The role of mergers and acquisitions on the performance of companies within the Chemical Sector in South Africa

By

Buntu Quwe

Student Number: 217071052

A thesis submitted in fulfilment of the requirement for the degree of Doctor of Business Administration

Graduate School of Business and Leadership

College of Law and Management Studies

Supervisor: Dr Njabulo Khumalo

December 2020

DECLARATION

I, **Buntu Quwe**, declare that:

- The research reported in this thesis, except where otherwise indicated, is my original research.
- This thesis has not been submitted for any degree or examination at any other university.
- The thesis does not contain any other persons' data, pictures, graphs, or other information, unless specifically acknowledged as being sourced from other persons.
- The thesis does not contain any other persons' writing, unless specifically acknowledged as being sourced from other researchers.
    - Where other written sources have been quoted, then:
        - their words have been re-written, but the general information attributed to them has been referenced; and
        - where their exact words have been used, their writing has been placed inside quotation marks and referenced.
- Where I have reproduced a publication of which I am the author, co-author, or editor, I have indicated in detail which part of the publication was actually written by me alone and have fully referenced such publications.
- The thesis does not contain text, graphics, or tables copied and pasted from Internet, unless specifically acknowledged, and the source being detailed in the thesis and in the reference section.

[redacted]

____

Buntu Quwe 23 December 2020

217071052

DEDICATION

I would like to dedicate this work to my late grandparents Alex Quwe, Mthuthuzeli Mvubu, Nosango Mvubu; and Nondawo Mvubu. Thank you for all the prayers and love you gave me. To my late father Siphiwo Goodman Quwe, “Bhadela, Mntungwa, Ndaba”, I know how much you valued education, learning and personal development. I can only imagine joy and smile on your face that this degree would have brought to you.

ACKNOWLEDGEMENTS

Glory be to God Almighty for His strength. As it is written in the book of Philippians 4 verse 13, "I can do all things through Christ who strengthens me".

I would like to extend my gratitude and appreciation to the following people:

My wife Ntsaphokazi Quwe, for the incredible support throughout my academic journey. Without your love, patience, and sacrifice, I would not be where I am today.

My loving son, Luvuyo and adorable daughter Luthando for the love, and joy that you bring to our lives.

My mother, thank you for your love and prayers.

My supervisor Dr Njabulo Khumalo, for your commitment, guidance and your willingness to offer your time when needed.

The College of Research, I am grateful for all those impactful seminars and writing retreats you have afforded us.

To colleagues at Library and IT, especial mention Seema Maharaj and Thabile Sithole respectively, thank you for your empathy and consistent support whenever needed.

My colleagues with whom I travelled this journey with, Dr Bianca Tjizumaue, Dr Dumisani Xaba, Dr Ayanda Deliwe, Dineo Mazibuko, Dr Lindani Nxumalo, thank you for your support and encouragement.

To Dr Mdu Bopela, Malengena Rangane, Andile Msindwana, and Rosebud Rundora for reviewing my document.

Lastly, to all the participants, thank you for time.

ABSTRACT

Mergers and acquisitions are a strategic tool that is used by companies to grow their performances and portfolio inorganically. Mergers and acquisitions are done to increase improve shareholders' wealth through synergy achieved from merged companies. Increased organisational performance as the main objective to embark on mergers and acquisitions has drawn increased interest amongst scholars and practitioners to study performance of merged entities. There are conflicting results though, that have been reported on the impact of mergers and acquisitions on performance of merged entities. The main objective of this study is to determine the role of mergers and acquisitions on the performance of companies within the chemical industry in South Africa. Purposive sampling of non-probability sampling method was used to collect data from a population of 120 directors and senior managers of the merged entities in South Africa. The sample size was 102 and the sampling frame was based on all the transactions that were initiated and approved within South Africa between 2006 to 2016. The data was gathered utilising closed-ended questionnaire based on a five-point Likert scale. The questionnaire was administered electronically, using email. The data was examined using SPSS version 25. The findings of the research demonstrate that mergers and acquisitions have an impact on financial performance of entities within the chemical industry in South Africa through increased profitability, liquidity, capital market, cash flow, sales growth, market share, customers, and market power. The study adds to the body of knowledge by capturing a multidimensional facet of organisational performance by allowing executives to provide feedback on financial parameters and non-financial parameters of performance. The results provide investors, as well as practitioners with practical proof of the role of mergers and acquisitions on the performance within the chemical industry in South Africa. It gives perspective to the decision makers on the motives of embarking on mergers and acquisitions within the South Africa chemical industry context. It is recommended that managers and practitioners utilize the model developed in this research with precaution as organizational performance through mergers and acquisitions is influenced by a variety of variables and motives.

Keywords:

Mergers, Acquisitions, Chemical, Performance, South Africa, Methodology

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

ABSA	Amalgamated Bank of South Africa
AR	Abnormal Returns
BBBEE	Broad Based Black Economic Empowerment
CAR	Cumulative Abnormal Returns
CEO	Chief Executive Officer
CFO	Chief Financial Officers
CHIETA	Chemical Industry Education and Training Authority
Companies Act	Companies Act No. 71 of 2008
Competition Commission	Competition Commission Act No. 89 of 1998
DCF	Discounted Cash Flow
DEA	Data Envelopment Analysis
EVA	Economic Value Added
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
Income Tax	Income Tax Act No. 58 of 1962
JSE	Johannesburg Stock Exchange
LBO	Leverage Buy Out
M&A	Mergers and Acquisitions
MD	Managing Director
SA	South Africa
SAA	South African Airways
SEDA	Small Enterprises Development Agency
UNCTAD	United Nations Conference on Trade and
USD	United States of America Dollar

CHAPTER ONE: THE OVERVIEW AND BACKGROUND OF THE STUDY

1 INTRODUCTION

This chapter outlines the background of the study and it pays attention to how mergers and acquisitions are utilised as a strategic tool to increase the performance of companies. The chapter takes into consideration the fact that the expected increase of performance of companies after the merger or an acquisition has led to an increased interest by both scholars and practitioners, to study the performance of mergers and acquisitions. Furthermore, the study gives an overview of the South African chemical industry as the context of the study. The chapter further defines the research problem. It further states the aim of the study and outlines the research objectives and research questions. Over and above that, it provides a snapshot of the methodology, gives an overview of variables of the study and then provides contribution of the research in relation to both the academic world and in practice. Furthermore, the chapter provides the definition of the important terms used in this study. Lastly, this chapter gives a summary of the chapter.

1.1 The Background of the Study

Mergers and acquisitions (M&A) are a process whereby two companies combine their assets to become one entity (Aggarwal, Budhlani, and Kohli, 2016). M&A are a form of inorganic growth that most companies use in their home country and abroad as a strategic tool in fulfilling their strategic objective to grow their businesses (Nalwaya and Vyas, 2014; Roberts, Wallace, and Moles, 2012). Katsioloudes and Hadjidakis (2007); Rizvi (2008); Water and Water (2016) argue that M&A have been used globally as one of the strategic tools to access new markets, eliminate competition, improve profitability, achieve faster growth, gain synergy, and diversify product portfolio. They are reported to be used by managers to achieve various motives like achieving synergy, used as reaction against economic disturbance, achieve monopoly, achieve managers' self-interests and act upon information available to managers (Duggal, 2015, Haeruddin, 2017; Rohra and Chawla, 2015). Akenga and Olang (2017); Joash and Njangiru (2015); Nalwaya and Vyas (2014); Sil (2015) revealed that M&A are used to fulfil managers' prospects of building an empire. In their assertion, Ghosh and Dutta (2016) further contend that M&A are used to increase performance of the organisation. The increase in performance emanates from the benefits accrued from merged entity, as a merger results in the merged entity acquiring larger market power and increased market share (IrfanShakoor, Nawaz, Zulqarnain, and Khan, 2014; Pahuja and Aggarwal, 2016; Uhlenbruck *et al.*, 2017; Yadav, 2016). It remains a contested debate as to whether M&A bring success or failure to companies that embark on them. This debate comes on the back of their continued growth in terms of number of transactions, and the value of transaction. Hence, it is essential to continue measuring their role on the performance of companies that use them. Arvanitis and Stucki (2015) contend that reporting the success of M&A is essential to executives, as it assists them to justify the decision to use M&A as a growth strategic tool. Rani, Yadav, and Jain (2015) further highlight the importance of measuring how M&A affects the performance of the entities due to the increasing speed and number of merger transactions occurring globally. Ghosh and Dutta (2016); Sil (2015) emphasise the importance of measuring organisational performance in terms of financial growth post - M&A transactions. M&A are deemed to be successful when amongst other things, the resulting entity improves and increases its financial performance and experiences synergy (Arvanitis and Stucki, 2015; Leepsa and Mishra, 2014). Measurement of organisational performance after M&A is conducted to establish whether M&A brought about any benefit to the stakeholders (Ghosh and Dutta, 2016). There is an empirical evidence which demonstrate that some of the M&A transactions do not bring any economic benefit to shareholders (Gupta and Banerjee, 2017; Inoti, Onyuma, and Muiru, 2014; Mahesh and Prasad, 2012; Omah, Okolie, and Durowoju, 2013; Rossi, Tarba, and Raviv, 2013; Shah and Khan, 2017). The implication is that the acquisition or a merger transaction did not produce better results to the organisation after the merger process. The opposing results to these, are those by Abdulwahab and Ganguli (2017); Agarwal and Mittal (2014); Akenga and Olang (2017); Borhan, Mohamed, and Azmi (2014); Kumara and Satyanarayana (2013); Ntuli (2017); Oghuvwu and Omoye (2016); Omah *et al*. (2013); Yanan, Hamza, and Basit (2016) that reveal that merger transactions had a significant impact on the financial results or output of the merged entity.

Within the South African (SA) context, Wilson and Vencatachellum (2016) state that the dawn of a new democratic dispensation after 1994 increased the investor confidence in SA. This translated to the rising quantity of foreign direct investment (FDI) deals within SA (Wilson and Vencatachellum, 2016). One of the industries that benefited from these FDI transactions is the chemical industry. Burger (2019) posits that, the SA chemical industry is an integral part of many other sectors and forms part of the value chain industries like textile, automotive, agriculture, construction, mining and pharmaceutical. Burger (2019) further notes that, its sustainability has a direct impact on companies operating with the industry itself as well as others within its value chain. Chemical Industry Education and Training Authority (CHIETA) (2018) reported that the industry contributed 3% to the South African gross domestic product (GDP) in 2017. In as much as the Competition Commission of South Africa (CompCom SA), has been recording increasing numbers of M&A within SA, there is a lack or minimum knowledge about the role of M&A on the financial results and operational performance of companies in the SA chemical industry post - M&A deals (Osae, Fauconnier, and Webber-Youngman, 2011). According to the researcher's knowledge, there is no work done to understand the impact of M&A on the performance of companies within the chemical industry in SA. The only research conducted to understand the role of M&A on the performance of companies, has been in the banking sector (Fouché, 2012; Ntuli, 2017; Wanke, Maredza and Gupta, 2017). In addition to the banking sector, some work has also been completed in the mining sector (Osae et al., 2011). Further to these studies, that focused on the banking and mining sectors, a recent study has been done that looked at the freight and logistics industry (De Villiers, Bezuidenhout, Grater and Kleynhans, 2019). It is against this background that the researcher decided to focus on the role of M&A on the performance of companies in the chemical industry within SA. From the afore-mentioned discussion, it is evident that the failure or success of these transactions within the chemical industry in SA, will not only impact on the chemical industry, but will as well affect other sectors attached to its value chain. Furthermore, this study seeks to add the dimension of the SA chemical industry to the M&A conversation. Therefore, the study seeks to determine the role of M&A on the financial and non-financial performance of companies within the SA chemical industry. This study further pursues to identify if M&A transactions within the SA chemical industry in SA create synergy. Furthermore, this study seeks to identify, if there are any theories that are used to base the M&A decisions within the SA chemical industry. Lastly, the study intends to develop a model that can be used as a guideline within the chemical industry in SA, when planning to embark on mergers or acquisitions.

1.1.1 The South African Chemical Industry context in M&A

Mergers and acquisitions have been on the rise in SA since the birth of the new democracy and this includes the chemical industry. The chemical industry in SA was established as far back as the 19th century, as a support to the explosives needed for the exploration of mines in the greater Transvaal area, now called Gauteng (Majozi and Veldhuizen, 2015). It forms part of the manufacturing sector and is part of the value chain to the other sectors such as mining, textile, pharmaceutical, manufacturing and agriculture (Burger, 2019). CHIETA (2018) reported that, in 2017 the industry contributed 3 percent to the gross domestic product (GDP). This level of contribution was equivalent to 23 percent of the total manufacturing gross value. As it is connected to a number of other economic sectors, SA chemical industry contributes more than any other industry within the manufacturing sector. CHIETA (2018) report, declared that 54 percent of the entities within this industry are categorised as micro or small entities, whilst 30 percent are categorised as medium and large entities only constitute 16 percent of the industry. That being said, Jenner (2019) notes that many companies within the chemical industry continue engaging in M&A, both locally and on the rest of the African continent. Kazi and Indermun (2013) postulate that there is an overreaching interest by investors who see SA as an attractive market because of attractive growth rate, richness in resources, and infrastructure development opportunities.

Burger (2019) reports that the presidential working group has recognised the South African chemical industry as an essential sector in speeding up GDP. This acknowledgment comes because of the position that this industry holds within the economy. Compared to other industries, it carries a 12 times multiplier effect on job creation, and it has a 5.5 times multiplier effect on the GDP. Burger (2019) further notes that sustainability of the chemical industry has a direct impact within companies in this industry and others within the value chain. It is against this background that the researcher has decided to focus on the role of M&A on the performance of companies in the chemical industry within SA. It is evident that the failure or success of the M&A transactions will not only affect the chemical industry but will as well affect other sectors attached to its value chain system. In addition, little or no work has been done on M&A transactions in this industry. This adds to the motive behind focusing on this industry as the majority of work on the impact of M&A on the performance of companies within SA, has been done on the banking industry (Fouché, 2012; Ntuli, 2017; Wanke, Maredza, and Gupta, 2017).

1.2 PROBLEM STATEMENT

Globally, M&A allow companies within the home country and across borders to double their size within a matter of months on a microeconomic level through huge asset allocation (Boateng, Qian, and Tianle, 2008; Derashri, 2016; Peng, 2006). On a macroeconomic level, M&A are able to consolidate industries and ensue in M&A waves (Kala, 2017 cited Weston, Mitchel, Mulherin, and Salwan, 2010; Toxvaerd, 2008). Mishra and Jaiswal (2017); Savovic (2016) indicate that, M&A can easily change the competitive landscape and the manner in which industries operate. They are done amongst other reasons, to access new markets, consolidate companies, as well as industries (Mishra and Jaiswal, 2017; Reddy, 2014; Reddy and Natekar, 2015). In SA, the increase in the number of M&A has been fuelled by the lifting of trade barriers and the acceptance of SA on the global economic stage post-apartheid regime (Wilson and Vencatachellum, 2016). This is the background that has led many scholars and practitioners to develop interest in studying M&A within the SA context and the entire African continent. Much emphasis, within SA, just like in most of the emerging economies, has always been on the determinants of M&A (Wilson and Vencatachellum, 2016). Less work has been done on the impact of M&A on performance of companies post-merger. Work done on the role of M&A on company performance has been mainly done on industries like mining, and banking. The work in the banking industry was done by (Fouché, 2012; Ntuli, 2017; Wanke, Maredza and Gupta, 2017). Whilst in the mining sector, the available research was executed by (Osae *et al*., 2011). A need to focus on the chemical industry has risen based on the following reasons. One reason, being that the chemical industry forms an integral part of other industries in SA, hence the success or failures of transactions in this industry can either have a negative or positive impact along the value chain in industries such as mining, agriculture, automotive, textile and construction (Burger, 2019). Secondly, the chemical industry is one of the essential industries within the manufacturing sector as it contributes 3 percent to the GDP of the SA. Lastly, CompCom SA reported 60 merger transactions within the chemical industry in the period from 2006 to 2016. As per the knowledge of the researcher, none of these is known to have reported to have achieved the management objectives. This is due to minimum or lack of evidence that M&A happened within the SA chemical industry resulted in improved financial and non-financial performance of merged entities. This study uses financial and non-financial performance measures such as synergy, and motive variables of M&A as the empirical evidence on the role of M&A on the performance of companies within the SA industry.

1.3 AIM OF THE STUDY

The aim of this study was to identify role of mergers and acquisitions on the performance of entities in the South African chemical industry.

1.4 RESEARCH OBJECTIVES

Research objectives which were developed from the aim of the research study were as follows:

- To examine the role of M&A on the financial performance of companies within the South African chemical industry.
- To determine the role of M&A on the non-financial performance of entities within the chemical industry in SA.
- To identify the role of M&A in creating synergy in companies within the Chemical industry in SA.
- To determine the motives of M&A within the Chemical industry in SA; and
- To recommend the model that can be used in M&A of companies within the Chemical industry in SA.

1.5 RESEARCH QUESTIONS

The research questions that were answered in the study were strongly associated with the research objectives. These were:

- What is the role of M&A on the financial performance of companies within the chemical industry in SA?
- What is the role of M&A on the non-financial performance of companies within the chemical industry in SA?
- Do M&A create synergy for companies within the chemical industry in SA?

- ❖ What is the motive of M&A within the chemical industry in SA?
- ❖ What is the model that can be used in M&A by companies within the chemical industry in SA?

1.6 JUSTIFICATION AND ORIGINALITY OF THE RESEARCH

Mergers and acquisitions are done to enhance synergy, improve non-financial results and financial results of companies (Oghuvwu and Omoye, 2016). Kuchey and Jan (2017), Rohra and Chawla (2015) opine that, M&A are part of different strategic tools that allow the organisations to expand by increasing their product portfolio. Organisational performance of merged entities is measured using different methodologies. Jabeen *et al.* (2013) state that organisational performance as a multidimensional concept has its outcomes influenced by the method utilised to measure it. The performance of the entity is influenced by market structure function and behaviour of firms within the competitive and ever-changing business world (Jabeen *et al*., 2013). In as much as there are different methods used to measure organisational performance, there have been conflicting results reported on the role of M&A on performance of merged entities (Nkiwane and Chipeta, 2019).

Some results have reported that M&A improve organisational performance (Agarwal and Mittal, 2014; Akenga and Olang, 2017; Oghuvwu and Omoye, 2016; Yanan *et al*., 2016). On the other hand, results by Gupta and Banerjee (2017); Inoti *et al*. (2014); Rossi *et al*. (2013); Shah and Khan, (2017); revealed that mergers did not enhance organisational performance. The paradox on the different findings on the impact of M&A on performance is because performance is measured using different methodologies (Agarwal and Mittal, 2014; Houwers, 2016). In addition to the different methodologies, there are different variables that are used to define organisational performance (Bigliardi, 2013; Ndregjoni and Elmazi, 2012). The other dimension that affects the outcomes of the performance of M&A is the time at which performance is measured as in the case of event study methodology (Rani *et el*., 2105). The methods that are used to determine performance of the merged entities are accounting based (Ahmed and Ahmed, 2014; Akenga and Olang, 2017; Pahuja and Aggarwal, 2016). The other methodology is event-based methodology (Akben-Selcuk, 2015; Rani *et a*l., 2015). Krishnakumar and Sethi (2012) notes the use of survey-based methodology, whilst data envelopment analysis has been used by (Wanke, Maredza, and Gupta, 2017). The last methodology is the residual income approach (Bild, Guest, Cost, and Runsten, 2002). The influence of different methodologies used to measure performance has been adopted as the main position of the current study. This research study adds to the body of knowledge because:

i. Contribution of the study to the body of knowledge

The study adds to the body of knowledge, the element of the SA chemical industry context to the M&A debate. It draws a link between theories of M&A and the empirical results within the South African chemical industry, which, as per the knowledge of the researcher, there is limited, or no work done before. The study developed a model that can be consulted by managers when embarking on M&A decision targeted to the South African chemical industry. Moreover, the research provides an opportunity to other researchers to further perform validity testing of the scale on a different industry or mixed industries.

ii. Contribution of the study to the M&A process

The study used primary data collected from executives of merged companies using a structured questionnaire. This study further contributes to body of knowledge by using the multidimensional approach to determine M&A performance in a developing economy. This in support of the proclamation by Savovic (2016) who argues that the multidimensional approach of assessing performance within M&A, has been mainly applied in developed economies and has been extremely limited in developing economies. The study used a homogeneous sample by focussing on companies that are in the same industry and that are influenced by the same market or industry related factors.

iii. Contribution of the study to management

The study recommended a model that can be used when considering venturing into an acquisition or merger within the South African chemical industry. The research is going to assist investors' decision making in determining whether there is value in investing within the chemical industry in SA.

iv. Contribution of the study to government regarding M&A.

