency		0.9508	0.8291	0.9545	0.8395	0.9078	0.8830
Raw coverage		0.1667	0.1514	0.1394	0.1215	0.1112	0.1657
Unique coverage		0.1003	0.0385	0.0372	0.0598	0.0283	0.0828
Overall solution consistency		0.873171				0.895713	
Overall solution coverage		0.356574				0.193977	

Notes: Black Circles ("●") indicated the premise of a condition, and open circles ("⊗") its absence. Blanks indicate indifference; that is the condition is not relevant to the configuration. Large circles indicate core or central conditions, while small circles indicate

contributing / peripheral conditions. Overall coverage is taken from the intermediate solution. O stands for opportunity factors, M for motivation and A for ability.

The results are presented above in Table 5.3. The analysis shows that eight theoretically important factors have six empirically supported configurations or gestalts. There are more configurations that support positive investor reactions (four) than negative investor reactions (two). Two out of the four “good” outcomes (positive investor reactions) are neutral permutations which means they share central conditions and only differ in the contributing conditions. The “bad” outcomes (negative investor reactions) are also both neutral permutation which shows there is little difference between them. They only differ on the peripheral conditions of geographic proximity and size similarity.

Configurations one to three reflect the good outcomes which induce positive investor reactions; whilst configurations four a and b reflect the bad outcomes which fails to induce positive investor reactions. There are multiple paths to both “good” and “bad” configurations and this reflects equifinality but also illustrate the asymmetric causality as the “bad” configurations are not the inverse of the “good” configurations. (Campbell et al., 2016)

For each configuration measures of consistency and coverage were included as well as for the solution as a whole. Coverage and consistency are distinct from each other and can occasionally work against each other as often high consistency yields low coverage (Ragin, 2006a).

Consistency evaluates the degree to which the factors or a combination of factors, as well as the solution as a whole display the outcome in question (Campbell et al., 2016; Ragin, 2006a). Thus it represents the degree to which cases consistently produce the outcome of interest.

Coverage explains the degree to which any given path accounts toward the solution as a whole. The more paths / configurations there are to an outcome the lower the individual coverage will be (Campbell et al., 2016; Ragin, 2006a). Fuzzy set analysis allows for the examination of equifinality and the determination of the empirical relevance (prevalence) of each path (Campbell et al., 2016). Each of the above individual solutions in Table 5.3 exhibit acceptable consistency levels (perfect consistency being 1), but with differing degrees of coverage. Coverage is divided further into “unique” and “raw” portions. Raw coverage is the proportion of membership in the outcome explained by each term of the solution (Ragin, 2006b). Unique coverage on the other hand explains memberships in the outcome not covered by other solution terms, or configurations (Ragin, 2006b), and

also assesses their relative empirical weight (Ragin, 2006a). Empirical coverage does not equate to theoretical importance, a given path may have low unique coverage and be relatively rare from an empirical standpoint, yet still advance theory (Campbell et al., 2016; Ragin, 2006b). Therefore, the assessment of relative empirical weight is valuable, but it is still useful to know all the different causal combinations linked to an outcome" (Ragin, 2006b), especially when theory building is the objective (Campbell et al., 2016).

The analyses follows in chapter six, where the successful merger and acquisition deal patterns are analysed first, which led to positive market reactions, followed by those that led to negative reactions. Of the factors attitude is an easy counterfactual as its presence or absence did not have an impact on the configurations. Easy counterfactuals are situations where a redundant factor is added to the set of causal conditions that already lead to a given outcome (Fiss, 2011).

5.7 Other considerations

Other factors were taken into consideration that could have a potential impact on investor perceptions. These were not used in the above study for various reasons including lack of available data.

Tax havens

During the process of the academic and business literature review, tax havens were a prominent feature, especially American firms that were looking to establish headquarters in European countries due to the more favourable tax rates. Firms from emerging markets also have various reasons to prefer investing in tax havens (Chari & Acikgoz, 2016). Unfortunately no investment into a tax haven was included in the sample.

Corporate governance

Corporate governance factors including board diversity has been shown to have an impact on both number of merger and acquisition transactions as well as the premium paid (Dowling & Aribi, 2013; Levi et al., 2014). Unfortunately for the older acquisitions

access to the data was limited and there were too many blanks to have a meaningful impact.

Acquirer performance

Acquirer performance has been identified as an important factor in the motivation of a firm to take part in a merger and acquisition transaction. This is one of the most widely studied motivational factors in the academic literature (Schijven & Hitt, 2012). High acquirer performance has been identified as a proxy for hubris (Hayward & Hambrick, 1997). It can also be a signal of careful market expansion at the appropriate time (Campbell et al., 2016). Low acquirer performance on the other hand can imply that the firm sees the merger or acquisition transaction as a turnaround strategy (Campbell et al., 2016).

Merger and acquisition waves

The acquirer's position in a merger and acquisition wave might substantially affect investor perception. Public firms sell and buy more assets during merger waves, whilst private firms are much flatter over time (Maksimovic, Phillips, & Yang, 2013). Specifically firms that announce merger and acquisition transactions earlier in the wave might be sending more credible signals whilst firms that announce deals later in the wave might be more influenced by "bandwagon effects" (Campbell et al., 2016; McNamara, Haleblian, & Dykes, 2008).

Use of financial advisors

Work done by (Golubov et al., 2012) showed that top-tier advisors deliver higher bidder returns than their non-top-tier colleagues. This is only for public acquisitions where advisor reputational exposure and required skills are relatively larger. This result is reduced when the target also has a top-tier advisor. The top-tier advisors charge premium rates for these services.

Chapter 6: Discussion of results

6.1 Configurational factors

The deal configurations are in line with the principal of equifinality (many paths lead to the same result) as discussed in chapter two. There are several “good” deal configurations and several “bad” deal configurations. Also, in contrast to regression analysis, the “bad” deal configurations are asymmetrical to the “good” deal configurations. For example, across all the configurations there is an absence of acquirer experience. Also, within either the “good” or the “bad” configurations a factor can be present, absent or indifferent. Take for instance the size factor, within “good” configurations it is both present, absent and indifferent, and within the “bad” configuration it is both present and indifferent.