CompCom SA is tasked with regulating M&A, by ensuring that there are no obstructive business habits and exploitation of dominant positions through mergers. It is therefore imperative that the mergers happening in the chemical industry in SA are not against this task of CompCom SA and are meant to bring positive impact to the industry. Secondly, the knowledge of successes or failures of the M&A transactions within the South African chemical industry is essential as this industry is at the centre of the value chain that has a significant impact on the South African GDP. Hence, the knowledge would assist policy makers in terms of monitoring and ensuring that the transactions within the industry do not inhibit competition.

1.7 HYPOTHESIS

Centered on literature reviewed, in conjunction with the conceptual framework, the below hypotheses were developed:

H_1: M&A have a positive impact on the financial performance of companies in the chemical industry in South Africa.

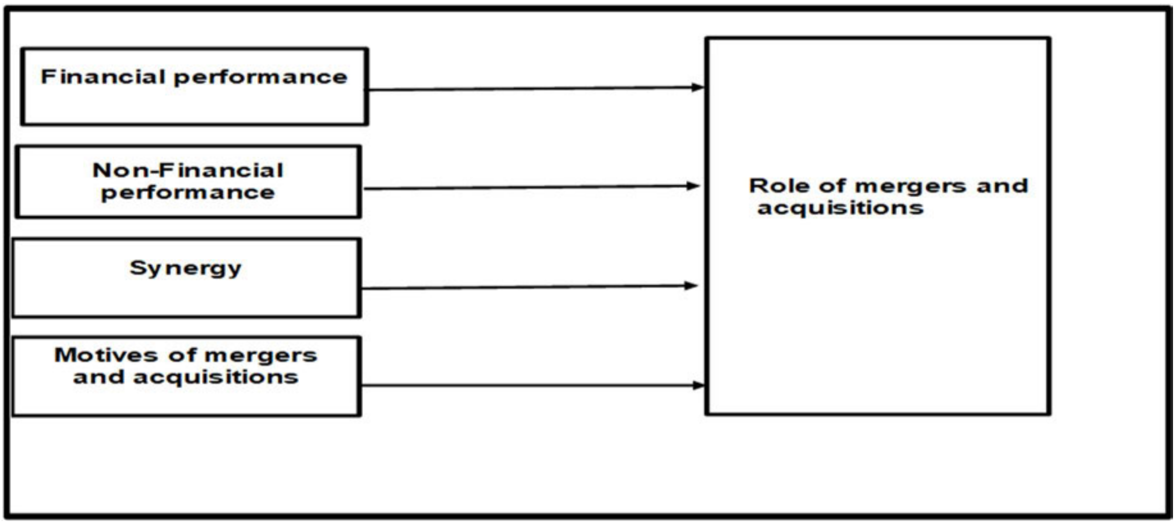
H_2: M&A result in the increased non-financial performance of companies in the chemical industry.

H_3: M&A result in the increased synergy.

H_4: M&A motives contribute to the performance of companies within the SA chemical industry.

Based on the above developed hypotheses, the proposed model of the study is presented on Figure 1.

Figure 1.1: Proposed model of the study



1.8 SCOPE AND DELIMINATION OF STUDY

CompCom SA is a legal organization founded upon Competition Act No. 89 of 1998 by the South African government. The responsibility of CompCom SA is to approve mergers and acquisitions transactions. In addition to approving M&A, CompCom SA is authorised to inspect, regulate, and assess obstructive business behaviour and misuse of leading competitive role. As such, the location of this study is CompCom SA based at 77 Meintjies Street, Trevenna, Pretoria. The study used the names of the companies listed as completed M&A transactions within the chemical industry in SA that are listed in the CompCom SA's website. The study took into cognisance that some of the companies that were listed under a list of completed transactions have been closed and / or dissolved, hence the senior executives from these companies might not be contactable. Even those that were contactable, they might not give a good account of what happened in their previous companies.

1.9 THEORETICAL FRAMEWORK

This study is anchored around seven theories, namely: agency, efficiency, monopoly, raider, economic disturbance, process and valuation theories. These theories are further discussed in Chapter four of this study.

1.10 SUMMARY OF RESEACH METHODOLGY

The research methodology adopted fort this study is quantitative research methodology. Study targeted all executives of merged companies in the chemical industry in SA. These executives constituted the sampling units of this study. The population was 120 executives and senior managers. From this population, a sample of 102 individuals was determined to be the correct number to be used in the study. The study chose purposive sampling technique of non-probability sampling method. The questionnaire was pre-tested using 5 senior staff members within the same companies that participated in the study. This was to ensure that gaps were identified and to modify the questionnaire appropriately. The instrument designed to gather the primary data was a self-administered closed-ended questionnaire. The items of the questionnaire were spread in two sections. Section A of the questionnaire collected demographic profile of the respondents. Section B were questions that were aligned to the variables of the study which were informed by the study objectives. Depending on the person nominated by the company to complete the survey, data was collected from Presidents, Vice Presidents, Executives, Managing Directors (MD) Chief Financial Officers, Chief Executive Officers (CEO), Directors and Managers at senior level, of merged companies. The instrument was distributed to respondents via electronic mail. From 102 respondents that were targeted, 56 questionnaires, that were usable. were returned which represented a response rate of 55 per cent. All data collected were analysed utilizing SPSS V.25 and were interpreted into tables and graphs. Internal reliability of the instrument was tested using exploratory factor analysis, whilst validity was tested using varimax rotation technique. The hypothesised relationship between dependent variable; role of mergers and acquisitions against independent variables; financial performance, synergy motive, economies of scale, and motives of M&A was tested using multiple regression analysis. Comprehensive discussion of the research methodology used in the study is discussed in chapter six.

1.11 DEFINITION OF RESEARCH VARIABLES

Below is the brief overview of the variables that were tested in this research study and a more detailed discussion is presented in Chapter four. Table 1.1 presents summary of the constructs of this study.

Table 1.1: Summary of research variables

Variable	Description	Source of items
Synergy	The ability of the merged entities to produce improved performance than individual entities on their own is called synergy.	Andriuskevicius and Ciegis (2017); Hamza, Sghaier, and Thraya (2016); Mahesh and Prasad (2012); Taher, Adnène and Firas (2016).
Financial performance	This is the measure of how the company has performed against its financial objectives	Andriuskevicius and Ciegis (2017); Borhan et al. (2014); Abbas, Hunjra, Azam, Ijaz, and Zahid (2014); Joash and Njangiru (2015); Mahesh and Prasad (2012); Yanan *et al*. (2016)
Non- financial performance	This is the measure of how the company has performed against its strategic and those objectives that are not quantifiable financially	Yanan *et al*. (2016); Kotler and Keller (2012) Mahesh and Prasad (2012); Richard, Devinney, Yip, and Johnson (2009).
Motive behind M&A	Motive of M&A is the fundamental reason that drives companies to engage on mergers or acquisitions	Belz, Robinson, Ruf, and Steffens (2013); Hamza *et al*. (2016); Joash and Njangiru (2015); Parimala and Kalaiselvi (2015); Savovic (2016); Tripathy and Prajapati (2014).
Role of M&A		Akenga and Olang (2017); Belz *et al. (*2013); Khan, Halabi and Khan (2011); Rani *et al*. (2015); Sehleanu (2015).

Source: Compiled from literature

1.11.1 Financial Performance

Financial performance measures how the company has increased its profits, return on assets and return on investment (Abbas *et al*., 2014). This is supported by Akenga and Olang (2017) who state that the financial performance refers to the state of the monetary value of the company that is measured through the entity's policies and operations. The increase in financial performance contributes to the shareholders' value. Financial performance was measured using five items. These were profitability, liquidity, capital market, cash flow and sales growth (Daddikar and Shaikh, 2014; Borhan *et al*., 2014; Abbas *et al*., 2014; Joash and Njangiru, 2015; Mahesh and Prasad, 2012; Yanan *et al*., 2016).

1.11.2 Non-Financial Performance

Non-financial performance measures the extent to which the company managed to achieve any form of strategic growth other than the financial growth (Yuliansyah and Razimi, 2015). Non-financial performance measures are based on different objectives, other than the financial objectives, that the company wants to achieve by embarking on M&A (Andriuskevicius and Ciegis, 2017). Non-financial performance was measured using six items and these were market share, customers, pricing, buying power, penetration into new markets and penetration into new geographies (Hamza *et al*., 2016; Mahesh and Prasad, 2012).

1.11.3 Synergy

The ability of merged entities to produce improved performance than individual entities on their own is called synergy (Mahesh and Prasad, 2012). Through synergy, the merged entities increase their performance, thereby posting high profitability and more return to the shareholders (Polyarus, Severgina, and Borzenkova, 2013). Synergy can be due to increased efficiency, reduction of costs, increased marked and economies of scale (Akenga and Olang, 2017; Rohra and Chawla, 2015). Synergy is normally realised in companies that are related, whereas reverse synergies are experienced when companies are unrelated. It is essential that after a M&A process synergy is determined. The determination of synergy is vital, especially to the shareholders as through M&A, shareholders are expecting increased shareholders' value (Clarke and Lovette, 2015; Clark, 2013). Synergy consisted of ten items where the respondents were asked to rank various items on whether they agree or disagree that the merger or an acquisition brought in some form of synergy.

1.11.4 Motives of Mergers

Motive is the main reason or rationale used by the manager to embark on a merger or an acquisition (Vretenar, Sokolic, and Mrak, 2017). The main aim of this study is to determine the role of M&A on the performance of companies within the chemical industry in SA. It is therefore essential that when determining performance, the motive behind M&A is identified. Motive of M&A are related to different theories and these are not mutually exclusive in defining certain M&A motives. Seth, Song, and Pettit, (2002) argue that motives and theories of M&A are vital in understanding success or failure of M&A. The items under motives variable were meant to identify theories applicable to M&A. As there is no single theory that can define M&A, seven questions relating to various theories were measured under this construct (Glaister and Ahammad, 2010). This variable was measured using seven items; efficiency *(efficiency theory),* facilitate wealth transfer (*raider theory*), maximize managers' utility *(agency or empire building theory),* organizational routine *(process theory)*, increase market power *(monopoly theory),* economic disturbances (disturbances theory), and knowledge of target's financial performance (*valuation theory).*

1.11.5 Role of Mergers and Acquisitions

Companies engage in M&A to achieve different overall objectives. These different objectives play different roles on the performance of companies' financial and non-financial performance after the acquisition. The role of M&A on performance was measured against financial performance, non-financial performance, and synergy (Malik, Anuar, Khan, and Khan, 2014; Savovic, 2016). Savovic (2016) opine that it is essential for the company to identify the role of merger or an acquisition on both financial and non-financial performance. Determining the role of M&A on financial and non-financial performance is done to identify if the entity has achieved cost reduction, has improved its income, market share and its ability to compete after the acquisition. The items used to determine role of M&A were four.

1.14 DEFINITION OF TERMS

1.14.1 Corporate Restructuring

Corporate restructuring is a term used to describe the combination of different entities to achieve business growth (Lie and Liu, 2018; Oloye and Osuma, 2015). Rohra and Chawla (2015: 253) define corporate restructuring as “changes in ownership, business mix, assets mix and alliances with a view to increase the shareholder value” and encompasses M&A, amalgamation, takeover, capital re-organisation, sale of business units and assets, amongst others (Oloye and Osuma, 2015).

1.14.2 Mergers

Firer (2012) defines a merger as a process where two entities bring together their assets under the management of one entity.

1.14.3 Acquisitions

According to Firer (2012) acquisition is a process where one firm called acquirer, purchases the full control of another entity, called the target, resulting in the target losing control and the acquirer taking over the control of the target.

1.14.4 Strategic Alliance

Strategic alliance refers to agreements entered into by two or more entities with the aim of developing new products or processes that are meant to benefit all the companies that have entered into an agreement. Strategic alliances are long-term and are characterised by cooperative relationships (Hill, Schilling, and Jones, 2017).

1.14.5 Acquirer

The company that decides to take over management control of another company during an acquisition transaction is called an acquirer (Yousef, 2016).

1.14.6 Target

The target is the company that is being acquired or the company where its total management control is taken over during M&A transaction (Yousef, 2016).

1.14.7 Vertical Mergers

Aggarwal *et al.* (2016) define a vertical merger as a merger between companies operating in the same industry and different stages of the value chain system.

1.14.8 Horizontal mergers

According to Aggarwal *et al*.(2016), horizontal merger is a combination of firms that offer similar products or services and are likely to be competing against each other.

1.14.9 Forward mergers

Aggarwal *et al.* (2016) describe forward merger as the combination of the company with its customer.

1.14.10 Backward mergers

Backward merger is the combination of the entity with its supplier of material (Aggarwal *et al*., 2016).

1.14.11 Conglomerate

Conglomerate occurs when two entities operating in unrelated business activities combine their assets (Aggarwal *et al*., 2016).

1.14.12 Economies of Scale

Economies of scale is when the company, through merger or an acquisition, achieves reduction of fixed costs by eliminating redundant departments and /or operations. The reduction of fixed costs results in decreasing of company costs relative to the similar stream of revenue, thereby increasing profit margins. They result in an increase in costs of production and in lower marginal cost as fixed costs are spread over increased production volume. In addition, the resulting specialization of workforce and management might improve the company's combined efficiency (DePamphilis, 2014; Derashri, 2016).

1.14.13 Economies of Scope

The process of putting to use acquired resources that were required for a specific use but used in multiple other purposes at minimal or no additional cost is called economies of scope. They are achieved when average cost of producing two different products decreases when products are manufactured together. This is realized by producing a wider variety of products or services, using one set of inputs (DePamphilis, 2014; Motis, 2007).

1.14.15 Managerial Synergy

The management of the target represents the target's assets when two companies are merging. This results in an increased performance of the merged entity as management is familiar on how to run the underperforming entity, is aware of the competitive environment and is to encourage personnel of the target in accomplishing the desired firm objectives (Siddaiah, 2011).

1.14.16 Empire Building

Rohra and Chawla (2015) explains that in empire building, the manager of the acquirer decides to go for a merger or an acquisition in order to increase his pay than to maximise shareholders. This principle is based on the positive relationship between manager's income and the company size. This implies that when the size of the entity grows, the income of the manager will also grow.

1.14.17 Friendly Takeover

A friendly takeover is a kind of acquisition characterised by the incorporation of the management of the target. The target management presents the offer from the acquirer to their shareholders (Ianenkova and Solesvik, 2016).

1.14.18 Hostile Takeover

Contrary to the friendly takeover, the hostile takeover occurs when management of the target refuses to negotiate or accept the offer from the acquirer. As part of the takeover tactics, the board of the target submit an opposing offer to that of an acquirer to the shareholders (Ianenkova and Solesvik, 2016).

1.14.19 Tender Offer

Tender is a process whereby the buyer informs the target in writing of their offer to buy outstanding stock. The transaction price is confirmed during the day of announcement and it is always at a premium to that of the market price. The purchaser directly approaches shareholders of the target entity to offer them a price for their shares (Chen, 2018).

1.14.20 Organic Growth

Organic growth is when the entity decides to grow within and it is not the quickest way of growing (Rohra and Chawla, 2015).

1.14.21 Inorganic Growth

Inorganic growth forms part of what is called brownfield expansions (Rohra and Chawla, 2015).

1.14.22 Shareholder Value

Hill *et al*. (2017) describe shareholder value as total return accrued to shareholders from shares bought from another company.

1.14.23 Profitability

As per Hill *et al*. (2017) profitability is the return that an entity earns on the invested capital.

1.15 THE STRUCTURE OF THE THESIS

The current section gives a snapshot of the thesis as defined by nine chapters.

Chapter 1

This chapter provides the background, the objectives of the research, aims, originality, justification, and general synopsis of the research.

Chapter 2

This chapter discusses and introduces the South African chemical industry and further illustrates the state of M&A within this industry.

Chapter 3

This chapter discusses the background of M&A, different types of M&A, measurement, and methodologies used to measure performance of M&A.

Chapter 4

This chapter reviews both theoretical and empirical literature pertaining to M&A. The chapter further gives an overview of motives of M&A.

Chapter 5

In this chapter, the researcher discusses the conceptual structure and hypotheses of the study which emanates from literature review discussed in chapter 2.

Chapter 6

This chapter defines research philosophy and approach to the study. The chapter further illustrates and outlines the research design used in the study. The chapter goes on to define and outline research methodology applicable to the study which assists in answering the main research objectives and questions. It further demonstrates validity and reliability of the study and lastly outlines research ethics implemented during the study.

Chapter 7

The researcher in this chapter presents the findings of the study and gives interpretations and discussions of research findings.

Chapter 8

This chapter discusses the research findings of the study and are linked to literature review discussed in chapter two and conceptual framework developed in chapter four of this study.

Chapter 9

Summary of findings, conclusions and recommendations for future studies emanating from the study are presented in this chapter. The chapter further gives the implications of the study to managerial practice and contributions to the body of knowledge.

1.16 CHAPTER SUMMARY

This chapter introduced M&A and why firms make a choice to embark on this process. The background and the aims of the study were then discussed. The chapter further discussed SA chemical industry as context of the study. Research questions, objectives and research hypotheses of the study were also given. Justification, significance, and contribution of the study to the body of knowledge were given. Lastly, research methodology and structure of the study were likewise outlined. The following chapter introduces the South African chemical industry and gives an account of M&A transaction history in South Africa.

CHAPTER TWO

SOUTH AFRICAN CHEMICAL INDUSTRY AND MERGERS AND ACQUISITIONS

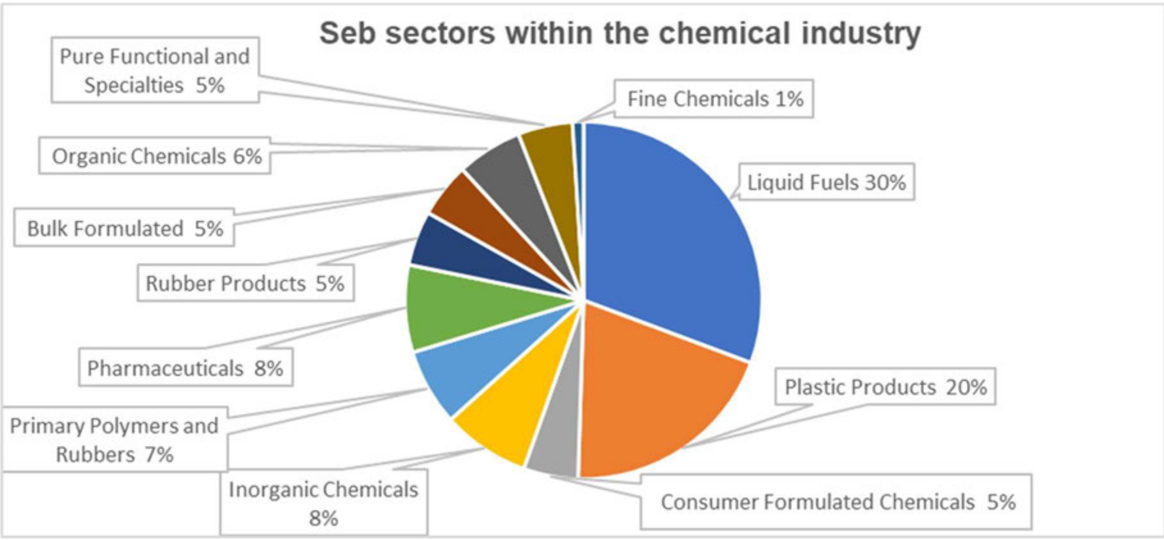
2 INTRODUCTION

The previous gave background and introduction of study. This chapter pays attention to the research context of this study. A discussion of SA chemical industry as a research context is presented. The chapter further presents an overview of M&A within South Africa and SA chemical industry.