The overall solution coverage was slightly lower across the “bad” deal configurations than the “good” deal configurations which is in contrast with the results from Campbell et al. (2016) who had a similar study for investors in the United States of America, a developed market. This shows that unlike investors in the United States of America, South African investors recognise “good” deal configurations more easily than “bad” ones, and in contrast to the results of Campbell et al. (2016) the “bad” deal configurations are very similar as they share most attributes.

Across both “good” and “bad” investor reactions / configurations the factors of payment and premium are the most important. For the “good” configurations the opposites are true, if a cash payment method is present there must be a low premium as well as the inverse of this where the payment is made in stock with a high premium. For the “bad” configurations both a high premium and a cash payment method are present.

The configurations – both “good” and “bad” are analysed below and linked back to guiding theory in chapter two as well as real-life examples from the sample has been added where appropriate to illustrate the principles.

6.1.1 “Good” Configurations

The prototypical “good” configurations have quite a few overlaps. As already mentioned all of the “good” configurations share the core attributes of both the payment and

premium, i.e. there must be a cash payment method with a low premium or a stock payment method with a high premium. They also all share the contributing factors of both geographic proximity, i.e. the deal must be within the South African borders, and inexperienced acquirers. As research done by Ellis et al. (2011) found that prior acquisition experience related to size, cultural and industry similarity is only helpful when it is applied in similar circumstances. The experience doesn't translate across industry, culture and deal size. It appears that South African investors instinctively understand this as they don't count experience in combination with the other factors as important. These prototypical "good" configurations signal high potential for value creation to investors.

Furthermore configurations two a and two b have a lot of similarities. In both of them the investors deem it important that the acquisition takes place in a similar industry, i.e. no diversification. They also see friendly deals, with high premiums and a stock payment method by novice acquirers within the South African borders as a good deal.

The four "good" configurations that elicited positive shareholder reactions are analysed below in more details.

Configuration 1

Table 6.1 – "Good" configuration 1

Acquisition premium		Payment method	
Acquirer leverage		Geographic proximity	
Acquirer experience		Size similarity	

The first configuration is of an inexperienced, ungeared acquirer to pay a low premium with a cash payment method for a much smaller South African company. The example is Sun International acquiring Real Africa Holdings, which was basically an acquisition of the minorities of Sun International as almost 75% of Real Africa's Holdings were in Sun International (Derby, 2006).

According to research done by Karampatsas et al. (2014), a cash funded acquisition usually assumes that it will be at least partially debt funded. As the acquirer has a low level of leverage it won't be over-leveraged and will have enough funds available to invest to extract the synergies. This is part of the acquirer motivation and ability factors that are important to investors.

This can be called *Rookie scope expansion* where an inexperienced acquirer makes an acquisition of a smaller target. This ties in with research done by Bauer & Matzler (2014) that states smaller acquisitions are easier to integrate. Future integration potential is also shown through the fact that a geographic close target was acquired, this relates to the need to "stay close to home" (Campbell et al., 2016).

Investors also note that there is a lack of acquisition premium and as such they are not overpaying for the acquisition and it will be easier and faster to extract the synergies.

Configuration 2a

Table 6.2 – "Good" configuration 2a

Acquisition premium		Payment method	
Acquirer leverage		Geographic proximity	
Acquirer experience		Deal attitude	
Industry relatedness			

The second configuration is again for an inexperienced, ungeared acquirer. But this time it is in a related industry, with a high premium and stock payment. It also is a friendly deal within the South African borders.

Easy integration potential is again shown by a number of factors above including industry relatedness and geographic proximity

For a novice acquirer it is good that there is geographic proximity, this relates to the need to "stay close to home" (Campbell et al., 2016). As the acquirer has a low level of leverage it won't be over-leveraged and will have enough funds available to invest to extract the synergies.

Various of the studies done on both similarity and complementarity have found that firms that acquire resources in a complementary industry have better post-merger success than firms that acquire resources in similar industries (Bauer & Matzler, 2014; King et al., 2004). A high premium with stock payment can potentially suggest that the acquirer view his stock price as over-valued, this is both true in emerging and developed markets (Boateng & Bi, 2014; Gao, 2011).

Configuration 2a is a picture of an acquirer that is looking for more market power through the acquisition of a target in a similar industry but with complementary products and resources. It can also be called *Rookie Related Growth.*

Configuration 2b

Table 6.3 – "Good" configuration 2b

Acquisition premium		Payment method	
Acquirer experience		Geographic proximity	
Industry relatedness		Deal attitude	
Size similarity			

Configuration 2b is an inexperienced acquirer that has a friendly acquisition of a smaller target in a related industry with a high premium and stock payment within the South African borders. An illustration of this is when the ELB Group acquired B&W Instrumentation and Electrical. According to a Business Day article that appeared at the time of the announcement, B&W Instrumentation and Electrical were in trouble due to a sharp fall in mining investment and that it would prosper again together with the diversified ELB group (Hedley, 2014)

Easy integration potential is shown by a number of factors above, such as industry relatedness, geographic proximity and a smaller size. There is also a high potential of future integration due to the smaller size of the target (Bauer & Matzler, 2014; Campbell et al., 2016). For a novice acquirer is good that there is geographic proximity – the need to "stay close to home" (Campbell et al., 2016).

A high premium with stock payment can potentially suggest that the acquirer view his stock price as over-valued, this is true in both emerging and developed markets (Boateng & Bi, 2014; Gao, 2011). Various of the studies done on both similarity and complementarity have found that firms that acquire resources in a complementary industry have better post-merger success than firms that acquire resources in similar industries (Bauer & Matzler, 2014; King et al., 2004). South African investors recognise this in the deal configurations as in the example above, the ELB Group acquired B&W Instrumentation and Electrical, which although it is in a similar industry offered complementary products to the ELB Group.

Configuration 2b is a picture of an acquirer that is looking for more market power through the acquisition of a target in a similar industry but with complementary products and resources. It can also be called *Rookie Related Expansion.*

Configuration 3

Table 6.4 – "Good" configuration 3

Acquisition premium		Payment method	
Acquirer experience		Geographic proximity	
Industry relatedness		Deal attitude	
Size similarity			

The third configuration is of an inexperienced acquirer that has a friendly acquisition of a large target in a related industry within the South African borders. The acquisition has a low premium and is financed through cash. An example is Torre Industrial Holdings' acquisition of Control Instruments Group. Related industry shows integration potential.

According to a study done on emerging market economies by Humphery-Jenner & Powell (2014), firms from emerging market economies such as South Africa could earn significantly higher announcement returns as well as have an increased likelihood of better operating performance through investment in a larger firm. This is in contrast to results from developed markets where the acquisition of a large target destroys more shareholder wealth than the acquisition of a smaller target (Alexandridis et al., 2013).

According to research done by Karampatsas et al. (2014), a cash funded acquisition usually assumes that it will be at least partially debt funded. As the acquirer has a low level of leverage it won't be over-leveraged and will have enough funds available to invest to extract the synergies. This is part of the acquirer motivation and ability factors that are important to investors.

This is both true in emerging and developed markets (Boateng & Bi, 2014; Gao, 2011). Various studies done on both similarity and complementarity have found that firms which acquire resources in a complementary industry have better post-merger success than firms which acquire resources in similar industries (Bauer & Matzler, 2014; King et al., 2004).

This type of configuration can be called *Scale expansion.* As the acquirer finds a target firm in a related industry that gives enough of both complementarity and similarity that it can expand its scale.

In summary

The following general insights can be drawn from the four prototypical "good" configurations above. It appears in general the market reacts positively to two underlying factors. Firstly, related expansion or diversification as three out of the four configurations showed relatedness. Secondly deals that happen within the South African borders as all the acquirers had geographic proximity as a supporting factor. Included in three out of the four deal configurations above was a friendly deal attitude, but as it is an easy counterfactual it's removal did not have an impact on the consistency and coverage of the configurations and as such it is ignored in the explanations below.

Notably and in line with the finding of Campbell et al. (2016) there was not a consistent configuration that showed unrelated diversification. However, in contrast to the findings of Campbell et al. (2016) there is not a consistent configuration that points towards geographic expansion. This could be because South African investors had the same experience as the studies of ASEAN and Polish multinationals which found there was a deterioration in operating performance of the combined firm after a cross-border merger and acquisition transaction. This can also be related to the conclusion drawn by Campbell et al. (2016) that novice acquirers need to stay close to home.

As per the findings of Campbell et al. (2016) in the case of novice acquirers, investors are more concerned about the firm's ability to invest in integration, restructuring and the synergies that they prefer lower leverage as witnessed by all of the above configurations. This is the combination of both low leverage and inexperience together with other factors that imply integration potential such as relatedness and geographic proximity generate positive market reaction. This signals a valuable opportunity together with the future integration potential that is sufficient to generate a positive market reaction for the novice related diversification.

Both configurations 2a and 2b shows the disposition of the acquirer to grow its market share through the acquisition of a target in a related industry. This implies there will be economies of scale and scope.

6.1.2 "Bad" Configurations

The factors that are consistent across all the configurations are the absence of experience, the presence of a high acquisition premium and a friendly take-over. The last can be because of the lack of many hostile and / or neutral deals. Most importantly are the core factors that are present across all "bad" configurations, namely a high premium paid together with a cash payment. The literature states in various instances that there is usually a positive reaction when acquisitions are financed by cash.

The two "bad" configurations are analysed in more details below.

Configuration 4a

Table 6.5 – "Bad" configuration 4a

Acquisition premium		Payment method	
Acquirer leverage		Deal attitude	
Acquirer experience		Size similarity	

An inexperienced acquirer with high leverage acquires a large acquisition and pays a high premium with cash in a friendly deal. An example is Woolworth's acquisition of David Jones. An article in the Financial Mail stated the market knows that Woolworths was forced into paying a high premium because of a minority shareholder's threats of holding out and that management will have to achieve more than just the synergies in the allocated time frame (Moorad, 2014). The article further stated the deal will not be diluting to current shareholders and earnings per share basis as the deal will be paid via debt that will be raised in Australia. This is in line with the findings of Karampatsas et al. (2014) that stated a cash funded acquisition usually means that debt will be raised. An article by the Financial Times stated shareholders in Woolworths were not convinced it was a good deal at the time of announcement and the share price in Woolworths fell by around 7.5% (England, 2014).

A study done by Hu & Yang (2016) found that overleveraged acquirers usually offer low premiums with stock payment. This is in direct contrast to the configuration above where an overleveraged acquirer paid both cash, most possibly with debt funding (Karampatsas et al., 2014), and a high premium for a target. In the case of a cross-border acquisition, the high premium could also be indicative of national pride, as the study by Hope et al. (2011) showed that emerging market firms tend to pay higher premiums for targets in

developed markets. This was corroborated by a more recent study done in 2015 by Urbšienė et al. (2015) which also found firms from emerging markets pay a much higher premium than similar firms in developed markets. Another critical point is that the size is very similar and could indicate potential integration problems especially since it is an inexperienced acquirer. This is in direct contrast to the "good" configuration 3 where an equal or larger size was viewed as a positive factor by the investors.

This can be classified as a *Rookie Hubristic Merger of Equals.* The firm doesn't have a lot of acquisition experience but it wants to acquire the target at any cost.

Configuration 4b

Table 6.6 – "Bad" configuration 4b

Acquisition premium		Payment method	
Acquirer leverage		Deal attitude	
Acquirer experience		Geographic proximity	

Similar to configuration 4a, an inexperienced acquirer with high leverage acquires a target and pays a high premium with cash in a friendly deal within the South African borders. An example of this is Saambou's acquisition of the micro lending Thuthukani Group, where the combined group failed within a year after the takeover.

This can be classified as a *Rookie Hubristic Overextension* with aggressive market expansion. Integration will be challenging due to the size of the acquisition, which is slightly mitigated by the fact that it is related acquisition. High leverage undermine investor confidence in the acquirer's ability to further invest in the firm (Campbell et al., 2016).

Uysal (2011) found there is a significant negative effect of overleverage on acquisitions made by these firms, Additionally when firms are overleveraged they usually pay a lower premium and have a lower cash component in their offers. In contrast, the market usually reacts favourable to acquisition announcements from overleveraged firms as they are more selective with regards to target choices (Uysal, 2011).

In summary

The above combinations of both deals 4a and 4b, of high premium, leverage and a cash payment method, most probably from debt financing, are viewed negatively by most investors as evidenced by the negative short-term returns.