2.1 THE CHEMICAL INDUSTRY IN SOUTH AFRICA

According to Majozi and Veldhuizen (2015), the SA chemical industry was established around the 19th century. The industry was established to fulfil the demand of the explosives needed for the exploration of mines in the greater Transvaal area, now called Gauteng. South African chemical industry forms part of the manufacturing sector and it contributes about 3 percent to the GDP of the country. It contributes more than any other industry within the manufacturing sector. Furthermore, the industry is one of the key industries and contributes about a quarter of SA's manufacturing sales. CHIETA (2018) reported that, the chemical industry contributed about 3 percent to GDP growth in 2017. The 3 percent contribution to the GDP, amounts to 23 percent of the total manufacturing gross value added in 2017. Furthermore, CHIETA (2018) stated that 54 percent of the entities within this industry are categorised as micro or small entities, whilst 30 percent are categorised as medium and large entities only constitute 16 percent of the industry. The industry is spread across all nine provinces of the country. Forty seven percent of companies are located in Gauteng, whilst 18 percent in KwaZulu Natal and further 16 percent in Western Cape. The industry constitutes all the companies that are involved in manufacturing and distribution of chemicals. The local companies include amongst others Sasol, AECI, Nuclear Energy Corporation of South Africa (NECSA) and Petro SA. The industry is constituted of sub-industries such as speciality chemicals, surface coatings, fertilisers, explosives, base chemicals. According to Small Enterprises Development Agency (SEDA) (2013), chemical industry in SA is diversified into 11 sub-industries with the exception of synthetic textile fibres listed under textile industry as shown in Figure 2.1. CHIETA (2018) further confirms that amongst these sub-industries, 906-member companies are registered on their data base as of May 2018. As shown in Figure 2.1, the biggest sub industry is liquid fuels, which contributes 30 percent of the overall industry and followed by plastic products which contributes about 20% and the least contributing sub-industry is fine chemicals and contributes less than 1% (SEDA, 2013). According to CHIETA (2018), the chemical industry suffered a severe decline during 2008/2009 economic meltdown. This industry is prone to currency fluctuations as the majority of the chemicals are imported. CHIETA (2018) further states that some of the macroeconomic pressures that are affecting this industry are rapid growth of chemical producers from emerging economise like China and India. These macroeconomic factors that have an impact on the SA chemical industry saw a closure of one of the biggest local producers, Karbochem, due to the fluctuating and unpredictable prices of feedstock prices which are also influenced by the currency exchange rate.

Figure 2.1: South Africa's chemical industry and sub industries



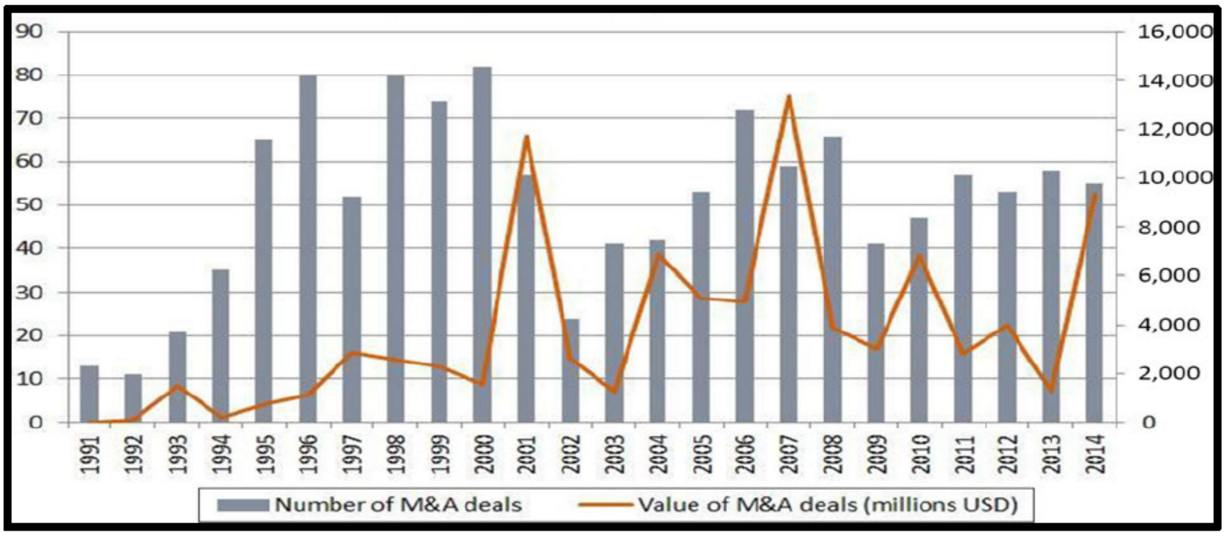
Source: CHIETA (2018:5)

Despite the afore-mentioned macroeconomic challenges and their impact on the industry, the industry continues to grow from strength to strength (CHIETA, 2018). The estimated growth in the next few years is at its lowest because of uncertainty in regulatory environment, volatility of local currency against major currencies like USD, and constrained global economy. Oliveira (2014) alludes that the industry is the most highly developed in Africa, with estimated value of USD 30 billion and yet only contributes about one percent to the global market. As the industry holds an essential role both locally and within the African continent, CHIETA endeavours to ensure that industry remains competitive and continues to play a meaningful role to the growth of the SA economy. It is also against this background that CHIETA continues to develop skills in the industry to unlock the potential and build competencies within the Chemical industry. Globalisation and internationalisation opened opportunities to multinational companies to invest in SA, either through greenfield investment or through M&A in the form of consolidations (Deloitte, 2017). Some of the multinational companies that have been involved in M&A in SA are Dow Chemicals, DuPont, BASF, and BAYER to mention a few. The ensuing section discusses M&A within SA.

2.2 MERGERS AND ACQUISITIONS IN SOUTH AFRICA

The birth of new democratic dispensation in 1994, saw an increased appetite by multinational companies acquiring and merging with SA companies (Wilson and Vencatachellum, 2020). In line with this statement, Deloitte (2017) documents that the number of deals in SA increased sharply in 1994. This is the same period when SA held its first democratic elections which served as a catalyst to inward FDI. These mergers are driven by different motives. Wilson and Vencatachellum (2016) revealed that natural resources are amongst the top drivers of M&A targeting SA. The other reason that drives mergers in SA is the fact that SA is seen as the gate way to the rest of the African, because of its advanced infrastructure compared to the other African states. Wilson and Vencatachellum (2020) reported that, SA recorded 1250 M&A deals between year 1991-2014. On the same token, Mergermarket (2014) reported that 59 percent of M&A deals in Africa in the year 2014 were accounted for in South Africa. The year 2007 and 2012 saw the chemical industry contributing about 14 percent to the total volume of deals in Africa, but the figure dropped slightly between 2013 and 2014 to 13 percent (Megamarket, 2014). As the deals like Kansai Paint Co. Limited and others in the chemical industry continued, 2012 saw SA recording USD 12, 2 billion of M&A across all industries (Media update, 2012). Deloitte (2017) reports that year 2016 saw SA chemical industry benefiting from one of the global deals which included Dow-DuPont as both these global giant companies are operating within SA. The Germany chemical’s distributor, Brenntag extended its footprint in SA by acquiring Chemgrit Cosmetics (CHEManager, 2019). This deal was at the back of what the Brenntag did in SA, by merging with Lionheart, Plastichem, Multilube and Warren Chem Specialities (Dlamini, 2017).

Figure 2.2: The number and the value of mergers and acquisitions that targeted South African firms from 1991 to 2014.



Source: Wilson and Vencatachellum (2020:32)

Some of the notable deals globally in the chemical industry that had an impact in SA, were those of Dow-DuPont merger and ChemChina - Syngenta deals. The Dow-DuPont merger had also to be approved by CompCom SA as both entities had operations in SA (Deloitte, 2017). Davids (2016) is of the view that, SA is starting to lose its competitive spot as the gateway to Africa. This implies that SA might see a decline in the number of deals, especially those that are driven by foreign multinational companies. There is also hope though, that the chemical industry in SA is going to benefit from recent activities by President Ramaphosa, to lure investment into South Africa (Arnoldi, 2019). Amongst these, is the 10 billion USD pledge by Saudi Arabia to South Africa and 14.7 billion USD by the government of the Republic of China. Not leaving out the Africa Continental Free Trade Agreement signed by 55 African states (UNCTAD, 2017). During the period under study, CompCom SA reported about 60 transactions within the chemical industry in SA.

2.3 CHAPTER SUMMARY

The chapter further gave a background on the SA chemical industry and discussed M&A in SA. The study gave more emphasis on the chemical industry within SA. The chapter showed that the chemical industry in SA contributes about 3 percent to the GDP of the country and contributes more than any other industry within the manufacturing industry. The number of factors that are contributing to the increasing number of M&A within the chemical industry globally were highlighted. It has been highlighted from the chapter that SA recorded 988 deals between 1990 and 2001. The ensuing chapter is going to review literature related to the variables of the study and further explain theories applicable to this study.

CHAPTER THREE:

MERGERS AND ACQUISITIONS: DEFINITIONS AND TYPES

3 INTRODUCTION

The previous chapter gave an overview of the SA chemical industry as the context of the study. It further discussed the importance of the SA chemical industry within the value chain of other sectors of the SA economy, hence the importance of this industry as the context of the study. This chapter gives an overview of the background of M&A and the different types of M&A and classification of M&A. The chapter further discusses the importance of measuring performance of M&A. Furthermore, the chapter gives an account of different methodologies used to measure M&A performance. Lastly, the chapter gives an overview of different methodologies used to measure M&A performance in SA.

3.1 BACKGROUND OF MERGERS AND ACQUISITIONS

As businesses continue to experience pressure from both competitors, and customers, they are called upon to be more innovative in order to increase their competitiveness, effectiveness, and performance (Rashid and Naeem, 2017). Kotler and Keller (2012) opine that the main aim of increasing competitiveness and effectiveness is to ensure that businesses continue providing valuable services and products to their customers. By increasing organisational performance, the firms demonstrate commitment to increasing value to their shareholders (Zaheer, Hernandez, and Banerjee, 2010). Entities must achieve competitiveness Huh (2015), increase organisational performance and shareholder value Zaheer *et al*. (2010), despite challenges that they are facing, like the lack of internal reserves, insufficient access to financial markets, and a thin scale of business (Hassan, 2013).

Informed by the afore-mentioned challenges, the best alternative is for companies to either grow organically or inorganically (Rashid and Naeem, 2017). Bhagwan, Grobbelaar, and Bam (2018); Rashid and Naeem (2017), posit that organic growth is achieved internally by using one of the following methods: new product development, enhancement of productivity, increasing output, reduction of costs, developing new markets and customer base expansion. Schweser (2012) contend that, achieving organic growth takes time, bears a lot of risks and consumes a lot of resources.

Renneboog and Vansteenkiste (2019) further corroborate that disadvantages of organic growth, compel companies to use different tactics within their broader strategic framework to grow and maintain their competitiveness. This growth and competitiveness is achieved inorganically through corporate restructuring. Corporate restructuring strategy includes amongst other tactics, growing the asset base and sales expansion (Ghosh and Dutta, 2016; Lasserre, 2018). Oloye and Osuma (2015); Shim (2012*)* further state that various forms of corporate restructuring are mergers, acquisitions, amalgamations, consolidations, joint ventures strategic alliances, and partnerships. Divestiture is described by DePamphilis (2014) as a process where an entity decides to sell out a portion of its assets to an outside party. Divestiture can be in the form of product line, division or subsidiary and it is mainly done to raise cash. In 2015, Dow chemicals decided to sell its business called Dow chlorine products to Olin (CHEManager, 2015). DePamphilis (2014) is of the view that when a business believes that a certain business unit is underperforming or is under-valued, the best alternative for management is to sell the unity.

The decision to go the route of divestiture can be because of a periodic review of a firm's portfolio and this periodic review might result in management deciding to off load products or divisions that do not fit into the firm's main products, and strategic intent (Graebner, Heimeriks, Huy, and Vaara, 2014 cited Capron, Mitchell, and Swaminathan, 2001). Sometimes, a company may realise that one division is worth more if it is sold than if it is kept within the company. Such divisions that have less value within the company are sold in order to invest in divisions or products that bring more value and profitability to the company (Cummins and Xie, 2009). The carved-out division's money can also be returned as cash to the shareholders either as liquidating dividend or as share repurchase. Amalgamation is a form of corporate restructuring tool that involves the merging of assets and liabilities of two entities or more, resulting in one entity (Reddy, 2014). Derashri (2016) argue that the process of amalgamation involves two or more companies that decide to liquidate their business activities to form one company. The resulting company continues with the business activities of the liquidated individual companies. Amalgamation increases the asset and customer base of the amalgamated companies. In amalgamation, the identity of the individual or amalgamating companies is dissolved, resulting in a newly formed entity with its own legal identity (Derashri, 2016). According to Marks and Mirvis (2011), the first form of amalgamation results in the shareholding of amalgamating being merged together. In the second form of the amalgamation process, the stockholders of the acquired entity lose equity rights to the acquiring entity. Another form of corporate restructuring is the joint ventures (JV) It occurs when two or more entities decide to work together on a definite business enterprise where all the parties share profits and losses (Hill *et al*., 2017). JV are controlled by a contractual agreement and are project driven. JV are dissolved as soon as the project that the entities had agreed to work on ceases to exist (Hill *et al*., 2017). Hill *et al*. (2017) opine that a strategic alliance as a tool of corporate restructuring refers to a scenario where individual companies enter into different cooperative arrangements and agreements. These are cooperative arrangements between possible or actual competitors and are entered into by companies to provide them with the alternatives to exploit other avenues via concentrating on crucial corporate capabilities and subcontracting unimportant functions to more specialising partners.

Strategic alliances are usually formed for short - term periods and usually include short-term contractual agreements. Furthermore, Shi, Sun, and Prescott (2012) note that strategic alliances are created to mitigate risk and increase leverage. The structure of the individual companies that enter into strategic alliances do not change as strategic alliances are only formed for a short-term period (Derashri, 2016). The present-day strategic alliances normally involve companies operating in highly developed economies. The main aim of the strategic alliances is to create new products and technologies, instead of distributing existing products and technologies. Derashri (2016) opines that through strategic alliances companies can collaborate and improve entry to supplies. They require high level of trust and strong relationships. The view by Gold, Seuring, and Beske (2010) is that trust is at the centre of commitment by companies entering into strategic alliance. Trust is the main ingredient that is vital in value creation and thus brings competitive advantage in strategic alliances. Increased firm performance can easily be achieved via strategic alliances as partnering companies are able to introduce innovative approaches, thereby improving turnaround times, enhancing capacity and improving competences (Kareem, Akinola, and Oke, 2014). Sikhwari (2016) is of the view that strategic alliances are directly and positively related to the internal processes that pursue continuous enhancement of business processes. Vargas-Hernandez, Galindo, and Penelope (2016) note that strategic alliances play an important role in increasing competitive advantage as they provide quality information. Companies have got an alternative to achieve corporate restructuring by entering into partnerships (Coispeau and Luo, 2015). Coispeau and Luo (2015) describe partnership as the process that encompasses collaboration between two or more entities for mutual benefit. In a partnership, businesses decide to work together in order to mitigate risks that an individual entity would face if it were to operate on its own. Companies enter into partnerships to work in projects, consolidate positions in the market and meet requirements set out by certain legislations.

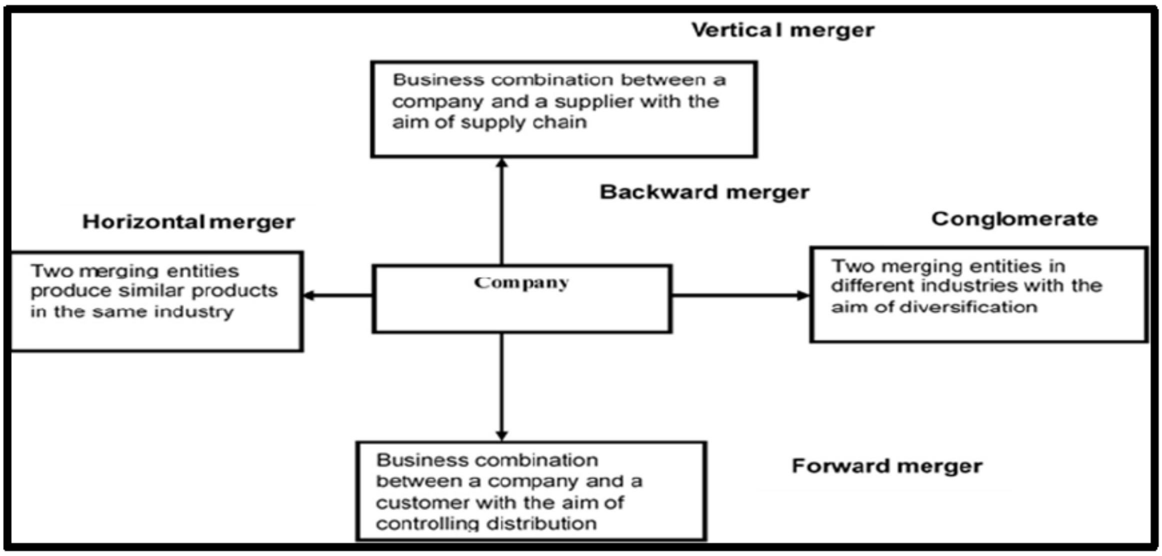
According to Coispeau and Luo (2015), partnership encompasses collaboration between two or more entities for mutual benefit. In a partnership, businesses decide to work together in order to mitigate risks that an individual entity would face if it were to operate on its own. Companies enter into partnerships to work in projects, consolidate positions in the market and to meet requirements set out by certain legislations. The partnerships do not result into a legal entity but only the entities involved in a partnership constitute legal entities (Coispeau and Luo, 2015). Partnerships are essential in the company performance as they are able to deliver benefits and spread complementary resources that improve business outcomes (Coispeau and Luo, 2015). Whilst partnerships as a form of corporate restructuring do not change the structure of the existing firms, mergers and acquisitions result in the formation and creation of a new company and they are discussed in more detail in the succeeding section.

3.2 MERGERS: DEFINITION AND DIFFERENT TYPES

Fatima and Shehzad (2014); Jovanovic and Rousseau (2002); Nalwaya and Vyas (2014); Pranathi, Noor, and Priyadarshini (2016); Raza *et al*. (2015) define a merger as a process where two entities decide to combine their assets and liabilities into one entity. Parimala and Kalaiselvi (2015) posit that the two ways in which mergers can occur are absorption and consolidation. In the case of an absorption merger, the target ceases to exist, and therefore loses its identity, whilst the acquirer retains its name and identity. The acquirer absorbs the liabilities and assets of the target. In a consolidation merger, two or more entities agree to lose their identities and legal existence to create a new entity altogether (Sathishkumar, 2013). The recent Dow-DuPont merger took the form of a consolidation and later went on to unbundle, where three entities were formed out of the two merged entities (Dow, 2017). Weber, Tarba, and Oberg (2014) state that mergers are characterised by a process of negotiation between two entities and a common understanding thereof during the process of negotiation. Arora and Kumar (2012) mention that the outcomes of the negotiation lead to two firms reaching an agreement to go forward and survive as one entity. In a merger, none of the entities exist under the shadow of another entity and a merger transaction can be a transaction involving companies of equal value, that is, both entities end adopting the same name (Arora and Kumar, 2012).

It can also be a combination of entities that are different in size. The new name of a merged entity normally carries the identities of both parent companies. Nalwaya and Vyas (2014) corroborate that in a merger, the merging entities surrender their shareholding and new shareholding of a new company replaces the shareholding of individual companies. The benefits of a merger are to increase organisational performance through gaining entry to new markets, geographies and products, economies of scale and innovative technology. One of the fundamental motives behind a merger activity is to gain synergy. Synergy is expected to result from cost savings, earnings growth, and increased shareholders' wealth (Sathishkumar, 2013). The type of merger is determined by the strategic position that the company wants to fulfil in the industry. Secondly, mergers are influenced by the nature of competition in the market. Roberts *et al*. (2012) notes that industry regulations influence how companies want to access certain markets, especially on cross-border mergers. These, in turn, determine the existence of M&A waves. Based on the choice of strategy and the objective that the company wants to achieve, these types of mergers can be vertical, horizontal, conglomerate, congeneric or reverse, Figure 3.1 (Roberts *et al.,* 2012; Rompotis, 2015).

Figure 3.1: Types of mergers and acquisitions



Source: Roberts et al. (2012:8)

3.2.1 Vertical Mergers

Aggarwal, *et al*. (2016); Hitt, Ireland, and Hoskisson (2015); Roberts *et al*. (2012) opine that a vertical merger results from a combination of two companies that have a supplier- purchase relationship. Liu, Wang, and Zhang (2013) states that companies that lack technical, market synergies and cross-selling opportunities, normally decide to engage in vertical integration. Taneja and Saxena (2014) state that the merging entities are normally involved in similar production of goods but located at various levels of the value chain. Maisashvili *et al*. (2016) posit that in a vertical integration, the manufacturer reduces the risk of depending on suppliers or its customers by merging with the supplier or the customer. According to The African Centre for Biodiversity (2017), the recent merger of Monsanto and Bayer in 2016 represents a vertical merger. Vertical mergers improve the probability of achieving economies of scope, and can result in either backward or forward integration (Agarwal and Mittal, 2014). Roberts *et al*. (2012) state that backward integration is when the manufacturer moves closer to the supplier of raw material, whereas forward integration occurs as a result of the supplier moving towards the customer. Forward integration enables the entity to have a closer relationship and understanding of the market in which they serve. On the other hand, back-ward integration enables the entity to control their production costs and mitigate independence of raw materials (Roberts *et al*., 2012). Once the entity has integrated with the suppliers, it also eliminates the hassle of having to negotiate with the raw material supplier. Roberts *et al*. (2012) affirm that back-ward integration further allows the entity to improve quality of the finished products as the acquirer will be able to control quality from raw material supply through to production and ultimately to its customers. Horizontal mergers are discussed in the following section.

3.2.2 Horizontal Mergers

A horizontal merger occurs when companies that are involved in a merger are operating in the same industry, producing similar products and are competing in the same industry segments (Taneja and Saxena, 2014). This is done to eliminate competition within the market. Aggarwal *et al*. (2016), Hitt *et al*. (2015) contend that horizontal mergers are also done to consolidate the industry. According to Hitt *et al*. (2015), horizontal mergers increase the market power through exploiting cost based and revenue-based synergy. Horizontal mergers result in the achievement of economies of scale. Taneja and Saxena (2014) allude that horizontal mergers improve performance, increase capital and boost profits. An example of a horizontal merger is where a polymer producer buys another polymer producer. One of the advantages of a horizontal merger is that similar characteristics from merging entities such as management style, allocation of resources and strategy will result in higher performance of the merged entity. In South Africa, an example of a horizontal merger was that of Improchem and Clariant Southern Africa. An account of conglomerates is given in the ensuing section.

3.2.3 Conglomerate

Proctor (2015) defines a conglomerate as a merger that involves two or more companies operating in unrelated services or products or industries. Aggarwal *et al.* (2016); Pritchett (n.d) allude that conglomerates are usually big and are multi industry entities. According to Proctor (2015), horizontal mergers usually involve companies that supply complementary products to each other. One such conglomerate in the South African Chemical industry is AECI. AECI holds companies in different industries like water treatment, mining, chemical distributions, and manufacturing of explosives (AECI, 2017). United Nations Conference on Trade and Development UNCTAD (2017) notes that a congeneric merger occurs when there is a technological, market, and production relatedness between the acquirer and target. The target is viewed as an additional arm of the acquirer in relation to the products it carries, the markets that it participates in and technologies that is uses. Congeneric mergers are seen to be providing an opportunity for the acquirer to move into new market segments within the same industry (UNCTAD, 2017). The recent conglomerate in the chemical industry saw the Dow Chemical-DuPont merger, creating a massive chemical company (UNCTAD, 2017). The following section discusses the reverse merger.

3.2.4 Reverse Merger

Aggarwal *et al*. (2016); Kim *et al.* (2015); Ojha, Maheshwari, and Jain (2013) define reverse merger as the merger which involves the purchase of a private company by a public company. The acquisition of a public company occurs via stock swap. It assists private companies to skip the prolonged and complicated processes expected to be pursued on instances where the acquirer has an interest to go public. The newly formed company usually adopts the name of the private company, which is the target, and the management control is done also by the management of the private company. Siegel and Wang (2013) point that in the US, reverse mergers are used to gain capital markets. Kim *et al*. (2015) point that a reverse merger is economical and processing time is much quicker. The transaction can be achieved within weeks as opposed to other merger transactions. The public company that acquires the private company is called a shell or defunct company. Reverse mergers are seen as a back-door listing. They are used as a quick route or option to list publicly without suffering additional costs (Aggarwal *et al*., 2016). The process of a reverse merger involves a private company locating a shell company. The shell company is then offered merger conditions and filling the relevant paperwork within a minimum of two weeks (Kim *et al*., 2015). Anna (2015); Kim *et al*. (2015); Widensky (2014) affirm that once a merger is concluded, the private company will obtain public listing and the control of the shell company. It is a common practice within the reverse mergers that the managers of the shell company are retained after a new company has been established. The retained managers from a shell company are usually used as the consultants.

3.3 ACQUSITIONS: DEFINITION AND DIFFERENT TYPES

Roberts et al (2012); Taneja and Saxena (2014) describe an acquisition as a practice that involves one entity acquiring the entire ownership or controlling state of another. During an acquisition process, the company that takes control of the other company is called an acquirer and the company that is being targeted is called a target. In the South African chemical industry, Kansai Paint Co. Limited decided to acquire Plascon South Africa in the form of a hostile takeover (Taniguchi, 2016). This transaction is believed not to have meant to increase the acquirer's performance, but to buy the market share in Southern Africa. Oghuvwu and Omoye (2016); Perry and Herd (2004) assert that during an acquisition process, an acquirer can decide to take part of the controlling shares or the total shares of the target company.

Roberts *et al.* (2012) posit that the departure point of an acquisition from a merger, is that a merger involves negotiation and agreement between merging companies whilst negotiations do not necessarily occur in acquisition. When shareholders and management of a target company are interested in an offer from the acquirer, the resulting acquisition is a friendly takeover. However, a hostile takeover occurs when the board of a target refuses the offer from the acquirer, resulting in the management of the acquirer directly approaching the board of the target. Roberts *et al*. (2012) state that other forms of acquisitions are leveraged buyouts and bailouts.

3.3.1 Hostile Takeover

Gkountakou (2017) identify hostile takeover as the takeover that transpires as a result of the executives and board of directors of a target recommending rejection of the offer from the acquirer. The rejection is normally presented to the shareholders of target entity. They take longer as there is back and forth communication between the target, board of directors, and shareholders of the target company. In 2014, the Bidvest Group was involved in a hostile takeover of Adcock Ingram Pharmaceuticals (Madisa, 2015). World Finance (2014) reported that one of the biggest hostile takeovers in the US involved American Online and Time Warner, wherein an agreement was reached after 165 days. The process of a hostile takeover normally involves issuance of tender offer or proxy contest. Gkountakou (2017) mentions that a tender offer is when the board of the acquirer bypasses management and directly approaches shareholders with the offer of takeover. The reason to directly approach the shareholders of the target firm is to avoid the obstacles presented by board of directors of the target. The predominant characteristics of a tender offer are that the offered price is above the current market price. The offer of the price for the outstanding shares of stock is offered on a limited time period. Aggarwal *et al.* (2016) mention that the offer is done to the public stockholders of the acquired entity. On the other hand, shareholders can be persuaded to vote in a certain manner. The process of persuading the shareholders to vote in a certain manner is called proxy contest. The resistance from the target board of directors might be only a tactic of trying to negotiate a better price. Gkountakou (2017) points that in some instances, the rejection of the offer might be genuine as the target board might think that the bid would be to the detriment of the target firm.

3.3.2 Friendly Takeover

According to Tripathi and Lamba (2015), the difference in friendly takeovers from hostile takeovers is that the board of the acquirer directly approach board of the target. The board of the target might decide to accept the bid or remain neutral or decide to take and present the offer to the shareholders. Gupta (2012) posits that there is a collaborative effort between board of directors of both entities during the friendly takeover. Gupta (2012) further notes that the main characteristic of a friendly takeover is the willingness of both parties to negotiate. According to Gupta (2012), Gilead Sciences was involved in a friendly takeover of Pharmasset. The main objective of this takeover of Pharmasset by Gilead Sciences was to add a new product range in the form of hepatitis C therapies in Gilead Sciences' product portfolio. The type of funding for merger or an acquisition draws a difference between takeovers and buyouts that are discussed in the ensuing section.

3.3.3 Leverage Buyouts

Tripathi and Lamba (2015) define leverage buyout (LBO) as an acquisition that happens through borrowed funds. During leverage buyout, only a small amount of equity is used to buy out the company and a relatively large portion is through outside debt. LBO is essential and beneficial to investors as it assists investors to invest in the absence or lack of huge capital (Tripathi and Lamba, 2015). Tripathi and Lamba (2015) further state that buyouts use mostly borrowed funds but the entity borrowing might still have money posted within their books, unlike on the case of bailouts as discussed on the next section.

3.3.4 Bailout Takeovers

Bailout takeovers are sometimes called bankruptcy takeovers as a loss-making company is taken over by a generally profit-making organisation. In South Africa, for the past 10 years the government has been bailing out the ailing national airline, South Africa Airways (SAA) with an amount of 12 billion Rands. Motives for M&A are anchored on different theories and there is no one theory than can be best suitable for all the M&A. These theories are discussed in the ensuing section.

3.4 THE CLASSIFICATION OF MERGERS AND ACQUISITIONS

M&A are categorized into three categories; portfolio M&A, financial M&A and organisational M&A (Bowman, Singh, Useem, and Bhadury, 1999). Portfolio M&A affect both the asset mix and product line in which the business operates. Portfolio M&A can be achieved through liquidation, sale of asset, divestures, and spin-offs. According to Oghuvwu and Omoye (2016), financial M&A affect the equity of the organisation through the issuing of new shares. Financial M&A change the capital structure of the entity. The financial M&A are accomplished through leverage buyouts, leveraged recapitalization and debt equity swaps. The last category of M&A is organisational M&A, which affects the structural change of the organisation. Zollo and Meier (2008) allude that organisational M&A affect the structure of the organisation by creating new organisational boundaries and adjusting the existing organisational boundaries. The organisational M&A result in flattened organisational structure, thereby dispersing the span of control. Through organisational M&A, companies can reduce product diversification, revise compensation policy, downsize the organisation's workforce and rearrange corporate governance. The next section discusses the process of merger and gives a detailed explanation on types of mergers.

3.5 MEASURING PERFORMANCE OF M&A

Performance of the organisation is one of the most essential constructs in management research. Organisational performance is a multidimensional concept that is influenced by the method used to measure it. It is a function of market structure and the behaviour of firms within the competitive and ever-changing business world (Jabeen *et al*., 2013; Tanriverdi, 2013). It is equally important to scholars across the management research domain. Andriuskevicius and Ciegis (2017) argue that the performance of M&A is defined differently by different scholars and it includes perspectives and approaches from financial and non-financial measures. Organisational performance carries different significance to different scholars. Scholars in strategy and accounting desire to influence and measure it (Mellahi, Frynas, and Finlay, 2005; Richard *et al*., 2009), whilst the scholars in marketing, operations and human resource management pursue to understand and improve it. Because of different objectives to organisational performance, Chenhall and Langfield-Smith (2007) argue that different measures like productivity, customer satisfaction and employee satisfaction are used by each discipline. Zollo and Singh (2004) further emphasize that there is heterogeneity in defining and measuring post-acquisition performance. Kiessling and Harvey (2006) make similar observations, and stresses that, there is no agreement regarding the most applicable method of either acquisition performance measurement or the timing of measurement during the process. Zollo and Meier (2008) analysed 88 empirical studies conducted between 1970 and 2006 and identified 12 approaches to measuring the impact of acquisitions on shareholder value. They concluded that the most common approaches to measuring post-acquisition performance are stock-market-based measures, accounting-based measures, and subjective measures.

It is therefore important that within each discipline, there is an understanding on how to measure variables of organisational performance and how they fit into the entire organisational performance and other disciplines. It is related to different stakeholders, diverse product market conditions at a given time. As much as the M&A are influenced by factors such as integration process, the time it takes for the process to be completed and response from various stakeholders is equally important (Richard *et al*., 2009). Wang and Moini (2012) argue that the results obtained when measuring performance are influenced by the manner in which it is defined, methodology used to measure it, selected constructs to measure it, size of the sample, and time horizon considered during its measure. Based on this complexity of measuring performance, and its multidimensional nature, Cording, Christmann and Weigelt (2010) contend that there is no superior methodology over the others that is used to measure performance.

Cording *et al.* (2010) further posit that superiority of one methodology over the other is based on the relation of theoretic logic and theoretic dimension of the question under study. The view by Liu and Fang (2016) is that the financial performance of the organisation during a merger activity is influenced by the designed and selected method of payment. Liu and Fang (2016) further mention that performance is directly affected by the financing strategy adopted by the business and price. The different stakeholders that affect organisational performance within M&A space are managers, customers, and employees amongst others. The multidimensional nature of organisational performance necessitates that researchers must have strong theoretical rationale on the nature of performance. Having strong theoretical rationale means that the researcher must be able to establish measures applicable to the research context (Richard *et al*., 2009). Secondly, the multidimensional nature of performance requires the researcher to depend on theory as the nature of measure. This implies that the researcher must be able to combine measures and methods to be used based on a relevant theory. It is against this background that some authors prefer to use triangulation research when measuring organisational performance (Richard *et al*., 2009). Using triangulation research to measure organisational performance assists researchers to use multiple measures, longitudinal data, and alternative methodological formulations. In a broader view, organisational performance incorporates three organisational outcomes, namely, financial performance, product market performance, and shareholder return (Richard *et al*., 2009). Richard *et al*. (2009) further posit that in most instances, measuring organisational performance using financial output focuses mainly on profits, return on assets, return on investment, liquidity, amongst the outcomes being measured. On the same token, Richard *et al*. (2009) mention that the product market performance output is measured using output from sales, market share and market power. The shareholder return measures total shareholder return and economic value added. In measuring organisational performance, the management research and strategic management research tend to focus on accounting, financial and market outcomes (Richard *et al*., 2009). Andriuskevicius and Ciegis (2017) classifies the corporate M&A performance according to measures that are used. As depicted in Table 3.1, the classification M&A performance is based on market performance, accounting performance, operational performance, and overall performance. As demonstrated in Table 3.1 market performance measurement of M&A is based on risk and market values using variables such as cumulative average returns. In addition, performance is based on overall performance of the firm which basically tracks the achievement of M&A goals. Table 3.1 demonstrates that accounting performance is measured using different antecedents such as profitability, growth, leverage, liquidity, and cash flow. The main measure of accounting performance is sales growth (Andriuskevicius and Ciegis, 2017). As illustrated in Table 3.1, the operational is measured using market share, number of patents and cost synergies.

Table 3.1: The classification of corporate M&A performance measures

Variable	**Antecedents**	**Measure**
Market performance	Risk, market value	Jensen's Alpha Beta, CAR, CAAR, RSH, APD, CPD
Accounting performance	Profitability, Growth Leverage, Liquidity Cash flow	Sales growth
Operational performance	Marketing, Innovation Productivity	Market share, number patents, Cost synergies
Overall performance	Success Survival	Attainment of M&A goals

Source: Andriuskevicius and Ciegis (2017:12)

Table 3.2 demonstrates the classification of corporate M&A performance measures using level analysis. As demonstrated in Table 3.2, subjective measures are those that measure integration process performance, knowledge transfer, systems conversion, customer retention, and employee retention. Whilst on the other hand, the objective measures are those that measure short-term financial performance (event study), accounting performance, long-term financial performance, innovation performance, variation in market share and acquisition survival (Zollo and Meier, 2008).

Table 3.2: The classification of corporate M&A performance measures using level analysis.

	Time horizon	
	Short term	**Long term**
Level of analysis		
Task	Integration process performance Knowledge transfer Systems conversion	Customer retention Employee retention
Acquisition	Short-term financial performance (event study)	Overall acquisition performance Acquisition survival
Firm		Accounting performance Long-term financial performance Innovation performance Variation in market share

Source: Zollo and Meier (2008:60)

The widely used measures of performance are objective measures and financial measures. Accounting measurers as depicted in Table 3.3 are easy to use as they are readily available through financial reports and financial statements of the organisation. In as much as they are readily available, it is worth noting that accounting measures can present inaccuracies because of different accounting policies, human error, and trickery (Richard *et al*., 2009). Because accounting measures are based on the rules like General Acceptable

Table 3.3: Accounting measures

Cash flow from operations	This accounting measure is used to examine whether cash flow differs significantly from earnings. It is defined as net operating profit plus noncash expenses minus noncash sales.
Earnings before interest and taxes	
Earnings before interest, taxes,	

Table 3.3 (continued)

depreciation, and amortization	
(EBITDA)	Like EBIT, EBITDA is defined as the firm's operating profit and does not make any allowance for interest and taxes that must be paid. It is also adjusted to remove the effects of noncash expenses such as depreciation and amortization (these are deducted from the cost component).
Market share	Firm's sales revenue in the product market divided by the total sales revenue available in that market. Although it can be defined as unit sales volume divided by the total volume of units sold in that product market, this is exceedingly rare in management research.
Net operating profits (also known as earnings)	This is equal to the firm's revenue minus the cost of goods sold and selling, general and administrative expenses. Taxes and interest are removed to reach this net figure
Net operating profit less adjusted taxes (NOPLAT) (also known as	
net operating profit after tax	
[NOPAT])	

Table 3.3 (continued)

	This measure is similar to net operating profit but is adjusted to remove several accounting distortions. It provides a cash-based measure of net operating profit. Typically, this requires subtracting taxes after adjusting for the effect of tax deferrals
and taxes on interest and nonoperating income, adding back	
lease expenses and unwinding the amortization of goodwill.	
Some consultants make up to 160 adjustments. Interest costs are not subtracted; this is important as this measure is often used in EVA calculations that take interest costs into account by allowing for the cost of capital separately.	
Profit margin	This is the ratio of net operating profit to sales.
Return on assets (ROA)	This is an exceedingly popular accounting measure of performance. It is defined as the ratio of net operating profit to the firm's start-of-year assets recorded on its balance sheet

Table 3.3 (continued)

Return on equity (ROE	A measure of how much the firm generates for its owners, ROE is equal to net profit divided by the book value of shareholder's equity. Shareholder's equity usually includes the value of reserves as these could be paid out to shareholders.
Return on investment (ROI)	This is a leading traditional measure. ROI is usually defined as the ratio of net operating profit to the net book value of assets. The net book value of assets is equal to the firm's assets less the value of intangibles and total liabilities. In recent times, an increasing number of publications use NOPLAT and other adjusted profit measures as the numerator.

Source: **Richard *et al. (2009: 740)***

Accounting principles are not always consistent with the theoretical logic underlying the organisational performance. Accounting measures only reflect what has already happened and cannot determine what will happen in the future (Zollo and Meier, 2008). Across different disciplines like strategy, economics, and finance, shareholders' return is the widely used as financial market-based measures, as described in Table 3.4, to measure organisational performance. Unlike the accounting base measures that focus on the history, financial market measures focus on the future (Lev, 2001). They effectively make use of intangible assets as compared to the accounting data. The actual organisational performance within the financial market measures like stock price and excess stock returns, is dependent on the link between activity flows to shareholders and efficiency of the information of the financial market. The basis of using the financial market measures is that organisations are the organs of shareholders (Dore, 2000). According to Weber *et al*. (2014); Zollo and Meier (2008), the paradox of M&A performance is based on the fact that M&A performance is a multifaceted variable, which makes it impossible to capture by using one factor. Weber *et al*. (2014) posit that in as much as the success paradox of M&A lies not only on the multiple motives of M&A, it also depends on the similarities of the merging companies. Sarkar (2017) claim that post- M&A process, the performance of a merged entity can be either better or worse or remain the same as before the merger or an acquisition process. In cases where the post-merger or acquisition performance is worse or the same, the process does not justify the purpose of a merger or acquisition.

Table 3.4: Financial market measures

Beta coefficient	The b-coefficient from the capital asset pricing model (CAPM). This is a measure of the level of systematic risk associated with the individual firm relative to the market portfolio.
Earnings-per-share (EPS)	This is a traditional measure of firm value. It is equal to net operating profit minus dividends paid to preference shares divided by the number of common stocks issued.
Jensen's alpha	This is the a-coefficient from the CAPM. Jensen's alpha is a measure of a firm's excess return over that associated with the systematic risk of its operations. That is, this captures unique exceptional positive or negative performance.
Market value (or market capitalization)	This is the total value of a firm's common stock (which represents the residual value of the firm's resources). It is equal to the number of shares outstanding multiplied by their current stock price.
Price-to-earnings ratio (P/E ratio)	The P/E ratio is a common method of comparing firm valuations. It is defined as the ratio of the current stock price to the annual earnings per share the firm pays out.
Return on market-valued assets	Return on market-valued assets is the annual operating income divided by the beginning-of-year market value of equity plus the book value of long-term debt.
Stock price	This is the price of the firm's listed common stock

Table 3.4 (continued)

Total shareholder return (TSR)	Captures the gain (loss) made by shareholders during the period (generally each year). TSR is the sum of the change in stock price during the year plus any dividends paid out, expressed as a percentage of the opening value of the stock.
Tracking stocks	Securities issued that pay dividends based on the performance of some subset of the firm's divisions (usually those from a single business unit). These provide a purer reflection of the performance of a firm's divisions (and are especially useful for multi-industry firms).

Source: **Richard *et al. (2009:744).***

Ghosh and Dutta (2016); Grill and Bresser (2011); Mahesh and Prasad (2012); Weber *et al*. (2014) allude that the results of whether M&A brings positive results to shareholders also differs depending on the method used to measure performance. The performance of a merged entity is based on the assessment of the entity and not on the market dynamics such as supply and demand situation or existence of the competitors (Arvanitis and Stucki, 2015). Part of the factors that contribute to the challenges of determining performance of merged entity is the M&A process itself. The different approaches that are used to measure M&A performance have been discussed and challenges that affect measurement of M&A have been highlighted. Following this discussion is the exposition of different methodologies that are used to measure performance of M&A.