Both of the prototypical "bad" configurations above have a large element of managerial hubris. This implies the acquiring company will go ahead with the acquisition no matter what the costs.

The practical example of configuration 4a that is an acquisition of the minorities by Woolworths and is seen as a "bad" deal configuration by investors is in direct contrast to the "good" deal configuration 1 which was also an acquisition of minorities by Sun International. This can be as the result of a variety of factors, the most prominent of these will be the following. Firstly as in the case of Woolworths, a firm that is already highly geared has paid for the acquisition through more gearing. Investors could be worried the firm is overextending itself. Sun International in contrast had little gearing at the time of the acquisition. Secondly, Woolworths has paid for the acquisition with a very high premium to the four week share price whilst Sun international paid virtually no premium.

Table 6.7 – Summary of "good" and "bad" configurations

M&A Deal Configurations and Stock Market Performance

Configuration label	Definition	Underlying Driver (Benefit / Constraint)
"Good" deals		
Rookie scope expansion	Acquisition of a smaller, South African target, by an unleveraged and inexperienced acquirer, for a low premium in cash	Market for corporate control (Value capture / value creation) (Campbell et al., 2016)
Rookie Related Growth	Friendly acquisition of a related target, by an unleveraged and inexperienced acquirer, paying a high premium in stock for a South African company	Market power (Economies of scale / scope / learning) (Campbell et al., 2016)
Rookie Related Expansion	Friendly acquisition of a smaller, related, South African target, by an inexperienced acquirer,	Market power (Economies of scale / scope / learning) (Campbell et al., 2016)

	paying a high premium in stock for a South African company	
Scale expansion	Friendly acquisition of a large, related, South African target, by an inexperienced acquirer for a low premium in cash	Market for corporate control (Value capture / value creation) (Campbell et al., 2016)
"Bad" deals		
Rookie Hubristic Merger of Equals	Friendly acquisition by an inexperienced and leveraged acquirer of a large target paying a high premium in cash	Possible hubris (Integration difficulties) (Campbell et al., 2016)
Rookie Hubristic Overextension	Friendly acquisition by an inexperienced and leveraged acquirer of a South African target paying a high premium in cash	Possible hubris (Integration difficulties) (Campbell et al., 2016)

6.2 Underlying factors

6.2.1 Motivation and ability factors

Lack of acquirer experience is present in all of the deal configurations, both "good" and "bad", although it's more of a contributing than a central factor. It is also highly contingent upon other factors as evidenced by the literature (Bauer & Matzler, 2014; Campbell et al., 2016; King et al., 2004).

Secondly, acquirer leverage is absent or not relevant in the "good" configurations, whilst it is present in the "bad" configurations. The literature review in chapter two has identified leverage as a complex factor. Although in most cases firms with high leverage would rather pay with stock than cash and the premium would also be low (Hu & Yang, 2016; Uysal, 2011). This shows that investors identify the "bad" deal configurations easier where the firm has high leverage, pays a high premium in cash. This can also be tied back to experience, as according to (Campbell et al., 2016) for experienced acquirers investors sees high leverage as a sign of motivation and for inexperienced acquirers they see it as a lack of future ability.

6.2.2 Opportunity factors

Firstly, the set of opportunity factors that relate to strategic fit – relatedness, premium and payment method. The results are in contrast to the results (Campbell et al., 2016) found in the analysis of configurational factors for a developed market. (Campbell et al., 2016) findings were consistent with many individual studies where there are significantly higher returns for cash-financed versus stock-financed acquisitions. (Campbell et al., 2016) also considered the premium in conjunction with payment methods and found that all "bad" configurations exhibit a high premium with no cash financing and the "good" configurations included a combination of high premium and cash financing. This is in direct contrast to the results of this study where the "good" configurations had either a lack of premium and cash financing or a high premium and stock-financing.

The "bad" configurations had the combination of high premium plus cash financing. These, the premium and method of financing, were core or central factors in both the "good" and the "bad" configurations. Relatedness is only present in three of the "good" configurations, for the other "good" configuration it is not relevant, and it is also not relevant for the "bad" configurations.

Secondly, the set of opportunity factors that relates to organisational fit or future integration potential, which is the extent the deal's synergistic potential can be realised (Campbell et al., 2016). As mentioned previously, deal attitude is an easy counterfactual as its presence or absence didn't have an impact on the configuration. Geographic proximity was present in all of the "good" configurations and it was present in one of the "bad" configurations whilst it was not relevant in the other "bad" configuration.

The finding with regards to size similarity is again in contrast to most of what the literature says regarding developed markets. Out of the "good" configurations, two has size as absent, thus the target is smaller than the acquirer, one as present, thus the target is the same size or larger than the acquirer, and not relevant for the final "good" configuration. Size is also present, similar size or larger, for the "bad" configurations or not relevant for the other "bad" configuration. According to Campbell et al. (2016) investors perceive smaller firms as having greater future potential integration. According to Humphery-Jenner & Powell (2014) firms in emerging economies often have significantly higher announcement returns for investment in a larger firm as this can either signify political connections or bigger market power and that the deals are completed faster.

6.3 Conclusion

The research above illustrated some deal configurations which elicited positive and negative reactions from investors. The deal configurations cannot be seen as conclusive or final as there is a myriad of other factors such as individual company performance of both the acquirer and the target, the industry and market performance, general economic outlook, etc. which are also taken into consideration by investors. This paper attempted to add to the body of knowledge given the current limited use of set-theoretic analysis within mergers and acquisitions, especially from an emerging market economy such as South Africa.

As discussed in detail in this chapter, eight factors were used to test combinations which investors perceive as either negative or positive. From the above can be concluded the principles of equifinality and asymmetrically have been maintained, i.e. there are multiple pathways to both “good” and “bad” deals and the “bad” deals aren’t the inverse of the “good” deals.

The one striking feature that is a divergence from most of the literature is the combination of premium and payment. As discussed in chapter two, de La Bruslerie (2012, 2013) found the higher the premium is the higher the percentage of cash payment. The configurations above found that of the sample of South African firms tested a high premium with a high percentage of cash payment was considered negatively. This should be seen in combination with the high leverage and the fact that cash funded usually implies debt funded (Karampatsas et al., 2014). Investors don’t want to see the firm as overextended especially in a high interest rate zone. Emerging economies in general have higher interest rates than developed economies. The configurations above also show that for the four “good” configurations, investors prefer either a high premium with a stock payment, or a low premium with cash payment. This is again in contrast to de La Bruslerie (2012, 2013) findings of a higher premium is usually paid with cash.

The study contributed to the body of knowledge in the following ways:

- It focussed specifically on mergers and acquisition transactions of South African firms listed on the Johannesburg Stock Exchange.
- It recognised distinct combinations of factors investors use to identify both “good” and “bad” configurations.
- This combination of factors shows clear distinctions between “good” and “bad” configurations.

- These configurations are different from the combination of factors identified for a developed economy.
- These configurations can be used to clarify why there has been so much contradictory research results from these separate factors.

Chapter 7: Conclusion

The purpose of the research was to determine the configurations of factors which influence investor perceptions with regards to merger and acquisition transactions for South African companies listed on the Johannesburg Stock Exchange. The research was undertaken to evaluate the various configurations of factors that lead to both “positive” and “negative” investor reactions.

The study was undertaken to add to the body of knowledge from a sociological perspective. The research focussed on the configurations of factors and the principles of equifinality and asymmetrically in contract to most academic research that has been more focussed on regression and other forms of linear statistical analysis. This type of study has also not been undertaken in the emerging market context of South Africa. Different factors were identified that could potentially have an impact on investor perceptions.

The final sample tested as part of this study included 31 merger and acquisition transactions. These were the transactions for which all the data for both the cumulative abnormal returns and factors for the configurations were present. Even though fuzzy-set qualitative comparative analysis is suitable for small samples, a larger sample would have given more coverage and the probability for additional and more accurate pathways applicable to the larger population.

The results of this research were limited because of a variety of reasons. The final sample of merger and acquisition announcements for listed acquirers that had details of all the factors were available was small. In addition to this, a limited time frame from between 2000 and July 2016 was applied when the sample was selected. As was illustrated by the descriptive statistics in chapter five, not every one of the years chosen had a merger or acquisition transaction.

Furthermore only a limited range of factors that could have a potential impact on investor perceptions were tested. There might be factors that were not included that from an emerging market perspective have a large impact on investor perceptions. Finally, there is a limited amount of academic research regarding the configuration of factors that have an impact on investor perceptions available, and as such it is difficult to have direct comparisons to the results of this study.

The research concluded that based on the principles of equifinality and asymmetrically there are various configurations of factors that impact on investor perceptions with regards to both “good” and “bad” configurations. There were very few overlaps with the similar study done by Campbell et al. (2016). Their study was based on a much larger sample. It was also done on a developed market, the United States of America, in contrast to this study which was done on the emerging market of South Africa.

The main aim of the research was to show that investor perceptions are dependent on various combinations of factors, and should not be researched in isolation or using linear techniques where all the factors except for one is kept constant. This research explained the contradictions in that some of the previous studies either found there were no significant changes, either positive or negative, in short-term share price performance or there were significant positive or significant negative changes. This can be explained by the configuration of factors that are present at any deal that is announced.

Extant theory from the literature was relied on to identify the most important factors investors rely on when they make decisions. This was used to develop the framework of relevant theoretical attributes that was used in the fuzzy set qualitative comparative analysis.

Event study methodology was applied to calculate cumulative abnormal returns of the share price of South African companies listed on the Johannesburg Stock Exchange. A period of 200 days was used, starting 210 days before the event and ending 11 days before the event, to calculate the cumulative abnormal returns (Chang et al., 2015; Masulis et al., 2007). An event window of five days was used, starting two days before the event and ending two days after the event (Masulis et al., 2007).

Previous event studies has had mixed results for various event windows (Bruner, 2002). This study also showed mixed results as some firms had negative abnormal returns, whilst others had positive abnormal returns. This was what was expected and needed to continue with the study.

7.1 Configurations that influence investor perceptions

The study was the first step in developing a theory concerning factor configurations that influences investor perceptions in an emerging market with regards to merger and acquisition transactions. The aim of the study was to examine how South African investors identify the interdependence of important factors and viewed abnormal returns

as socially constructed assessments of a deal's value creation potential. The abnormal returns, or rather the stock market reactions were approached from a sociology or behavioural perspective which assessed factor configurations. This is in contrast to most of the previous research that approached it from a statistical point of view and performed linear studies.

For both the "good" and the "bad" investor reactions the deal attitude factor has been mostly ignored in this study. This is because it was an easy counterfactual whose presence or absence didn't have an impact on the configurations (Bell et al., 2014; Fiss, 2011).

7.1.1 Positive investor reactions

The core factors identified in the "good" configurations were a small premium or lack of premium paid together with a cash payment method. Or a high premium paid together with a stock payment method. This is in contrast to the research by de La Bruslerie (2013) which found that higher premiums usually have a higher component of cash financing. The study of factor configurations in the United States of America also found investors favoured a high premium with a high cash payment as according to them this signalled the presence of synergies (Campbell et al., 2016).

Contributing factors across all "good" configurations included geographic proximity, investors did not favour firms that diversified across borders. Also, another surprising contributing factor was the lack of acquirer experience. South African investors seem to understand that prior acquisition experience is not always beneficial, and might even have negative consequences (Buckley et al., 2014).

All of the above taken together shows a more nuanced view of investor perceptions than have previously been identified by the literature.

7.2.1 Negative investor reactions

The core factors identified in the "bad" configurations were not symmetrically opposite the factors identified in the "good" configurations. This is in contrast to most of the statistical research done previously.

The core factors identified in the “bad” configurations are the same factors identified in the “good” configurations. They are the payment method and premium. For the “bad” configurations it is the presence of a high premium and a cash payment method that investors dislike. As mentioned under the “good” configurations, this is in contrast to what the literature advocate. de La Bruslerie (2013) and Campbell et al. (2016) found that a high premium usually goes hand in hand with a cash payment method, and this is what the investors in the United States of America preferred.