3.6 METHODOLOGIES USED TO MEASURE M&A PERFORMANCE

There are various ways that are used to measure performance of the organisation. According to Malik *et al*. (2014); Oghuvwu and Omoye (2016); Polyarus *et al*. (2013), methodologies used to measure M&A performance are event -based methodology, accounting-based methodology, economic value added, case study approach, data envelopment analysis, residual income approach, questionnaire-based methodologies. Methods that are widely used in determining performance of M&A are accounting based methodology and event based methodology (Grill and Bresser, 2011). Table 3.5 lists a high-level view of these methodologies and the respective actual instruments that are used to measure performance on each methodology. The different methodologies that are used to measure M&A performance are discussed in the following section and reasons are given on why this study has chosen to use survey or questionnaire-based methodology instead of the widely used accounting and event-based methodologies.

Table 3.5: Summary of methodologies used to measure M&A performance

Methodology	**Tool used to measure performance**
Event study methodology	Moving of stock prices
Accounting based methodology	Financial measures
Economic value added	Performance created for shareholders
Case study approach	Different variables but limited to one or two entities
Data envelopment analysis	Non-parametric mathematical programming
Residual income approach	Acquisition cost and cost of capital
Questionnaire-based method	Questionnaire

Source: Krishnakumar and Sethi (2012:76)

3.6.1 Event Study Methodology

Sarkar (2017) defines event study methodology as the method that is used to measure the reaction of the activity of stock market after the announcement of the event or the event has occurred. With regards to M&A, the event refers to the announcement of the merger or an acquisition. It is sometimes called share return study. It measures share return gains to both the acquirer and the target. Event based study methodology is often done both in short and long term. Table 3.6 summaries the event-based study methodology and gives an overview, advantages and disadvantages of both short and long term measures. Krishnakumar and Sethi (2012); Ladkani and Banerjee (2018) note that event-based study uses daily returns to determine estimated value.

Table 3.6: Summary of event-based methodology

Measure	Definition of failure and methodology, metrics	Advantages	Disadvantages
Short term stock market-based measures	Researchers compare the returns to shareholders of both bidders and targets during a period surrounding the takeover announcement (usually some days), to “normal” returns from a Period (*e.g.* from 120 to 30 days) unaffected by the event. The acquisition is considered to be successful if the CARs are positive.	Direct measure of stock- holder value. Data are easily accessible for publicly traded firms.	Short-run studies they measure investors’ expectations and not realized performance. Cannot be used for privately held firms. Fail to take into account that acquisitions have multiple motives.
Long term stock market-based measures	In long-term studies, based on the premise that an acquisition may have a negative impact on the long run wealth of shareholders researchers evaluate post-merger performance of acquirers usually some years after the deal closure (*e.g.,* 5 years).	Direct measure of stockholder value (Lubatkin, Shrieves, 1986). Data are easily accessible for all publicly traded firms (Campa, Hernando, 2006; Howson (2016). Lubatkin, Shrieves, 1986; Schoenberg, 2006).	Cannot be used for privately held firms. Fail to consider that acquisitions have multiple motives.

Source: Papadakis and Thanos (2010:861)

This method does not use monthly stock returns to determine impact of the announcement on the performance of an entity but measures daily gains and losses of stocks during the period when the announcement is made. After the announcement of the merger, investors and the markets react, leading to stock reacting by jumping high yielding abnormal returns (Rani *at el*., 2015). This method is applicable to companies that are listed on the stock exchange. The event-based methodology tracks whether shareholder returns go up or down or both during the time of the announcement of M&A deal. According to Rani *et al*. (2015), the positive sentiments from the announcement of M&A results in a tremendous benefit to the shareholders as there is increased abnormal returns (AR). The increased AR are evident during the two, three, and five-day period after the announcement has been made. For event-based method, it is essential to measure whether the time on the share prices is for a long term or a short term. Abnormal returns can either be positive or negative after the announcement. Positive AR indicate that the market has accepted the M&A announcement, hence the M&A results in a positive effect to the company performance. On the other hand, the opposite holds true, where AR is negative. The advantages of this methodology is that it precisely measures the value of the stockholders. The information is easily accessible for the public traded companies (Papadakis and Thanos, 2010). One of the disadvantages of event study methodology is that it fails to acknowledge that the motives of M&A are different. Andriuskevicius and Ciegis (2017) acknowledge that it is difficult to measure performance for privately owned companies as the information is not publicly available. In the short run, the method suffers failures as it cannot determine the exact value of shareholder as it only measures the shareholders' expectations of the future return.

The study by Gumede (2009) revealed that M&A had a neutral impact on shareholders' value. Halfar (2011) on the other hand found that M&A destroyed shareholders' value for 29 companies listed on JSE within a period of two years. Huang, Chan, Huang, and Wu (2014) revealed that there was a positive impact on the shareholders' value following the announcement of M&A deal. Rani *et el.* (2015) used the event study methodology to determine the performance of a merger and the results revealed that there was a positive response from markets after the announcement of a M&A. Akben-Selcuk (2015) used the same method to determine the impact of the announcement of a merger on shareholder's wealth. The results from Akben-Selcuk

(2015) study were similar to the study by Rani *et el.* (2015), as cumulative abnormal returns (CAR) increased by up to 5.25 percent just first few days after the announcement. Around the 11th day after the announcement, CAR increased to about 8.53 percent. Both these results show that a positive impact on shareholders' value does not occur immediately but occurs over a time during the event window. Event study methodology was used by Baran and Saikeviˇcius (2015) to examine value generation in member states of European Union (EU-10), using three different windows. These windows were 30 days before merger and finishing 30 days after the event, 5 days prior the event and closing five days after the even, and lastly, commencing on the day of the event and concluding one day after the event. The results demonstrated increased abnormal returns, with Baltic states gaining 6.6 – 19.5%, whilst Cyprus achieved abnormal returns of between 5.7 – 15.1, and Poland achieving lesser abnormal returns of 3.8-6.0% compared to the other two states. The difference in abnormal returns amongst states is influenced by the length of the window period. From the above discussion, it is clear that there is no conclusive evidence that all M&A result in increased performance, post- merger, using this methodology. It is to be noted that the window period of the event plays a major role on what are the outcomes value measurement.

3.6.2 Accounting Based Methodology

In an accounting-based methodology, companies use financial performance indicators to compare their performance over time, with itself or with its peers in the same industry (Mahesh and Prasad, 2012). The advantage of using financial performance is that it is not limited to a country. Table 3.7 shows the summary of the accounting-based measures. This method is essential when one wants to measure the financial performance in cross boarder M&A (Mahesh and Prasad, 2012). Some of the studies that were used to measure financial performance using accounting based measures include those by Abbas *et al.* (2014); Ahmed and Ahmed (2014); Akenga and Olang (2017); Borhan *et al*. (2014); Inoti *et al*. (2014); Joash and Njangiru (2015); Mahesh and Prasad (2012); Nalwaya and Vyas (2014); Pahuja and Aggarwal (2016); Rani *et al*. (2015); Sil (2015); Tripathy and Prajapati (2014); Yanan *et al*. (2016). The financial indicators are sometimes referred to as accounting measures and make use of financial statements to evaluate whether M&A were successful (Grigorieva and

Petrunina, 2013). Ntuli (2017) proclaims that the strength of accounting-based method is its ability to use formulae, ratios, and calculation, to assess the viability, stability, and profitability of M&A. The indicators used to measure performance vary and the majority of studies used profitability, liquidity, and capital leverage. Studies by Abbas *et al.* (2014); Ahmed and Ahmed (2014); Ashfaq, Usman, Hanif, and Yousaf (2014); Borhan *et al.* (2014); Mahesh and Prasad (2012); Rani *et al.* (2015) measured profitability. Whilst the studies by Abbas *et al*. (2014); Ahmed and Ahmed (2014), Mahesh and Prasad (2012); Rani *et al*. (2015); measured liquidity. Ahmed and Ahmed (2014); Mahesh and Prasad (2012) measured the capital leverage. Sarkar (2017) found that studies measuring performance of M&A based on accounting-based measures showed mixed results. What is pertinent from the different results based on accounting measures is that different performance variables are used. The accounting-based method results are also influenced by industry-based standards of measuring results which vary from industry to industry. It is therefore essential that when results are compared, they must be compared amongst companies from the same industry. Hence, it would be difficult to find consistency and reliability in performance measures used to achieve different objectives. Abbas *et al*. (2014) revealed that there was no difference in the financial performance of banks in Pakistan after the merger. This means that there was no improvement on the performance of banks post - M&A. These results were based on a testing method using financial or accounting data. Pervana, Višića, and Barnjaka (2015) used accounting measures to determine profitability of target companies in Croatia. The data was collected from balance sheets and profit and loss statements. The period of results considered was one year before the acquisition, the year of the acquisition and one year after the acquisition. The results revealed that both costs of the target and profitability did not improve after the take-over occurred. On the contrary, Abbas *et al*. (2014), Ntuli (2017) found that the performance of an acquired entity prior to and post-acquisition, improved when performance was measured using accounting measures. One of the main advantages of this method is that it determines the direct effect of merger. This is opposite to CAR, which basically measures the future performance of the merged entity based on shareholders' expectations of what might be the value of shares. The synergies realised from the deal are reflected in a long-term accounting measure. One of the pitfalls of this method is that it measures the average results and relies on the past performance. It is also difficult to measure the performance of a specific acquisition. Andriuskevicius and Ciegis (2017) contend that this method is narrow as it only measures economic performance. For cross-border M&A, this method must be used with caution, but the recommendation is that it must not be used because of accounting standards applicable to different countries. With accounting measures, it is clear that the type of measures used to determine financial performance will influence the results on whether M&A have a positive or negative impact on performance of companies.

Table 3.7: Summary of accounting-based methodology

Measure	Definition of failure and methodology, metrics	Advantages	Disadvantages
Accounting based measures	Failure exists when the adjusted (for industry and size effects) post-merger returns of the combined firm are lower than the average size and industry adjusted pre-bid returns of each of the merging firms. Examples of accounting metrics include ROA, return on investment, cash flows *etc.*	Synergies obtained from an acquisition are reflected in long-term accounting measures. Measure direct effects as opposed to ARs which measure investors' expectations for the future.	Narrowest measure as they gauge only economic performance. Reflect past performance of the Firm. Should be avoided in cross border acquisitions due to the different accounting standards from country to country

Source: Papadakis and Thanos (2010:861)

3.6.3 Economic Value Added

Moreno-García et al. (2015); (Shil, 2009) state that economic value added (EVA) measures the performance created for shareholders by management. EVA measures the performance of the entity that is linked to the shareholders' wealth. It measures the economic value that the entity creates after removing the operating profit, operating costs, and taxes. According to Moreno-García *et al*. (2015:77), EVA "is what is left once all expenses have been served and satisfied the minimum return expected by shareholders". One of the advantages of EVA is that it clearly demonstrates the value added by M&A to management, which is something that all shareholders appreciate to see (Moreno-García *et al*., 2015). EVA is applicable to business in general, is able to mitigate creative accounting; and also applicable to business centres. (Moreno-García *et al*., 2015). It produces positive outcomes as it is able to mitigate risk and improve performance through the integration of profitability and growth. Figures of the entity can be compared with figures from other entities. Competitiveness of the company can be easily maintained through reinvestment. It is regarded as one of the best tools in measuring the market value (Stunda, 2104). Shil (2009) asserted that EVA encourages managers to develop entrepreneurial behaviour as it compels them to take care of assets and recognise that they have to pay for the capital they employ. Sabol and Sverer (2017) mention that there are four areas of application of EVA, which are called four Ms. Firstly, EVA is used in management planning and budgeting. This is where managers use EVA to set strategy and objectives of the entity in order to commit resources. Secondly, EVA is used as a measurement for reporting externally and internally. EVA is applied to motivate managers through compensation with the view that they should act like entrepreneurs when making their decisions (Shil, 2009). According to Shil (2009), EVA is applied to change the cultural mindset which requires managers to drive the behaviour of the organisation towards entrepreneurial orientation. This mindset is supposed to decentralise decision- making, thereby increasing value for the company. It must be noted that EVA must be used with other measuring instruments if one is looking at getting the most benefit out of the measurement.

A study by Yang and Li (2016) employed EVA to assess the value of M&A of internet companies. The findings revealed that M&A of the listed internet companies have a positive impact on company stock prices. On the same token, Liu and Wang (2017) used the EVA to calculate the value of the African companies using real earnings management and discretionary accrual activities. The findings of the study revealed a significant positive relationship between earnings management via discretionary accrual activities and EVA. Altaf (2016) found that Indian companies use less of EVA method as companies in India are not compelled to disclose EVA statements in their annual financial statements. In addition to non-disclosure of EVA statement, it is argued that lack of financial data contributes to the less use of EVA to measure performance of the company. Makhele (2013) used EVA method to measure performance of acquisition and found that companies experience slightly reduced performance after the acquisition. Makhele (2013) findings concur with the findings by Lakstutienea, Stankeviciene, Norvaisiene, and Narbutiene (2015) who found that profitability of the merged entities was reduced after the acquisition.

3.6.4 The Case Study Methodology

According to Reddy (2015), a case study approach makes use of small sample of M&A to study and measure factors that affect success or failure in a situation. In a case study methodology, the researcher decides on the parameters that are being used to measure the performance of the entity at pre-merger, during merger and post-merger. The case study method mainly focusses on the integration and interaction of merged entities post the process. Reddy (2015) is of the view that data collection in case study method is achieved through interviews, survey, and archived data. Ntuli (2017) used case study approach to evaluate performance of the acquisition of Amalgamated Bank of South Africa (ABSA) by Barclays Bank Plc. Bengtsson and Larsson (2012) believe that the advantage of a case study methodology is its use on the development of a new theory. Through longitudinal study, the case study method offers an opportunity to study such issues as integration and combination of entities after mergers have been concluded, which in turn gives a better and holistic view on the outcomes of the merger process (Bengtsson and Larsson, 2012). The disadvantage of case study approach as stated by Fang, Fridh, and Schultzberg (2004) is that it is more prominent in developed markets like Sweden, France, Canada and other European economies. Fang *et a*l. (2004) further affirm that it is a difficult practice in developing markets like China, India, and Africa. The reason that Fang *et al*. (2004) put forward that the case study method is difficult to implement in developing markets is that it is difficult to access key negotiators and convince them to participate in the survey. Reddy (2014) further posit that in developing markets, it is only possible to obtain interviews during post-merger integration. Reddy (2014) further stress that in cross-border merger transactions, getting hold of key negotiators for interviews is not possible. Ntuli (2017) used a case methodology to study the acquisition of ABSA bank by Barclays. In this case, Ntuli (2017) used accounting measures to study financial performance. The study revealed improved financial performance post-acquisition. Furthermore, Harvey (2015) used a case of the acquisition of Mobil Oil Ghana by Total Petroleum Ghana Limited. The findings revealed that the acquisition did not improve the profitability of the merged company.

3.6.5 The Data Envelopment Analysis Methodology

According to Rasiah, Ming, and Hamid (2014: 293),“data envelopment analysis (DEA) is the non-parametric mathematical programming approach to frontier estimation”. Data envelop analysis is mainly used to compute the impact of contextual variables on several types of efficiency scores of the resulting virtual merged entities. DEA is predominantly used in operations research to measure the output to input variables. It allows the researcher to differentiate between technical, pure technical and scale efficiency. In their study of SA banks, Wanke *et al.* (2017) used DEA to measure performance by looking at relative efficiency scores of decision-making units. The efficiency scores that were measured were merger, learning, scope, and size. The results revealed that efficiency levels were affected by the bank type and the origin of the banks involved in mergers. In another study, DEA was employed to establish leverage, shareholder’s wealth, cost reduction, profitability, and liquidity, using pre - merger and post-merger periods data (Lai et al. 2015). The results showed no improvement on bank efficiency, productivity level, financial performance, and cost saving management. Gatttoufi, Al-Muharrami, and Al- Kiyumi (2009) used DEA to measure the impact of M&A on the efficiency of commercial banks in Gulf Cooperation Council countries. The findings of this study revealed varying results, with five banks out of ten showing improved technical efficiency, whilst two banks demonstrated a slight decrease, and lastly, three banks presented no change.

3.6.6 Residual Income Approach

Bild *et al*. (2002) state that residual income approach measures the performance by considering acquisition cost and cost of capital used by the acquirer and received earnings beyond the acquisition period. This method allows the use of time value of money. Residual income approach method is sometimes referred to as the fundamental value approach and it quantifies the total discounted value impact of takeovers (Guest, Bild, and Runsten, 2010). It is less dependent on the prices of the stock market. Guest *et al.* (2010) further contend that the residual income approach evaluates the impact that acquisitions have on the acquirer's ultimate value. Some fundamental assumptions of this methodology is the accuracy that underpins this approach. This approach assumes that the fundamental value is the same as the present value of the expected dividends (Guest *et al*., 2010). Guest *et al.* (2010) mentioned that this methodology assumes that the income statement covers all the changes that take place in the equity book value. Malik *et al*. (2014) affirms that in a residual income approach, the value of the acquirer pre-acquisition is compared to the value of the acquirer post-acquisition. Malik *et al*. (2014) posit that residual income approach is limited to a time period as it does not allow the measurement of the value for the infinite period post - acquisition. This method cannot measure the residual income in the absence of the acquisition. Bild *et al*. (2002) used this approach to value and compare present value of future income before the acquisition for the acquirer for a sample of UK acquisitions completed between 1985-1996. The results of the study revealed that the acquirer's pre-acquisition value was destroyed by 30 percent.

3.6.7 The Survey or Questionnaire-Based Methodology

Krishnakumar and Sethi (2012); Papadakis and Thanos (2010); Zollo and Meier (2008) define questionnaire-based methodology as the methodology that measures perceptions and attitudes of either the acquirer or target executives. The questionnaire-based method measures the views of the executives in an attempt to establish if the acquisition or a merger met desired objectives. According to Papadakis and Thanos (2010); Savovic (2016), questions that are asked are based on both financial and non-financial factors as shown in Table 3.8. Papadakis and Thanos (2010) state that there are three fundamental reasons that make this method the best suitable method as opposed to the rest of other methods. Firstly, this method is suitable in instances where the objective measures like financial or accounting results of M&A performance are difficult to obtain. Andriuskevicius and Ciegis (2017) concurs with this reason mentioned by (Papadakis and Thanos, 2010), and further emphasises that this method is most convenient when there are barriers in using objectives measures to determine the performance of a merger. These are instances where merged entities are small and are privately owned. In addition, the method is suitable where merged companies are not listed on the stock exchange, meaning that, there will be little information available publicly, to measure performance. Secondly, this method captures multidimensional ways of performance by allowing executives to provide feedback on both financial and non-financial parameters of performance (Papadakis and Thanos, 2010).

Table 3.8: Summary of questionnaire-based methodology

Measure	Definition of failure and methodology, metrics	Advantages	Disadvantages
Managers subjective Assessments	Executives of the acquiring firm are asked to rate the extent to which the original goals set before the acquisition are effectively materialized or not. Questions refer to both financial (*e.g.,* ROA, return on investment, sales growth, growth in profits) and nonfinancial factors (*e.g.,* managerial prestige, competitive position, personnel development possibilities). Failure exists when expectations are higher than their materialization.	Suitable when researchers encounter problems obtaining objective measures of performance. M&A performance is captured as a multidimensional phenomenon. Takes into consideration that M&As have multiple motives.	Responses may be subject to managerial bias. Need for multiple respondents.

Source: Papadakis and Thanos (2010:862)

Lastly, Papadakis and Thanos (2010) mention that this method presents performance of M&A in the manner in which managers act during the M&A process. Cannella and Hambrick (1993), Datta and Grant (1990), Reus and Lamont (2009) are amongst the researchers that have determined the role of M&A on the performance of merged entities, using questionnaires. Cannella and Hambrick (1993) found that departure of executives from the acquired entity might have a negative effect on the results obtained from the survey as the current executives might not have enough details about the purpose of merger. The departure of the executives that were part of the M&A decision will limit the opinion of the executives that at a time of survey were part of the merged or acquired entity, on the performance of the merged entity. Unlike the event based, accounting based methodologies and other methodologies, the advantage of this method is that it considers the fact that M&A are done to achieve multiple objectives and are based on different motives. Survey based method uses multidimensional phenomena to quantify the performance of a M&A (Savovic, 2016). This method may suffer bias from executives that participate in the survey and might therefore require survey of multiple respondents. The researcher in this study selected to use this method due to the fact that majority of companies involved in M&A during the period under study are non-listed JSE companies. In SA, non-JSE listed companies are not required to publish their financial details. It was going to be difficult to obtain accounting and financial indicators. Thirdly, some of these companies are privately owned, and they do not publish their financial results (Smit and Ward, 2007). For this study, the following constructs formed part of the questionnaire and were used to measure the impact of M&A; financial performance, non-financial performance, synergy obtained after the merger and the motive used for M&A (De Graaf and Pienaar, 2013, Ghosh and Dutta, 2016). These constructs were used as they represent multidimensional variables that were used as motives for choosing M&A as the growth strategy and they are discussed in detail in chapter 5 of this study (Sil, 2015; Weber, 2015).