The above result makes more sense if the contributing factors are also taken into consideration. The contributing factors are the presence of high leverage and the absence of experience. As stated by Karampatsas et al. (2014) most of the time when there is a high cash component to a deal it has been funded by debt financing. Furthermore Uysal (2011) stated that overleveraged firms usually has a lower premium and lower component of cash financing. This taken in combination shows that investors do not like the combination of high leverage with a deal with a cash component that has most probably been funded with additional debt funding. If the firm has high levels of leverage it should pay a smaller premium and cash component.

Overall the results of this study have shown the factors that contribute to investor perceptions of merger and acquisition success or failure are more nuanced than usually explained by the literature. The “good” and the “bad” configurations followed the principles of equifinality and asymmetrically. Prior research has in most cases followed the principles of symmetricity which explained the negative reactions as opposites to the positive reactions.

7.2 Areas for future research

The focus of the study was on investor perceptions regarding the configurations of factors of companies that announced merger or acquisition transactions. The companies tested were limited to South African companies listed on the Johannesburg Stock Exchange which announced the intention of acquiring another company listed on a stock exchange.

A future study could be undertaken to study firms from other emerging markets to see whether they have the same configuration of factors. This can be contrasted to the results from developed markets.

Future areas of study could also include other factors that have been identified by the literature as important, such as firm performance compared to peers, or board diversity or CEO performance.

Future studies can also be undertaken as to the accuracy of investor perception and to link it to actual future firm performance. As in the case of Woolworths, immediate investor reaction was negative with a loss in shareholder value. This was reversed during the next year as the acquisition proved it added value and was doing well.

7.3 Limitations

The following will act as possible limiting elements on the research:

- There might be factors, such as advisors or performance, that could also have had an impact on merger and acquisition success but the data was difficult to put a value on or to find;
- The study was limited to the period 2000 to 22 July 2016 for companies listed on the Johannesburg Stock Exchange. There wasn't sufficient information available to test every one of the years;
- Probability sampling techniques could not be used and judgemental sampling was applied. The study might not be statistically representative of the population as there was sampling bias. The result may therefore not be possible to use to infer factor configurations that apply to all acquiring firms. There might be both positive and negative factor configurations that were not highlighted by the study;
- For the cumulative abnormal returns a more appropriate benchmark would have been either an equal weighted index or a control portfolio;
- Some of the factors such as friendliness was easy counterfactuals, which means that their presence or absence had no impact on the configurations; and
- The number of acquisitions factor was the total acquisitions by the firm as at the date of report, there were no indication as to when they took place.

7.4 Conclusion

The study aimed to identify configurations of factors that impact on investor perceptions relating to merger and acquisition transactions. It contributed to the literature through the identification of factors related to an emerging market and / or South African context. The principles of equifinality were evidenced in that there were multiple configurations for both positive and negative reactions.

The findings of the research showed that investors take into consideration multiple factors when they make decisions and there is not a linear relationship between these factors. Management should be aware of these configurations and their potential impact on shareholder wealth before they announce a merger and acquisition transaction.

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Appendix A: Regression equations

			Coefficients	*F*	*Significance F*
African Bank Investments Ltd	2007/08/20	Intercept	1,530.931	30.512	0.000
		X Variable 1	-0.064		
Afrimat Ltd	2013/01/18	Intercept	-314.301	290.406	0.000
		X Variable 1	0.027		
Aveng Ltd	2000/07/10	Intercept	-426.886	283.055	0.000
		X Variable 1	0.145		
Barloworld Ltd	2003/11/20	Intercept	1,895.785	475.583	0.000
		X Variable 1	0.431		
Newshelf 809(Pty)Ltd (Brait SE Ltd)	2006/12/19	Intercept	1,428.680	21.511	0.000
		X Variable 1	0.036		
Capital Property Fund Ltd	2010/11/24	Intercept	93.505	138.556	0.000
		X Variable 1	0.024		
Vestacor Ltd	2000/07/06	Intercept	-222.309	205.494	0.000
		X Variable 1	0.040		
Durban Roodepoort Deep Ltd	2000/01/12	Intercept	831.260	1.200	0.275
		X Variable 1	0.027		
ELB Group Ltd	2013/11/04	Intercept	2,231.765	4.730	0.031
		X Variable 1	0.026		
Ellerine Holdings Ltd	2004/05/17	Intercept	636.358	75.009	0.000
		X Variable 1	0.238		
Ellerine Holdings Ltd	2003/07/23	Intercept	1,719.377	1.664	0.199
		X Variable 1	0.029		
FirstRand Ltd	2010/06/21	Intercept	-161.709	128.554	0.000
		X Variable 1	0.075		
Growthpoint Properties Ltd	2014/11/12	Intercept	1,629.967	19.181	0.000
		X Variable 1	0.017		
Harmony Gold Mining Co Ltd	2003/02/26	Intercept	-5,388.359	25.126	0.000
		X Variable 1	2.090		
Impala Platinum Holdings Ltd	2007/02/14	Intercept	-1,299.833	344.597	0.000
		X Variable 1	0.795		
Imperial Holdings Ltd	2010/07/13	Intercept	-4,065.664	80.749	0.000
		X Variable 1	0.485		
Imperial Holdings Ltd	2001/04/26	Intercept	-1,369.308	310.641	0.000
		X Variable 1	0.876		
Keaton Energy Holdings Ltd	2013/08/26	Intercept	32.374	3.653	0.058

		X Variable 1	0.004		
Northam Platinum Ltd	2011/02/08	Intercept	2,094.493	97.309	0.000
		X Variable 1	0.083		
SA Corporate Real Estate Fund	2007/01/17	Intercept	10.864	415.215	0.000
		X Variable 1	0.013		
Saambou Holdings Ltd	2001/06/12	Intercept	-341.708	174.912	0.000
		X Variable 1	0.174		
Sun International Ltd	2006/03/27	Intercept	310.881	670.990	0.000
		X Variable 1	0.446		
Sibanye Gold Ltd	2013/12/11	Intercept	-3,985.441	644.567	0.000
		X Variable 1	0.118		
Steinhoff International	2001/08/10	Intercept	550.716	2.865	0.093
		X Variable 1	0.013		
Tiger Brands Ltd	2012/07/04	Intercept	-2,949.924	39.328	0.000
		X Variable 1	0.862		
Woolworths Holdings Ltd	2014/04/09	Intercept	16,455.972	50.048	0.000
		X Variable 1	-0.207		
The Bidvest Group Ltd	2012/11/28	Intercept	-8,815.253	778.057	0.000
		X Variable 1	0.807		
The Bidvest Group Ltd	2001/07/16	Intercept	3,425.020	15.213	0.000
		X Variable 1	0.141		
The Bidvest Group Ltd	2000/05/15	Intercept	-1,075.156	754.245	0.000
		X Variable 1	0.811		
Octodec Investments Ltd	2014/06/10	Intercept	294.294	30.727	0.000
		X Variable 1	0.036		
Torre Industrial Holdings Ltd	2014/01/13	Intercept	39.259	15.670	0.000
		X Variable 1	0.003		