3.6.8 Measuring of Performance in SA Mergers and Acquisitions

In SA, performance of M&A has been done using different methodologies. Table 3.9 shows most of the methodologies that are used in measuring performance in SA. Table 3.9. shows that accounting-based measures are the mostly and widely used. Wimberley and Negash (2004) state that most of the research in SA use event study methodology and focuses on short term price reaction, efficiency in the market and has an element of repetition. The claim by (Wimberley and Negash, 2004) is against the empirical results displayed in Table 3.9, as it is demonstrated that the widely used method in SA is accounting based methodology. It must be noted that the method chosen for this study was survey-based methodology. This is the choice that is against the widely used methodology used in SA.

Table 3.9: Summary of the different methodologies used in SA

Author	Method used	Industry	Period measured	Results
Wimberley and Negash, (2004)	Event	Industrial firms	1989-1998	No positive abnormal returns over a longer period
Osae *et al*. (2011)	Accounting and survey	Mining	2003-2008	Mixed results
Ntuli (2017)	Accounting	Banking	2005 - 2015	performance of acquired entity prior and post-acquisition improved bases on accounting measures
Fouché (2012)	Accounting	Banking	2001- 2010	No added value
Makhele (2013)	Accounting	Multiple industries	2000-2011	slightly improved performance after completion of the acquisitions when using traditional accounting measures
Makhele (2013)	EVA	Multiple industries		Significant deterioration
Viljoen (2013)	EVA	Multiple industries	2000- 2013	No significant improvement post M&A transaction
Smit and Ward (2007)	Event study	Multiple industries	2001-2003	No value
Wanke et al.(2017)	Data Envelopment Analysis	Banking	2003-2012	No value

Source: Author from different sources

The survey method has been chosen because of the limitation presented by accounting-based measures as stated in the section above. Some of the limitations that accounting-based method suffers is that it is only possible to get accounting information in the form of financial statements if the merged entities are listed in stock exchange, like in JSE listed companies in the case of South Africa (Johannesburg Stock Exchange, 2019). This method is not possible for privately owned entities as they are not required by law to publish their financial results.

3.7 CHAPTER SUMMARY

This chapter gave a background of M&A and they are part of the company restructuring tactics together with other tactics which are joint ventures, partnerships, strategic alliances, and divestitures. This chapter revealed that there are different types of mergers, some of which are horizontal and vertical mergers. Through background of M&A, it is understood that the types of mergers are informed by the objective that a company wants to achieve via a merger or an acquisition. Achieving desired performance, which is mainly to increase profitability thereby increasing shareholders' value, determines whether the transaction has been successful or not. It is demonstrated that there is no single methodology that is used to measure performance of mergers that cover all aspects of organisational performance. That is the reason why different methodologies play a bigger role in determining the performance. Different methodologies are used depending on whether the scholar is from accounting and economics school, or finance school or is from organisational behavior school. Measuring performance of M&A is made complicated by the fact that MA is a multidimensional construct and as such, there is no single variable that can capture all the variables at once. In the case of South Africa, different methodologies have been used and the most captured methodologies are event based and accounting methodologies. The ensuing chapter gives an account of theoretical framework and empirical literature review of M&A.

CHAPTER FOUR LITERATURE REVIEVW

4. INTRODUCTION

The preceding chapter gave an overview of the SA chemical industry and the M&A in South Africa and the SA chemical industry. The purpose of this chapter is to discuss the foregoing theoretical framework of this research study. The chapter is going to further review literature which is the anchor of the research objectives of this study set up in chapter one. Moreover, this chapter is going to give account of what mergers and acquisitions are. In addition, the chapter is going to further discuss methodologies used to measure M&A performance.

4.1 THEORETICAL FRAMEWORK

Theories of mergers and acquisitions are meant to explain the reasons behind the occurrence of mergers. This study seeks to understand the impact of M&A on firm performance, which can either be value enhancing or value destroying, hence the inclusion of all the theories. Secondly, the use of all the seven theories is grounded on the fact that the study endeavours to identify the motives behind the mergers or acquisitions decisions in the SA chemical industry. Knowing motives of M&A, which mergers are anchored around, helps companies to identify if they want to grow organically or inorganically, hence it is essential to understand the outcomes expected from either a merger or an acquisition. Leepsa and Mishra (2016) note that executives choose M&A to accomplish various motives. Furthermore, more than one objective can be associated with each merger or acquisition transaction (Akben-Selcuk, 2015). Hence, the support for the use of different merger theories in this study. Leepsa and Mishra (20160 further opine that, it is not possible for one theory to explain one's motives as in one single merger transaction there might be different motives. In the same token, Cox (2006) further posits that different theories of M&A represent different motives of engaging in M&A by managers, and that these motives are not mutually exclusive. Supporting the understanding of the use of theories in M&A, Seth *et al*. (2002) contend that, understanding theories of mergers and motives is essential as much effort has always been focused on consequences of mergers by not understanding the initial motives. Seth *et al*. (2002) further note that, it is essential to understand theories applicable when opting for M&A as it enables to identify correct motives behind M&A. Additionally, Oghuvwu and Omoye (2016) argue that, knowing motives of M&A will ensure that the companies pursue M&A for the correct reasons. Some of the well documented failures or negative consequences of M&A might have been avoided if there was a better understanding of motives of M&A. In addition, it is assumed that understanding theories applicable to M&A will increase the probability of a successful deal. Madura, Vasconcellos, and Kish (1991) point that, M&A theories fall within two major streams, namely, value creating theories and non-value creating theories. Non-value creating theories are driven by the manager's personal gains. Wadhwa and Syamala (2015) posit that non-value creating theories stipulate that M&A are not done for the best interest of the shareholders, hence they do not benefit shareholders. Non-value creating theories stipulate that M&A do not result into synergy creation but can be costly to the company. Wadhwa and Syamala (2015) mention that as per value creating theories, M&A are meant to create synergy for the combined entity and bring value to the shareholders. According to these theories, managers have the best interest of the shareholders when they decide to engage in a merger or an acquisition. Wadhwa and Syamala (2015) believe that value creating theories are anchored on creating gains for the shareholder. The sources of gains are synergy gain, increased market power, wealth transfer from target shareholders, and net gain from tax savings. Tripathi and Lamba (2015) found that value creating motives increase the financial position of a company post-merger.

Trautwein (1990)'s view of M&A motives is that motives, instead of being classified based on value, they are instead classified as a rational choice, as an outcome, or as a microeconomic phenomenon as illustrated in Table 4.1. Trautwein (1990) further states that the rationale choice is classified according to the beneficiary of the merger process, which can either be a manager or the shareholders. Efficient, monopoly, raider and valuation theories of merger motives are meant to benefit the shareholders. The empire building theory is based on the motive of a merger justified to benefit the manager. The process theory and disturbance theory are related to the outcomes of the process and macroeconomic phenomena accordingly.

Table 4.1: Theories of acquisition motives

<table>
<tr><td rowspan="5">Acquisition as rational choice</td><td rowspan="4">Beneficiary: Acquirer shareholder</td><td>Net gains through synergy</td><td>Efficient theory</td></tr>
<tr><td>Wealth transfer from customers</td><td>Monopoly theory</td></tr>
<tr><td>Wealth transfer target shareholder</td><td>Raider theory</td></tr>
<tr><td>Net gains through private information</td><td>Valuation theory</td></tr>
<tr><td colspan="2">Beneficiary: Manager</td><td>Empire building theory</td></tr>
<tr><td colspan="3">Acquisition as an outcome of process</td><td>Process theory</td></tr>
<tr><td colspan="3">Acquisition as a microeconomic phenomenon</td><td>Disturbance theory</td></tr>
</table>

Source: Trautwein (1990: 284)

In this study, all theories related to mergers and acquisitions are discussed. The reason for discussing all the theories is that one merger or acquisition decision can be based on more than one rationale choice. Hence, it is always difficult to single out one theory that will be applicable to one transaction (Mohapatra, 2014). Furthermore, this study seeks to understand the impact of M&A acquisition on firm performance, which can either be value enhancing or value destroying, hence the inclusion of all the theories. Secondly, the use of all the seven theories is grounded on the fact that the study endeavours to identify the motives behind the mergers or acquisitions decisions in the SA chemical industry. The interface of the theories, agency or empire building theory, efficient theory, monopoly theory, raider theory, valuation theory, process theory, disturbance theory is seen as complementary, especially in the context of understanding the broader objectives of embarking on M&A. Another third dimension of M&A theories is presented by (Akben-Selcuk, 2015).

Akben-Selcuk (2015) notes that the finance literature recognises numerous theories that have been developed to justify the motives for M&A. These theories are efficiency or synergy theories, hubris theory, and agency theory (Berkovitch and Narayanan, 1993; Ebimobowei and Sophia, 2011; Goergen and Renneboog, 2004). According to the efficiency theory, target managers only agree to an acquisition if it brings positive value to shareholders (Wadhwa and Syamala, 2015). In the same token, the managers of the acquiring company only engage in an acquisition if the value supersedes the cost of acquisition. Hankir, Rauch, and Umber (2011) suggests that as per the synergy theory, the motive behind acquisition is to acquire a target that is going to improve the acquirer's efficiency. This in turn will improve the acquirer's financial performance. Synergy occurs when the output of the two combined entities is greater than the output of individual firms. Improved output is a result of increased efficiency, financial power, and market power of the merged company.

Deo (2012); Makaew (2012) note that hubris theory contends that self-over confidence results in over-evaluation of opportunities in the market. The over-evaluation results in managers overpaying for the actual market value of the target. Jensen and Meckling (1986) formulated the agency theory which suggests that managers of the acquiring company act to fulfil their own interests instead of maximising shareholders wealth. Malmendier and Tate (2015); Shefrin (2007) affirm that managers engage in acquisitions to increase their social status and reduce the employment risk. Amihud and Lev (1981); Lev (2001) further add that firm diversification is another reason that managers decide to embark on mergers. The diversification of company activities by managers through acquisitions, is to the detriment of the shareholders as such diversifications are costly to shareholders, as they would be able to diversify on their own at low cost. When the agency theory serves as the motive of merger or an acquisition, the post-acquisition performance is expected to decline. Weston (2001) classifies M&A motives into three categories which are similar to those by (Berkovitch and Narayanan, 1993). The departure point by Weston (2001) is that they are classified as value enhancing, value diminishing, and those that do not add value. Value creating theories support three motives of M&A as being synergy, transaction cost reduction, and disciplinary motives. This study follows the sequence of M&A motives in describing the M&A theories described by Trautwein (1990), based on the fact that the author demonstrates a clear relationship and description between M&A motives and subsequent theories that underpin them.

4.1.1 Efficiency Theory

This theory is based on the premise that, M&A are meant to achieve efficiency and synergy (Wadhwa and Syamala, 2015). Efficiency in M&A is achieved when an acquirer capitalises on specialised skills of target management, elimination of sluggish resources and sharing expensive technology between acquirer and target (Wolfe, Stressman, and Manfredo, 2011). Wolfe *et al*. (2011) further mentioned that efficiency gains occur when the merging entities promote products that are complementary to both companies. The promotion of complementary products by the merging entities result in reduction of transaction costs and re-allocation of existing expenses. Efficiency results from the combination of two companies operating at different strengths of efficiency, and experiencing separate drawbacks (Weston, Mitchel, Mulherin, and Salwan, 2010). The most common efficiencies are financial, operational, and managerial synergies. The objective of the financial synergy is to reduce cost of capital by increasing company size. Companies can further achieve efficiency by divesting their portfolios through investments done on unrelated businesses (Trautwein, 1990). One of South African conglomerates, AECI holds different portfolios like manufacturing and chemical distribution as a way of mitigating their financial risk (AECI, 2017).

Poposki (2007) evaluated mergers and acquisitions that occurred in the insurance industry in Macedonia. Financial synergy was measured using solvency, liquidity and leverage. The outcome of the study demonstrated that, M&A increased the financial synergy. In trying to determine if mergers result in efficiency, Wadhwa and Syamala (2015) analysed a sample consisting of 128 companies in the Indian manufacturing sector. The sample consisted of deals that happened over a period of ten years. The efficiency was measured by analysing the post-merger operating performance. The findings of their study revealed that there was insignificant improvement on operating performance measured against return on assets, return on equity and cash flow. Liquidity ratio was used by Ogada, Achoki, and Njuguna (2016) to study financial synergy of the Kenyan financial services industry. The study revealed that there was positive and significant relationship between performance of the merged entities and financial synergy. In pursuit of measuring the impact of financial synergy of commercial banks in Philippines, profitability, leverage, and liquidity were utilized (Maranan *et al*., 2019). The results supported the view that M&A are conducted to achieve financial synergy. Operational synergy, on the other hand is the combination of operations of merged entities. This is done by making the newly formed company to offer either new products or services (Polyarus *et al*., 2013). The rationale behind the pursuit of operational synergy, is that companies operating within the same industry would have similar operating efficiencies. Those companies that are operating below the optimum level within the same industry are always a target from those that are operating above optimum level. Primarily, the acquirer's leadership is able to employ resources more effectively than the target leadership. Ogada *et al*. (2016) used growth in sales of the financial institution in Kenya to measure operating synergy. The findings demonstrated that the operating synergy improved the performance of merged companies. The financial data was examined using ratio to measure operational synergy of two banks in Ghana (Yeboah and Asirifi, 2016). The results showed that there was no improvement pre- acquisition and post-acquisition.

The transfer of performing acquirer's performing management to the less performing target is called managerial synergy (Weston *et al*., 2010). It, therefore, means that the target entity will be better managed and controlled by the acquirer's leadership. Weston *et al*. (2010) noted that better management of the poorly performing target results in social and private gains. The gains are due to increased performance of the poorly performing entity and saving of the resources of the economy. The downside of targeting an underperforming entity is when the price of the target has been overstated. Overstated price raises the expectation of high value from the target and if the actual value of the target falls short of the expected value, then management of the acquirer will lose value (Trautwein, 1990). Leepsa and Mishra (2016) compiled a list of companies that decided to embark on M&A to gain efficiency and this list is presented in Table 4.2. It is illustrated in Table 4.2 that Holcim Ltd acquired ACC Ltd in 2007 to benefit from talent exchange programmes at the executive level. Secondly, to use innovative technologies in the manufacturing and information technology. On the other hand, it is demonstrated in Table 4.2 that Facebook acquired Little Eye Labs in 2014, to utilise its mobile development by benefiting Facebook's world-class infrastructure and various products (Leepsa and Mishra, 2016).

United Breweries (Holdings) Ltd. achieved utilisation of valuable resources by carrying out operations in a single entity through the acquisition of associated Breweries and Distilleries Ltd., Mangalore Breweries and Distilleries Ltd., Empee Breweries Ltd. (EBL). The objective behind the transaction was also to consolidate managerial skills from all these different companies. Leepsa and Mishra (2016) mention that merging of ABG Shipyard Ltd. with Western India Shipyard Ltd. in 2007 was done to gain expertise in rig and ship repairing to existing business.

Table 4.2: Companies that decided to go M&A to gain efficiency

M&A deals	M&A motives
Holcim Ltd. acquired ACC Ltd. (2007)	To organise talent exchange programmes at the management levels in Holcim and ACC. To employ innovative technologies in manufacturing and information technology that would result in higher energy efficiency and product development
Facebook acquired Little Eye Labs (2014)	"To take its mobile development to the next level by leveraging Facebook's world-class. infrastructure and different applications."
United Breweries (Holdings) Ltd. acquired associated Breweries and Distilleries Ltd., Mangalore Breweries and Distilleries Ltd., Empee Breweries Ltd. (EBL) (2010)	To pool managerial skills and utilisation of valuable resources by carrying out operations in a single entity
Merger of ABG Shipyard Ltd. with	To have expertise in rig and ship repairing to existing business and to get receive big. Western India Shipyard Ltd. (2007) and quality repair orders for both ships and rigs

Source: Leepsa and Mishra (2016:184)

The ensuing section discusses the agency theory.

4.1.2 Agency or Empire Building Theory

Agency theory portrays the conflict of interest between the agent, which is the manager and the owners of the business, which are the shareholders (Goel and Thakor, 2010; Ndura, 2010). Golubov, Petmezas, and Travlos (2012) add that the foundation of empire building theory is the principal-agency theory which mentions that separation of controlling and ownership might lead to conflicting interests of managers and shareholders. Golubov *et al*. (2012) further corroborate that the agency theory is based on the principle that managers avoid paying out dividends to shareholders. The argument is that the paid out dividends reduce the size of the entity, thereby affecting the compensation of the manager. The grounding of this theory is that manager's utility is considered above that of shareholders. The view by Jensen and Meckling (1986) is that these unprofitable M&A are driven by the extra cash that is withheld from shareholders instead of being paid out as dividends. Golubov *et al.* (2012) posit that as per the agency theory, managers pursue more power than shareholders through the belief that they are creating more value for the company. The main objective though is not to benefit the shareholders but to benefit the managers who are responsible for initiating the process of M&A. Gorton, Kahl, and Rosen (2009) contend that managers believe that the bigger the firm, the more power they have. More power results in bigger responsibility for the manager and resources under him or her to control. On the same token, Duchin and Schmidt (2013), believe that increased responsibility and sales growth present prospects for upward movement of managers within an organisation. This upward movement secures manager's employment. The increased resources and bigger firms usually result in increased sales or sales growth. Increased sales in turn results in increased remuneration for the manager. The findings by Fich, Starks, and Yore (2008) confirmed the influence of remuneration on undertaking M&A, as the results of their study revealed that the overall reward of CEO rises when CEOs complete numerous big transactions as takeovers and mergers. Agency theory is not only meant to provide job security for the manager but also to increase manager's power, popularity, worth, wealth and reputation (Golubov *et al*., 2012). It can be argued therefore that agency theory purports that M&A are value distracting and are actually decreasing the value to the shareholders. According to this theory, mergers are not contributing to improved results of the company as managers are the only ones that are meant to benefit from a merger or an acquisition decision. The performance of a target or an acquirer is negatively affected because of the failure to assess the target accurately. The view of value distraction is also supported by Harrison and Wicks (2013) who contend that, the basic objective of the organisation is to create value for stakeholders, which amongst them include shareholders. This value leads to improved financial wellbeing of the entity in a long run. Meixell and Luoma (2015) further posit that, within the organisational set up, stakeholders, which include shareholders, require the organisation to make positive contributions towards sustainable performance, which includes financial and non-financial performance. Yousef (2016) further notes that the negative impact of a merger or acquisition as per the agency theory is because of the manager's interests over company shareholders. Goel and Thakor (2010) revealed that envious CEOs usually engage in unprofitable acquisitions for the sake of increasing their benefits as opposed to those of shareholders. This therefore makes M&A not to contribute to the expected increased performance of M&A. In conclusion, it has been demonstrated that agency theory can be used to explain issues relating to executives acting to achieve their interests by merging with or acquiring, other entities, which is contrary to the objectives of the organisation. Based on this point, agency theory is used in this study, to determine whether M&A contribute to the increased financial, non-financial performance and synergy obtained. Trautwein (1990) opined that market power theory suggests that one of the motives that drive companies to engage in M&A is to gain market power and this is best explained by the monopoly theory which is discussed below.

4.1.3 Monopoly Theory

According to monopoly theory, the desired outcome of M&A is to increase market power by reducing the number of players in the market (DePamphilis, 2010). Taher, Adnène, and Firas (2016) further corroborate that M&A are done to reduce competition intensity. Reduced competition results in the increased market power. The increased market power creates an environment that makes it impossible for the new entrants to come into the market (Garmaise, Mark, and Moskowitz, 2006). In most instances, market power is achieved on transactions involving companies in a horizontal merger. Trautwein (1990) argue that, in some instances, conglomerate mergers also result in increased market power. Trautwein (1990) further contend that conglomerates create monopoly in the market when the acquirer cross-subsidizes its product lines. Crosssubsidisation of products is achieved by transferring profits from a product line that is achieving good margins to defend a position in a product line that is facing fierce competition and making loses. The findings by Basmah and Rahatullah (2013); Fee and Thomas (2004) demonstrated that market power is one of the mechanisms that companies use to increase their bargaining power over suppliers. The bargaining power over suppliers is achieved because of the larger size of the merged entity, hence the entity is able to influence RM prices. This results in reduced costs and improved profitability. Huyghebaert and Luypaert (2010) further revealed that market power is achieved by increasing industry concentration via horizontal mergers or acquisitions. Basmah and Rahatullah (2013) further revealed that increased market influences increased profitability of merged entities as the bigger company size allows it to control pricing in the market. In the same token, the findings by Bhattacharyya and Nain (2011) demonstrated that dependent suppliers suffer profitability and margin loss because of the horizontal. Loss of profitability and margins is because of reduced selling prices post - consolidation. It is clear from the majority of the above literature that monopoly theory is one of the value creating theories as the merged entity benefits from the greater market that has been created. This further results in increased profitability as the merged entity is able to manipulate both the selling price to customers, as well as the price pf the raw material from their suppliers. The view by Huang and Ye (2018) is contrary though, as they suggest that power of monopoly reduces the efficient free market competition, which in the long run reduces the effectiveness of the monopoly itself. The ensuing sections give an account of process theory and how its application influences the M&A decision and thereby the impact of that decision on the performance of a merged entity.