Appendix B: Factor calibrations

Table B.1

M&A Deal Number	Target Name	Acquirer Name	Abnormal returns	Number of acquisitions	Consideration Structure	Fuzzy cons.	Cross Border Deal Flag (Y/N)	Target Nation	Fuzzy geographic	Deal Attitude	Fuzzy attitude
961483040	Dome Resources NL	Durban Roodepoort Deep Ltd	-6.279	2	Cash and Stock Combination	0.501	Y	Australia	0.05	Friendly	0.95
1006899040	I-Fusion Holdings Ltd	The Bidvest Group Ltd	-3.640	20	Cash Only	0.95	N	South Africa	0.95	Friendly	0.95
1023483040	Moresport Holdings	Vestacor Ltd	21.994	1	Cash Only	0.95	N	South Africa	0.95	Friendly	0.95
1023502040	LTA Ltd	Aveng Ltd	-3.840	1	Cash Only	0.95	N	South Africa	0.95	Friendly	0.95
1178582040	Tourism Investment Corp Ltd {Tourvest}	Imperial Holdings Ltd	0.807	15	Cash Only	0.95	N	South Africa	0.95	Friendly	0.95
1207723040	Thuthukani Group Ltd	Saambou Holdings Ltd	-2.300	1	Cash Only	0.95	N	South Africa	0.95	Friendly	0.95
1205799040	Paragon Business Communications Ltd	The Bidvest Group Ltd	-4.097	20	Cash Only	0.95	N	South Africa	0.95	Friendly	0.95
1163895040	Relyon Group PLC	Steinhoff International	-0.585	4	Cash Only	0.95	Y	United Kingdom	0.05	Friendly	0.95
1372820040	Abelle Ltd	Harmony Gold Mining Co Ltd	-7.366	6	Cash Only	0.95	Y	Australia	0.05	Friendly	0.95
1421897040	Wetherlys Investment Holdings Ltd	Ellerine Holdings Ltd	-0.223	2	Cash Only	0.95	N	South Africa	0.95	Friendly	0.95
1452481040	Avis Southern Africa Ltd	Barloworld Ltd	-1.426	9	Cash and Stock Combination	0.501	N	South Africa	0.95	Friendly	0.95
1587850040	Relyant Retail Ltd	Ellerine Holdings Ltd	-4.030	2	Stock Only	0.05	N	South Africa	0.95	Neutral	0.501
1764225040	Real Africa Holdings Ltd	Sun International Ltd	2.270	1	Cash Only	0.95	N	South Africa	0.95	Hostile	0.05
1823637040	Consol Ltd	Newshelf 809(Pty)Ltd	1.031	1	Cash Only	0.95	N	South Africa	0.95	Friendly	0.95
1831636040	S A Retail Properties Ltd	SA Corporate Real Estate Fund	5.912	2	Stock Only	0.05	N	South Africa	0.95	Friendly	0.95
1839997040	African Platinum PLC	Impala Platinum Holdings Ltd	-2.364	2	Cash Only	0.95	Y	United Kingdom	0.05	Friendly	0.95
1901379040	Ellerine Holdings Ltd	African Bank Investments Ltd	-3.193	2	Stock Only	0.05	N	South Africa	0.95	Friendly	0.95

M&A Deal Number	Target Name	Acquirer Name	Abnormal returns	Number of acquisitions	Consideration Structure	Fuzzy cons.	Cross Border Deal Flag (Y/N)	Target Nation	Fuzzy geographic	Deal Attitude	Fuzzy attitude
2194172040	Barnard Jacobs Mellet Holdings Ltd	FirstRand Ltd	-2.654	4	Cash Only	0.95	N	South Africa	0.95	Friendly	0.95
2203113040	CIC Holdings Ltd	Imperial Holdings Ltd	1.204	15	Cash Only	0.95	Y	Namibia	0.501	Friendly	0.95
2424305040	Pangbourne Properties Ltd	Capital Property Fund Ltd	-0.521	1	Stock Only	0.05	N	South Africa	0.95	Friendly	0.95
2278595040	Mvelaphanda Resources Ltd	Northam Platinum Ltd	0.514	1	Stock Only	0.05	N	South Africa	0.95	Friendly	0.95
2431117040	Dangote Flour Mills Plc	Tiger Brands Ltd	3.275	9	Cash Only	0.95	Y	Nigeria	0.501	Friendly	0.95
2472682040	Amalgamated Appliance Holdings Ltd {AMAP}	The Bidvest Group Ltd	-0.120	20	Cash Only	0.95	N	South Africa	0.95	Friendly	0.95
2488668040	Infrasors Holdings Ltd	Afrimat Ltd	3.575	5	Cash Only	0.95	N	South Africa	0.95	Friendly	0.95
2560632040	Xceed Resources Ltd	Keaton Energy Holdings Ltd	10.959	3	Cash Only	0.95	Y	Australia	0.05	Unsolic.	0.501
2589346040	B&W Instrumentation & Electrical Ltd	ELB Group Ltd	5.487	1	Stock Only	0.05	N	South Africa	0.95	Friendly	0.95
2596311040	Witwatersrand Consolidated Gold Resources Ltd	Sibanye Gold Ltd	10.079	2	Cash Only	0.95	N	South Africa	0.95	Friendly	0.95
2606990040	Control Instruments Group Ltd	Torre Industrial Holdings Ltd	11.484	1	Cash Only	0.95	N	South Africa	0.95	Friendly	0.95
2626868040	David Jones Ltd	Woolworths Holdings Ltd	-6.483	1	Cash Only	0.95	Y	Australia	0.05	Friendly	0.95
2645547040	Premium Properties Ltd	Octodec Investments Ltd	-2.014	3	Stock Only	0.05	N	South Africa	0.95	Friendly	0.95
2696070040	Acucap Properties Ltd	Growthpoint Properties Ltd	0.920	9	Stock Only	0.05	N	South Africa	0.95	Friendly	0.95