4.1.4 Process Theory

The process theory states that companies embark on M&A based on manger's limited and imperfect information about the target (Trautwein, 1990). Van de Ven (2007) posit that process theory is a more specific explanation of how and why organisational entity changes and develops over time. Weitzel and McCarthy (2011) opine that, this theory is one of the value destroying theories. Value destroying in the sense that, managers have a good intention, but incur losses as they make errors during the process of acquiring targets. Jensen and Meckling (1986) suggests that value destruction is as a result of managers making quick decisions based on less analysis about the target. Target analysis varies from due diligence to the target's real capability and profitability. Trautwein (1990) further alludes that, incomplete evaluation of the target, use of old solutions for the new problems which might not be related at all, and both internal and external political environments result in a wrong merger decision. The rush on strategic decision to acquire is influenced by the availability of surplus liquidity, or free cash flow. Martynova and Renneboog (2008) opine that high liquidity leads to managers choosing poor targets in the absence of good ones. Nguyen (2015); Weitzel and McCarthy (2011) further posit that the acquiring company or the shareholders lose because of valuation mistakes. Trautwein (1990) adds that appraisal mistakes are based on the outcomes of decision influenced by the complexity of the process. Junge (2014) further state that, incomplete evaluation of the target, use of old solutions for the new problems, which might not be related at all, and both internal and external political influence might result in a wrong merger decision. Rau and Vermaelen (1998) conquer on the haphazardness of the decision to make a merger or an acquisition, and add that managers use instincts, sentiments and feelings, to make a decision. One of the objectives of this study was to determine the motives or theory informing merger or acquisition decisions in the SA chemical industry, hence the non-value adding theory has been added to it. Valuation theory is explained in the subsequent section.

4.1.5 Valuation / Information Theory

According to the valuation theory, managers of an acquirer decide to acquire another company based on prior information they have received on financial results of the target firm (Junge, 2014). The motive for a merger is based on the mispricing of the target firm and misapprehension that, the value of the target is higher, although in actual fact it is not. Hellgren, Lowstedt, and Werr (2011) suggest that information about the target's financial performance is only known to the target's management and unknown by the rest of the stock market. Hellgren *et al.* (2011) further postulate that, some of the information known to the management of the acquirer might be that the target entity has been underrated and about to be disposed in chunks. In some instances, the management might have a best plan about the struggling company under assumption on how to make it profitable when carved out from the parent, hence they would recommend leverage buyout (LBO). Trautwein (1990) argue that valuation theory is less likely to be used as a justification of M&A. The argument is based on the fact that, it is inaccurate to use information from private sources to determine the stock market value. Junge (2014) further argues that inaccurate information leads to no value creation, as the value is seen and captured by the acquirer. Jensen (2005) further corroborates that inaccurate information leads to misevaluation, which creates conflict between the agency and the shareholders. Jensen (2005) further affirms that such takeovers do not create value for shareholders. A contrary view is that of Rhodes-Kropf and Viswanathan (2004); Shleifer and Vishny (2003) who believe that takeovers driven by valuations create value for the shareholders, thereby increasing post-acquisition performance. Savor and Lu (2009) further confirmed this view as their study revealed that in a long-term, the shareholders of the acquirer benefit from overvalued targets by using the equity as currency. In this study, there is no evidence that the shareholders of the acquirer had prior information that was not available in the market, hence the motive or theory was not proven. The next section describes the raider theory.

4.1.6 Raider Theory

Trautwein (1990) defined raider theory as a theory that explains the processes involved in transferring capital from shareholders of a target to shareholders of the acquirer. Hellgren *et al.* (2011) add that the raider theory looks at the process responsible or influencing the flow of wealth of shareholders from one company to another. The basis of raider theory is the creation of wealth transfer from stockholders of target companies. Wealth transfer can be in the form of overpayment and greenmail after the merger process has been concluded (Weston *et al*., 2010). The distribution of wealth to shareholders can also be in the form of reduction of employee costs. Employee costs reduction is also known as the redistribution of income from employees to shareholders (Weston *et al*., 2010). Holderness and Sheehan (1985) also argued that the hypothesis of wealth transfer is illogical. The argument that the hypothesis of wealth is illogical is based on the fact that the raider might be extorted during the process of paying premium to other shareholders. The extortion can happen whilst those shareholders that have been partially bought might benefit from net gains through the activities of the raider (Holderness and Sheehan, 1985). Although Junge

(2014) argues on the same point as Holderness and Sheehan (1985), the author further claims that, this theory has never been proven right. In support of this statement, the findings by Leepsa and Mishra (2016) present an opposite finding as presented in Table 4.3.

Table 4.3: Companies that decided to go M&A to gain efficiency

M&A Deals	M&A Motives
Air India merger with Indian Airlines (2007)	To reduce the workforce per aircraft cost which was 16% of total costs [Air India-214, Malaysian Airlines (2007) Airlines-230, Virgin Atlantic-282 and KLM-220]
Merger of Vedanta companies	To distribute a part of companies' free cash pile among shareholders through a special dividend.

Source: Leepsa and Mishra (2016:191)

The results in Table 4.3 illustrate a list of companies that through M&A underwent redistribution of wealth in one form or the other as stated by Eckbo (1983) and Holderness and Sheehan (1985). It is demonstrated in Table 4.3 that wealth was distributed to shareholders as there was available cash after the merger of Vedanta companies and this was achieved through a special dividend. The results in Table 4.3 further demonstrate that the reduction of the workforce per aircraft cost was achieved by merging Air India with Indian Airlines in 2007 (Leepsa and Mishra, 2016). Motives behind the raider or redistribution theory originate within the companies. Similarly, to the views presented on the foregoing discussion by Junge (2014); Trautwein (1990), the findings of this study did not prove the existence of the raider action. There are however those motives that are driven by the economy, which are the factors outside the control of the company (Trautwein, 1990). The issues that are out of control by the entity are discussed below in the disturbance theory.

4.1.7 Disturbance Theory

The disturbance theory is caused by the macroeconomic disturbance that affects industry or the economy (Gort, 1969). Kim and Finkelstein (2009) contend that macroeconomic disturbance occurs at a macroeconomic level and affects the expectations and increases uncertainty of individuals. Kim and Finkelstein (2009) further assert that, M&A frequently take place in industries that are characterised by changes in sales and employment during a certain period. In such industries, M&A are triggered by economic shocks and these economic shocks change the order of individual expectations. It is during the times of economic shocks that companies resort to M&A as a way of expansion to meet the market demand. Gaughan (2011) suggests that companies make use of M&A during economic disturbances as it is quicker to grow inorganically than the organic methods. In addition, Harford (2005) contends that companies use M&A to acclimatise to the new environment caused by economic, regulatory, and technological shocks. Harford (2005) further substantiates that firms usually benefit during these shocks from reduced competition and increased economies of scale. Contrary to the assertation that, M&A occur during technological shocks, Pouris (1985) revealed that in United Kingdom, there was no association between technological shocks and mergers rates. In essence, this finding suggests that the performance of stock prices over time is not affected by technological shocks in the economy. Trautwein (1990) posited that the macroeconomic disturbances that happen cause individuals who did not own assets to miscalculate the value of assets and put higher value on assets. On the other hand, those individuals who owned the assets under value the assets thereby losing out value in the process. Trowski (2014) found that shareholders' value is destroyed in the long run when investors exaggerate their reaction to the industry shocks as compared to managers. This study evaluates the impact of M&A on the firm's performance hence, the economic disturbance theory has been included. This theory is included because it is expected that companies experience financial gains during economic shifts. The next section discusses empirical literature review of M&A.

4.2 EMPIRICAL LITERITURE REVIEW

This section discusses the main variables that were used in this research study. Five variables that were used to explore research questions namely, financial performance, non-financial performance, synergy, motives of M&A, and the role of M&A.

4.2.1 Financial Performance

Weston (2001) defines financial performance as all the activities that the entity embarks on, to achieve their financial objectives. It is measured using financial returns and is achieved through different methods and financial indicators. Sharma (2013); Smith and Pedace (2011) posit that financial performance is measured using liquidity, leverage, financial risk, market value, profitability, and growth in sales. Musharraf (2003) adds share price as one of the indicators that are used to measure financial performance. M&A financial performance is measured by collecting data from financial statements. It is measured before and after the merger or an acquisition process and focuses among other parameters on profit margins, cash flow statements and accounting returns. Rachappa and Satyanarayana (2007) evaluated the share price of acquiring and target companies. The results of their study showed that, shareholders of a target firm experienced negative returns during the period surrounding the deal announcement. The event study methodology was used by Mallikarjunappa and Nayak (2013) to analyse a sample of 227 companies in India. The results demonstrated that abnormal returns were positive and were ranging from 27 percent to 37 percent. In their study, Akben-Selcuk (2015) measured stock reaction prices for companies in Turkey using the event study methodology over a period of 21 days. The findings of the study revealed that there were positive and significant cumulative abnormal returns. The returns were ranging from 5.25 percent to 8.53 percent influenced by the event window analysed. Reddy and Natekar (2015); Parveen (2014) used profitability ratios, liquidity or solvency ratios, and efficiency & asset utilisation ratios to measure financial performance of Indian pharmaceutical companies. In addition, they used cumulative abnormal returns, and buy and hold abnormal returns to measure share price performance. The study revealed that the majority of firms' performance did not improve their financial performance (Reddy and Natekar, 2015). Financial performance of different company sizes in Serbia was measured using cost reduction, stability, and income growth as indicators of financial performance (Savovic, 2016). The results revealed that large companies experienced improvement of the financial performance. Ogada *et al.* (2016) used cost efficiency and the outcomes of their study revealed a positive and significant relationship between financial performance and cost efficiency. Following the acquisition of ABSA by Barclays Bank Plc, different financial ratios were used to measured post-merger financial performance (Ntuli, 2017). The findings of the study demonstrated improved financial performance when considering profits, return on assets, return on equity, debt to equity ratio, and return on investment. In their study of companies in the non-financial sector in Pakistan, Ashfaq *et al*. (2014) measured financial performance using the financial ratios such as return on equity, return on assets, and earnings per share. The study revealed that all the financial ratios deteriorated, meaning that the mergers did increase financial performance. Financial performance was measured in the oil and gas industry in India using return on capital employed, net profit margin, cash profit margin, operating profit margin, and return on net worth (Bhardwaj and Bisht, 2016). The findings demonstrated that there was no significant improvement because of M&A in financial performance. The impact of M&A in financial performance of Pakistan entities measured liquidity, profitability, and leverage (Rashid and Naeem, 2017). The findings of this study demonstrated no improvement on all the parameters used because of M&A. Muhammad, Waqas, and Migliori (2019) used solvency ratio to measure the financial performance of banks. The findings of the study revealed negative performance due to M&A. It is clear from the afore-mentioned discussion that the outcomes on the role of M&A on firm performance is not consistent as some results revealed improvement on the shareholders' value. Whist some results demonstrated no improvement in the shareholders' value, hence it is necessary that as the M&A transactions continue to increase, that their role on financial is monitored to identify if these mergers deliver what they are supposed to deliver. The ensuing section reviews the impact of M&A on the non-financial performance of merged companies

4.2.2 Non-financial Performance

Non-financial performance is described as the form of organisational performance that is stated in the form of absolute and relative data (Malgharni, Soomasundaram, and Multaiyah, 2010). It does not use financial systems to measure firm performance. Non-financial performance uses indicators such as market share, increased customer base, amongst others (Savovic, 2016). Di Guardo, Harrigan, and Marku (2015); Kapoor and Lim (2007); Musharraf (2003) further add that innovation, productivity, and attainment of goals are amongst the indicators used to measure non-financial performance of M&A. It assists the entity to gain a forward looking on the performance of the business. Guilding (2014) corroborate that non-financial performance does not only depend on the firm's historical performance as opposed to financial performance. Wadongo, Odhuno, Kambona, and Othuon (2010) further argue that, it guides the business towards its strategic objectives. Mjongwana and Kamala (2018) contend that, some of the non-financial performance indicators are used to increase the profitability of the company. Yanan *et al*. (2016) further corroborate that M&A increase the market of the company. In a study of Serbian small, medium, and large companies, Savovic (2016) used market share and customer base to measure the impact of M&A on non-financial performance. The results of the study revealed that medium companies experienced improvement on the non-financial performance (Savovic, 2016). Bari, Fanchen, and Baloch (2016) measured non-financial performance using items such as employees' satisfaction, customers' satisfaction, company public image, operational efficiency, and service quality. The results of the study demonstrated that non-financial performance improved during the period. The below section discusses the synergy.

4.2.3 Synergy

Synergy is the ability of the merged entities to produce improved performance than individual entities would on their own (Ashfaq *et al*. 2014; Gupta and Banerjee, 2017; Polyarus et al., 2013). Synergy has been quoted as one of the motives that companies decide to make merger or acquisition decisions. Devos, Kadapakkam, and Krishnamurthy (2009) note that synergy is experienced when a merged entity uses economic resources efficiently. Olugbenga and Olusola (2014) further note that merged entities use synergy to increase their performance by posting high profitability, which in turn increases shareholders' return. The study by Bortoluzzo, De Siqueira Garcia, Boehe, and Sheng (2014) revealed that companies in Brazil involved in cross-border M&A, obtained synergy via access of valuable resources, economies of scale and scope, increased market power, access to new knowledge and overcoming new territory. A study of financial services industry in Europe revealed that M&A results in synergy (Ismail, 2005). Fatima and Shehzad (2014) studied the performance of banks in Pakistan using ten financial ratios. Their study revealed that the banks in Pakistan did not gain synergy as a result of merger or an acquisition. This means that there was no synergy obtained, hence mergers did not improve the performance of banks post-merger. Basmah and Rahatullah (2013) found that companies in Saudi were able to obtain synergy through horizontal mergers that allowed them to gain more market power. Synergy of banks through financial ratios was measured using profit after tax, debt to equity ratio, deposit to equity ratio, EPS, return on asset, and return on equity (Fatima and Shehzad, 2014). The outcomes of their study showed that, there was no synergy achieved as a result of merger or an acquisition. Parimala and Kalaiselvi (2015) identified three types of financial synergy, namely: financial synergy, operational synergy, and managerial synergy and these are discussed in detail in the ensuing sections.

4.2.3.1 Financial Synergy

Parimala and Kalaiselvi (2015) describe financial synergy as the kind of synergy that occurs between two companies that hold varying cash flow positions and investment portfolios. It results from lower costs and internal financing as opposed to external financing. According to Knoll (2008), different types of financial synergy are mitigation of the financial risk, creation of internal capital market, tax advantages, and financial economies of scale. Taher *et al.* (2016) further corroborate that financial synergies are related to risk reduction which is achieved via diversification and lesser insolvency. Taher *et al.* (2016) found that the source of financial synergy is influenced by the relative size of the target. The study of Nigerian banks by Olugbenga and Olusola (2014) used pre-merger and post-merger financial statements of three banks to determine financial synergy in shareholders' value for a period of six years. The results of the study revealed that none of the banks experienced the financial synergy during the period that was studied. Financial synergy of commercial banks in Calabarzon, Philippines was measured using profitability, leverage, and liquidity. The results demonstrated that profitability and leverage were statistically insignificant, whilst liquidity was found to be statistically significant (Maranan *et al*., 2019).

4.2.3.2 Operational Synergy

Operating synergy is the form of synergy that is experienced when the merged entity increases its production efficiency, which leads to higher operating profits (Junge, 2014). The savings from improved production efficiency comprise of economies of scope and economies of scale (Wang and Xie, 2009). Devos *et al*. (2009) opine that the source of operating synergy is cutting back in investment spending as opposed to increasing operating profits. This assertion is confirmed by Taher *et al.* (2016), whose findings revealed that operational synergy is enhanced by cutting back on investment spending, increase on revenue, and increased market power. De Oliveira Pamplona and Rotela (2013) used accounting indicators and discounted cash flow to determine the synergy gains. The outcomes of the study demonstrated that through M&A, the entities obtained operational synergy. The operational was achieved by growing incomes and effectively maintaining costs.

4.2.3.3 Managerial Synergy

Managerial synergy is based on the grounding that different entities function at different levels of efficiency because of the capability of the management. This implies that some management teams perform better than others (Junge, 2014). In theory, the managerial synergy implies that an efficient management from another company replaces inefficient management in another company. Parimala and Kalaiselvi (2015) opine that the impact of managerial synergy is mainly experienced in horizontal mergers, where companies are operating in the same industry. De Oliveira Pamplona and Rotela (2013) analysed the impact of M&A on obtaining synergy and the findings of their study established that the Brazilian companies achieved managerial synergy. Managerial synergy was obtained by efficiently controlling the administrative and general costs in their general management.

4.2.4 Motives of M&A

Motives of M&A are concerned with what drives the decision to embark on mergers. Mensah and Onumah (2017) point that motives of M&A are the underlying factor that assists scholars to understand the application of different theories in M&A. Koi-Akrofi (2014) further adds that the understanding of motives behind M&A, assists researchers and managers to have better understanding of M&A dynamics. This view is based on the fact that, one transaction might be driven by different motives (Leepsa and Mishra, 2016). In further explaining the link between motives of M&A and theories of M&A, Mohapatra (2014) opines that the logic behind M&A transactions is explained by M&A theories. Mensah and Onumah (2017) recognise two schools of thought that define motives of mergers. These are value enhancing or efficiency school of thought and non-value enhancing or redistribution school of thought or agency theories. In the same token, Koi-Akrofi (2014), also mention two streams of motives of M&A, namely, efficiency gains and strategic rationale. Theories under the efficiency theory are market power theory and corporate control. On the other hand, theories under non-value enhancing are managerial hubris Doukas and Travlos (2007); Billett and Qian (2008), managerial discretion, management entrenchment, and empire building theories (Wang and Moini, 2012). Koi-Akrofi (2014); Seidu (2009) reported that, in Ghana, the motives for mergers in their order of importance are synergy, growth, elevating market standing, value creation for stockholders and empire building. Hitt *et al*. (2015) point that understanding motives behind M&A will assist managers to acquire the right target and plan properly for integration of the entities merging after the deal has been closed. Understanding the motives behind M&A also assists managers to justify the decision for choosing M&A as an alternative growth strategy as opposed to other forms of growth. Rohra and Chawla (2015); Tripathi and Lamba (2015) posit that there are several motives that are used as the basis for M&A. Hitt *et al*. (2015); Rohra and Chawla (2015); Tripathi and Lamba (2015) further state that these motives are increased market power, attempts to reduce competition, learning and developing new capabilities, lower risks compared to developing new products, and portfolio diversification, are some of the motives used to justify M&A as demonstrated in Table 4.4. It is illustrated in Table 4.4 that motives for M&A determine the type of merger or an acquisition. Hill *et al*. (2017) contend that when a motive is to gain market power and market for corporate control, the companies involved are usually in the same industry and the type of a merger is a horizontal merger. On the other hand, when a motive for a merger is for an entity to go global, cross-border merger and acquisition is pursued, and it can take any form of merger types.

Table 4.4: Drivers of strategic motives of mergers and acquisitions

Strategic motives	**Type of merger and acquisition**
Market power	Horizontal integration
Create market entry barriers	Vertical and horizontal integration
Acquiring capabilities	Vertical, horizontal, conglomerate, market-extension, and product extension
Accessing new markets and overcoming market entry barriers	Vertical or conglomerate
Resource	Vertical and horizontal integration
Globalization	Cross-border M&A, all types
Market for corporate control	Horizontal integration

Source: Qaderi and Bouzeid (2017:18)

Vertical mergers or conglomerate are achieved when the entity wants to access new markets and overcome barriers of entry into a new market. A company can decide to either pursue vertical or horizontal integration as a way of creating market entry barriers (Hitt *et al*., 2015). Tripathi and Lamba (2015) identified other motives of M&A which include desire to increase growth rate, capture a greater market share, improve value of organisation's stock, acquire a needed resource quickly and to take advantage of synergy experienced from combining two entities. Tripathi and Lamba (2015) further opine that value creation, the desire to be a market leader, synergy gains, efficiency gains and lastly, marketing, and strategic objectives, are some of the motives that companies desire to achieve. Strategic motives of M&A are meant to advance the overall strategic position of the entity by creating synergy, strengthening market power and increasing the momentum on gaining access to foreign or untapped markets.