Table B.2

M&A Deal Number	Target Name	Acquirer Name	Acquirer Macro Industry	Target Macro Industry	Fuzzy relatedness	Premium % 4 Weeks Prior to Announce.	Acquirer leverage	Fuzzy size	Acquirer Total Assets	Target Total Assets
961483040	Dome Resources NL	Durban Roodepoort Deep Ltd	Materials	Materials	0.95	31.76	1.81	0.144	177.46	25.57
1006899040	I-Fusion Holdings Ltd	The Bidvest Group Ltd	Financials	High Technology	0.05	120.59	1.29	0.008	1,221.16	9.60
1023483040	Moresport Holdings	Vestacor Ltd	Financials	Retail	0.05	66.67	0.07	1.597	28.47	45.48
1023502040	LTA Ltd	Aveng Ltd	Industrials	Industrials	0.95	31.43	1.05	0.835	539.12	449.92
1178582040	Tourism Investment Corp Ltd {Tourvest}	Imperial Holdings Ltd	Consumer Products and Services	Consumer Products and Services	0.95	61.76	1.22	0.036	2,022.72	72.25
1207723040	Thuthukani Group Ltd	Saambou Holdings Ltd	Financials	Financials	0.95	23.15	15.28	0.018	2,525.46	46.11
1205799040	Paragon Business Communications Ltd	The Bidvest Group Ltd	Financials	Media and Entertainment	0.05	35.71	1.32	0.015	1,175.82	18.12
1163895040	Relyon Group PLC	Steinhoff International	Consumer Products and Services	Consumer Products and Services	0.95	45.16	0.95	0.065	728.84	47.43
1372820040	Abelle Ltd	Harmony Gold Mining Co Ltd	Materials	Materials	0.95	5.63	0.45	0.010	1,395.82	13.53
1421897040	Wetherlys Investment Holdings Ltd	Ellerine Holdings Ltd	Retail	Consumer Products and Services	0.05	34.48	0.33	0.178	207.12	36.78
1452481040	Avis Southern Africa Ltd	Barloworld Ltd	Industrials	Consumer Products and Services	0.05	31.13	1.44	0.165	2,527.35	417.55
1587850040	Relyant Retail Ltd	Ellerine Holdings Ltd	Retail	Consumer Products and Services	0.05	6.25	0.62	0.842	314.04	264.47
1764225040	Real Africa Holdings Ltd	Sun International Ltd	Media and Entertainment	Financials	0.05	-1.85	0.93	0.289	1,053.13	303.97
1823637040	Consol Ltd	Newshelf 809(Pty)Ltd	Financials	Materials	0.05	22.18	0.44	1.072	305.79	327.90
1831636040	S A Retail Properties Ltd	SA Corporate Real Estate Fund	Real Estate	Real Estate	0.95	0.07	0.15	0.709	452.75	320.94
1839997040	African Platinum PLC	Impala Platinum Holdings Ltd	Materials	Financials	0.05	71.88	0.28	0.013	3,266.19	42.71
1901379040	Ellerine Holdings Ltd	African Bank Investments Ltd	Financials	Retail	0.05	12.3	2.96	0.984	1,041.10	1,024.83
2194172040	Barnard Jacobs Mellet Holdings Ltd	FirstRand Ltd	Financials	Financials	0.95	21.62	10.38	0.015	105,252.90	1,601.41

M&A Deal Number	Target Name	Acquirer Name	Acquirer Macro Industry	Target Macro Industry	Fuzzy relatedness	Premium % 4 Weeks Prior to Announce.	Acquirer leverage	Fuzzy size	Acquirer Total Assets	Target Total Assets
2203113040	CIC Holdings Ltd	Imperial Holdings Ltd	Consumer Products and Services	Consumer Products and Services	0.95	4.47	1.72	0.020	4,380.43	87.39
2424305040	Pangbourne Properties Ltd	Capital Property Fund Ltd	Real Estate	Real Estate	0.95	4.23	0.34	1.863	838.05	1,560.99
2278595040	Mvelaphanda Resources Ltd	Northam Platinum Ltd	Materials	Materials	0.95	106.65	0.12	1.556	1,316.72	2,049.40
2431117040	Dangote Flour Mills Plc	Tiger Brands Ltd	Consumer Staples	Consumer Staples	0.95	124.59	0.71	0.280	2,012.84	563.94
2472682040	Amalgamated Appliance Holdings Ltd {AMAP}	The Bidvest Group Ltd	Financials	Telecommunications	0.05	33.08	2.23	0.013	6,799.23	87.59
2488668040	Infrasors Holdings Ltd	Afrimat Ltd	Industrials	Materials	0.05	-37.5	0.54	0.646	130.86	84.49
2560632040	Xceed Resources Ltd	Keaton Energy Holdings Ltd	Materials	Materials	0.95	40	1.98	0.208	149.46	31.04
2589346040	B&W Instrumentation & Electrical Ltd	ELB Group Ltd	Industrials	Industrials	0.95	140.59	1.23	0.161	163.05	26.25
2596311040	Witwatersrand Consolidated Gold Resources Ltd	Sibanye Gold Ltd	Materials	Materials	0.95	40	0.54	0.028	2,338.78	64.35
2606990040	Control Instruments Group Ltd	Torre Industrial Holdings Ltd	Industrials	Industrials	0.95	2.94	1.67	1.028	30.81	31.66
2626868040	David Jones Ltd	Woolworths Holdings Ltd	Retail	Retail	0.95	21.87	3.39	0.903	1,163.87	1,050.57
2645547040	Premium Properties Ltd	Octodec Investments Ltd	Real Estate	Real Estate	0.95	-3.8	0.6	1.256	393.24	494.07
2696070040	Acucap Properties Ltd	Growthpoint Properties Ltd	Real Estate	Real Estate	0.95	14.76	0.53	0.153	7,827.35	1,193.93