Strategic motives are also meant to allow the firm to pull on core competencies. Through strategic motives, companies, especially on cross - border M&A are able to quickly access established brand names and existing proprietary assets. The proprietary assets include skills, technology, organisation, information, supplier systems, brands and contacts (Tripathi and Lamba, 2015). For an example, in South Africa, Wal-Mart took advantage of Massmart's customer loyalty and trusted brand name (Mandiriza, Sithebe, and Viljoen, 2016). The acquisition of Massmart group by Wal-Mart in turn gave Wal-Mart a strong base to access the SA market. Guzey and Tasseven (2012); Srivastava and Prakash (2013) further assert that M&A are driven by motives such as improved capacity utilisation, effective optimisation of the current sales force, reduction of managerial staff; and mitigation tax obligation. In the Kenyan banking industry, Joash and Njangiru (2015) found that M&A are conducted to expand capital, thereby increasing chances of accessing more resources like credit facilities which further increases liquidity of the business. Some of the economic motives of M&A are to increase the economies of scale, increase profitability or financial performance of the entity, and increase sales amongst other motives (Qaderi and Bouzeid, 2017). Table 4.5 demonstrates that the type of economic or financial motives of M&A determines the type of merger or an acquisition.

Table 4.5: Economic and financial motives

Economic and financial motives	Type of merger and acquisition
Economies of scale	All types
Economies of scope	Horizontal, vertical
Increase in profitability	Horizontal and vertical
Increase sales	All types
Reduce costs	Mainly horizontal but also vertical
Diversification	Conglomerate mergers
Tax benefits	Conglomerate mergers
Lower cost of capital	Conglomerate mergers
Pure financial	All types, especially conglomerate

Source: Qaderi and Bouzeid (2017:21)

It is illustrated in Table 4.5 for example that if a company decides to reduce costs, it can mainly achieve this through a horizontal merger. Whilst on the other hand, conglomerates are done to achieve diversification of the acquirer's portfolio

4.2.4.1 Financial Performance as the Motive for Mergers and Acquisitions

Mergers and acquisitions allow merged entity to access cash resources thereby increasing the liquidity of the entity. When asset backing is used as a reason for M&A, the acquiring company pursues supplementary asset value (Sorheim and Lerkerod, 2015). The increased asset backing results on increased gearing capacity, as borrowing is done under much improved asset backing (Yanan *et al*., 2016). Mergers and acquisitions allow merged entity to benefit from tax exemption in cases where an entity that is paying high taxes acquires an entity that is making loses. The tax exemption may be allowed by some legislation when the entity that has experienced excessive tax losses is acquired.

This in turn results in the upliftment of tax burden to the entity that has been paying high tax (Yousef, 2016). The merged entity can avoid paying dividends or repurchasing equity by investing surplus funds in acquisitions that do not incur tax. Yanan *et al*. (2016) highlight that M&A are used to enlarge the market value of the company by impacting on company's profitability. Mergers and acquisitions increase the demand dividend in the market stock thereby increasing value to shareholders. The role of M&A performance is therefore seen as increasing the financial performance. In as much as it is important for the company to demonstrate financial performance, it is a good practice and one of the requirements of the successful firms to demonstrate operational efficiency. . A study to determine the motive for cross-border mergers by Indian companies, was conducted on a sample of 69 transactions that took place between 1998-2009 (Tripathi and Lamba, 2015). The results of the study demonstrated that cross-border acquisitions and mergers by Indian companies were motived by the desire to financial efficiency and creating value. The motive of the study conducted by Abbas *et al*. (2014) was study if M&A result on increased financial for banks in Pakistan. This was done using a sample of 10, on a data collected over 6 years between 2006-2011. The performance measures used were ratio analysis such as profitability, efficiency, liquidity ratios and leverage. The findings of the study revealed that there was no improvement in the financial performance post-merger and acquisition activity of banks in Pakistan. I their study Lai et al. (2015) explored the financial performance of Malaysian banks using t-test, t-value testing, financial ratio analysis and data envelopment analysis to examine the leverage, shareholder's wealth, cost reduction profitability and liquidity as dependent variable. The pre-merger data was collected from a period between 1999-2001, whilst the post-merger data was collected between 2000-2010. The findings of the study revealed showed no improvement of financial performance post-merger (Lai *et al*., 2015). Non-financial performance as a motive for M&A is discussed in the succeeding section.

4.2.4.2 Non-Financial Performance as the Motive for Mergers and Acquisitions

According to Azhagaiah and Sathishkumar (2014), non-financial performance also referred to as operating efficiency refers to the capability of the company to produce high quality products and render high quality service effectively. It is about optimum use of inputs to produce outputs. Through operational efficiency, the corporation can produce the best mix of products at affordable prices and high quality. The study by Azhagaiah and Sathishkumar (2014) revealed that operating performance of manufacturing firms in India increased significantly after the M&A acquisition process. Guzey and Tasseven (2012); Srivastava and Prakash (2013) state that M&A are driven by desire to improve capacity utilisation, effective optimisation of the current sales force, to reduction of managerial staff; and mitigation of tax obligations. Hamza *et al*., 2016) affirm that revenue increase, cost savings, investment cutbacks and greater market power indicate higher operating efficiency. Operating efficiency results in an increase of productive efficiency. Operating efficiency results in reduction of working capital which drives capital expenditure savings. According to Hamza *et al*. (2016), capital expenditure encompasses economies of scale and of scope. In the SA Chemical industry, it is not clear what drives M&A, as there is also little or no knowledge available. Through achieving operational efficiency, the company can then experience synergy. When an entity experiences synergy, the performance of the two merged entities is greater than the performance of individual entities added together. Synergy as a motive is one of the most cited objectives of M&A and is discussed in the next section.

4.2.4.3 Synergy as the Motive for Mergers and Acquisitions

Queensly Jeyanthi, Kalaivan, and Sumathi (2016); Rohra and Chawla (2015) define synergy as a process where the output of the two combined entities is greater than the output of each of the two companies when they were operating on their own. Rahman and Lambkin (2015) mention that synergy is a concept of 2+2 = 5. It is seen as the surplus value created by a process of M&A (Ashfaq *et al*., 2014). De Graaf and Pienaar (2013) state that the objective of M&A is to create synergy from the resulting entity. De Graaf and Pienaar (2013) further state that the synergy from the merged entities results from combined entities achieving higher performance than their individual performances. Synergies can be realised by evaluating, amongst other things, a higher growth rate in revenue, increased margins due to economies of scale and lower taxes.

Table 4.6 illustrates some of the frequently experienced synergies and their features. Ashfaq *et al.*(2014); Zaheer, Castaner, and Souder (2013) point out that some sources of synergy from M&A can be from any of the following areas: realization of the economy of scale, integration of firms vertically, reduction of costs in production, and reduction of distribution costs. Sathishkumar (2013) further adds that technological efficiencies, use of the acquirer’s management team; and reduction of the target’s redundant management team and taking advantage of the underutilized tax shields can serve as sources of synergy. De Graaf and Pienaar (2013) define economies of scale as the advantage gained from cost due to increase in the product scale. Economies of scale happen when merging entities combine their assets. It is essential when reporting the economies of scale, that a difference is made between short and long run benefits. De Graaf and Pienaar (2013) further affirm that economies of scale result from redundancy caused by personnel, office space, accounting, and auditing services. Mergers and acquisitions can also bring about the reduction of redundancy in distribution, research and development and management control (De Graaf and Pienaar, 2013). The merger can result in the formation of one single brand, which can lead to reduced advertising costs. According to Hamza e*t al*. (2016), economies of scale and scope fuel the increase of new and existing markets, which in turn results in a greater market power. Increased market power enables the merged entities to negotiate better prices and delivery terms from both their suppliers and customers. This scenario stimulates higher income and reduced costs for the merged entity compared to its industry peers, thereby increasing the operating profits. This is a result of increased efficiency due to asset utilization than on improved operating cash flows (Hamza e*t al*., 2016). Tripathy and Prajapati (2014) stated that merged entities benefit from operational synergy as the merged entities reduce their costs due to increased revenue.

Table 4.6: Types of synergies in mergers and acquisitions

Types of synergies	**Features**
Operational savings	Efficiency increases due to the cancellation of duplicate functions in each of the united companies
Economies of scale	Reducing the average costs per unit of output while increasing the amount of output

Table 4.6 (continued)

Cost reduction through vertical integration	Cost reduction due to the commitment's performance, increasing the level of management and coordination of the entire process chain, improving quality control and protection of the technologies
Combining the complementary resources	The goal is to ensure the acquiring firm with the competitive advantages for business development through obtaining unique innovative technologies through M&A.
Tax burden optimization	An opportunity to use the principle of transferring the losses of one company on the future periods in order to decrease the profit before taxation of another one (reducing of the future tax payments)
Improving the management efficiency	Redistribution of ownership from poor management in favour of more effective. The classic criterion of the management effectiveness, based on value, is considered as the maximum shareholders' welfare.

Source: Ianenkova and Solesvik (2016:41)

Additionally, to the operational synergy, the merged entity obtains financial synergy due to the increased size of merged entities, thereby resulting in reduced cost of capital. Financial synergy results from tax savings and reduced bankruptcy risk. Bankruptcy risk is achieved through diversification of merged entity through generation of lower weighted average cost of capital. Kar and Soni (2008) studied the motives of companies from different sectors in India. The sample was drawn for transactions that took place between 1990-1991 and 2000 -2001. The results of the study revealed that the companies in Indian embarked on M&A to achieve synergy. The motive to achieve synergy was obtained by embarking on both horizontal and vertical mergers and acquisitions. In their study, Rani *et al*.(2015) surveyed company executives through a questionnaire, using a sample of 687 acquirers and 1072 targets. The findings of the study demonstrated that the motive for their actions was to achieve synergy. A study to determine the motive for cross-border mergers by Indian companies, was conducted on a sample of 69 transactions that took place between 1998-2009 (Tripathi and Lamba, 2015). The results of the study demonstrated that cross-border acquisitions and mergers by Indian companies were motived by the desire to achieve synergy. Joash and Njangiru (2015) found that merged banks in Kenya benefited from financial synergy. This happened when merged banks expanded their capital, thereby increasing chances of accessing more resources like credit facilities which further increases liquidity of the business. Synergy results in improved market power for the merged entity towards both customers and suppliers. Improved market power is because of strengthened brand and is discussed in the following section.

4.2.4.4 Market Power as the Motive for Mergers and Acquisitions

According to Hitt *et al*. (2015); Ireland, Hoskisson, and Hitt (2013), market power is when a company is able to achieve above average returns compared to its competitors. Gaughan (2011) posits that companies use M&A to gain market power through elimination of competitors and entering new markets. Market power is driven by the size of the entity and in most instances because of the synergy effect the firm has experienced. A merged entity results into a bigger entity than the single entities on their own. Miller and Weinberg (2016) are of the view that due to increased market power, the entity is able to command premium prices in the market, thereby reducing its input costs. Competitors are eliminated by being acquired, thereby increasing the market share of the acquiring entity. Acquiring competitors result in reduced suppliers and alternatives available to customers, thereby allowing the merged entity to increase prices, which results in increased sales margins. Through achieved economies of scale, the merged entity's purchasing power increases. The increased purchasing power allows the entity to have more power to negotiate with its suppliers as the company buys large volumes compared to its peers (Ireland *et al*., 2013). A sample of 239 Dutch healthcare executives was studied by (Postma and Roos, 2016). The objective of the study was to determine the motivating factors behind Dutch healthcare companies deciding to go for acquisitions or mergers. The study included transactions that took place between 2005 and 2012. The findings revealed that the motive by Dutch healthcare providers to embark on acquisitions and mergers was to gain market power. Vretenar *et al*. (2017) evaluate the motives of M&A on 73 small and medium enterprises in Croatia via a structured questionnaire. The findings of the study revealed that market power was the reason behind the small and medium enterprises engaging in M&A. The above motives are applicable to M&A in all economies and industries. These motives are the guidelines through which global deals are based. Similarities or differences might be experienced through certain economies or industries. In the South African context, especially in the mining industry, compliance with legislation like BBBEE has been the driving force behind M&A (Mwelase, 2015; Wolmarans and Sartorius, 2009). The motives for M&A in the South African context are discussed in the ensuing section.

4.2.5 Motives of Mergers and Acquisitions in South Africa

According to Deloitte (2018), the year 1994 marked the beginning of the new democratic dispensation in SA, wherein the first inclusive national general elections were held. These elections brought in a new dawn and saw the withdrawal of the sanctions that were imposed by the global economies in SA, due to her apartheid laws and policies. The new era saw increasing investor confidence and increasing FDI. During this period M&A began to increase as tariffs were uplifted and SA was opening doors to more trade partners and trading blocs (Wilson and Vencatachellum, 2016). Amongst other issues that led to M&A was the introduction of inclusive economic policy regulations like (Mwelase, 2015). Osae *et al*. (2011) affirm that some of the M&A in South Africa are driven by the desire to comply with the BBBEE.

According to Osae *et al*. (2011), some of the empowerment deals in SA due to BBBEE amounted to about USD 9 billion in 2006 and USD 14 billion in 2007. Ndadza (2014) revealed that M&A transactions in SA demonstrated increased shareholders' value for transaction concluded between 2002-2013. In the South African chemical industry, it is not clear what drives these mergers and acquisitions. Hence from the afore-mentioned discussion, it is essential to determine the role of M&A within the chemical industry. Once the role of M&A is identified; it will be easy to identify the motives of the M&A transactions in SA. Understanding the motives behind M&A is essential as it allows management to identify whether the merged entity had experienced some advantages through a merger by increasing the shareholders' wealth. This is equally so, to understand the motive of merger or an acquisition even if the entity had experienced some merger disadvantages.

4.6 SUMMARY OF THE CHAPTER

This chapter demonstrated that there are different theories that are used to define the motives of M&A. It is revealed from this chapter that there is no one theory that can explain the M&A objectives, as in one M&A theory, there can be different objectives. The chapter further revealed that, it is difficult to prove practical relevance of some of the theories such as process theory, and valuation theory. The four independent variables are financial performance, non-financial performance, synergy, motives of M&A, and the dependent variable in the role of M&A. The literature also demonstrated that M&A is a global phenomenon practice by companies to achieve different motives. The widely stated motives of embarking on M&A are synergies, increased profitability, and increase in shareholders' wealth. Some of the strategic motives are growth, increased market share, acquiring size, diversification, reduction of costs, entry into new markets and entry into new segments. The empirical literature findings demonstrated mixed results with regards to the motives of M&A, with regards to financial performance and synergy. This chapter also demonstrated that the majority of merger transactions in SA, is mainly driven by BBBEE legislation. It is still not clear what drives the mergers within the chemical industry in SA. It can be assumed though that, the transactions in SA, might be driven by the desire to gain market power considering the nature of transactions by the likes of Brenntag in SA.

CHAPTER FIVE: THE CONCEPTUAL FRAMEWORK AND HYPOTHESIS OF THE STUDY

5 INTRODUCTION

The preceding chapter gave a detailed overview of theoretical framework applicable to this study. It further gave a review of the empirical literature in M&A. Furthermore, the chapter discussed the motives of M&A and gave an account of motives of mergers and acquisitions in the SA context. This chapter is going to discuss the conceptual framework of the study and present its research hypotheses. Lastly, the study is also going to present the conceptual framework of the study based on the hypotheses developed in this chapter.

5.1 SCHOOLS OF THOUGHT

Savovic (2016) proposes that, organisational performance on M&A is a multidimensional phenomenon. Organisational performance is influenced by the methodology that is used to measure performance and the beliefs or the schools of thought of the researcher measuring performance. Hence this section discusses the schools of thought of M&A and how they influence how scholars and practitioners view the performance and role of M&A in an organisation. Birkinshaw, Bresman, and Hakanson (2000) identified four schools of thought that impact on the role of performance of M&A within organisations. These schools of thought are financial economics, strategic management, organisational behaviour, and process perspective. The schools of thought are different with regards to the methods and research areas. These schools of thought touch different areas of the organisation and the economic environment where M&A take place. Birkinshaw *et al*. (2000) observed that the theoretical roots, objectives, and central hypotheses based on these schools of thought concerning M&A success or failure have been developed by academics from different disciplines. Table 5.1 is an overview of M&A schools of thought, and they are discussed in the sections that follow.

5.1.1 The Capital market / Financial Economics School of Thought

Cartwright and Schoenberg (2006) state that capital market school of thought, which is also referred to as financial economics theory, evaluates the acquisition success based on whether the acquisition has created financial value for the company.

Table 5.1 presents an overview of different schools of thought of M&A

Table 5.1: Overview of M&A schools of thought

Research stream	**Objective**	**Theoretical underpinnings**	**Central proposition for each theoretical aspect**
Financial economics	Create value for shareholder and economy	Pricing based on capital asset, free cash flow, agency theory, control of corporate market	Acquisition increase the efficiency market which result in net wealth increase for shareholders
Strategic management	Measure the performance of both acquirer and target	Strategic fit	Acquirer's performance is influenced by distinct synergy. Acquirer's performance is positively influenced by realization of synergies
Organisational Behaviour	Individuals and organisation culture are affected by M&A process	Acculturation theory	Corresponding or congruent cultures of merging entities influence seamless integration and employee fulfilment
Process perspective	Value creation is achieved post acquisition	Behavioural theory of the entity	The objective of the acquisition is through defined management actions and the extent of integration process

Source: Salama (2015:31)

Financial value is based on the impact of a merger on the shareholders' value. Scholars within the financial value, believe that acquisitions increase the efficiency of market for the corporate in control (Kaplan, 2006). In return, the increased corporate market control results in shareholders' net wealth creation, which is the financial value for shareholders. At the centre of financial economics theory, is the maximisation of shareholders value. In order to understand the maximisation of shareholders' value, scholars within the capital market school strive to understand interdependence between corporate control and shareholder value. The interdependence between corporate control and shareholder value is viewed by Kaplan (2006) as the measure of the total economic impact of the acquisition, on both the acquirer and target. Kaplan (2006) opined that the success or positive economic impact of the acquisition is measured by considering the combined change in the value of shares after the announcement of the merger. Anderson, Sutherland, and Severe (2015); Antoniadis, Alexandridis, and Sariannidis (2014) are of the view that during the announcement of an acquisition, financial economists track changes in the value during short and longer run. The tracking of the financial value is done with the understanding that there are abnormal changes to the value during the announcement. Considering these abnormal changes whilst tracking financial, Kaplan (2006) notes that the combined value of the shares during announcement is considered suitable under three assumptions. The first assumption is that the market is aware of the values of the merging entities prior to the announcement. The second assumption is that the information disseminated to the market during acquisition is about acquisition. The last assumption that Kaplan (2006) mentions is that the acquisition is unexpected. Theories like free cash flow; and agency theory support the financial economics school of thought (Salama, 2015). Cartwright and Schoenberg (2006) believe that in spite of the work done based on this school of thought, there is still no evidence that transactions have a positive impact for the acquirer. The limitation of this school of thought is the belief that managers and employees always strive to maximise value for shareholders. The strategic management school is described in the subsequent section.

5.1.2 The Strategic Management School of Thought

Mahesh and Prasad (2012); Yanan *et al*. (2016) mention that M&A are driven by the desire to achieve synergy in the form of increased market share, cross selling, economies of scale, reduced taxes, and minimised fixed costs. The objective of this study is to measure the role of performance of organisations post the M&A process which is influenced by the strategic fit of the merging entities. Strategic fit determines the success of a M&A, which is anchored on the common goal of M&A. Bauer and Matzler (2014); Ghosh and Dutta (2016) state that the common goal of M&A is that the combined value of the merged entities must be greater than the sum of the two entities on their own. Strategic fit is related to overcapacity of M&A, geographic expansion, product or market extension M&A, R&D M&A and lastly, industry convergence (Kandžija, Filipović, and Kandžija, 2014). Bower (2001) defines overcapacity of M&A as the process that occurs where two companies are directly competing in the same market with similar product lines. The expectation is that the merged entity will produce synergy through rationalising operations and by shutting down some of the duplicated overcapacity. Bower (2001) contends that the difficulty might rise on integrating this type of M&A as management from both merging companies might fight for control of the new entity. In geographic expansion, the acquirer seeks to grow in the new geographic area whilst retaining operations in the home country or local operations. Product or market expansion happens when an acquirer seeks to expand the product line on international platform (Bower, 2001) This is a result of the merger of two entities which sell similar products in different markets or operating in similar markets with different products. One of the M&A is to acquire or access new technologies which is done by acquiring or merging with those entities that are leading in research and development. Lastly, strategic fit in M&A can be achieved through industry convergence. Industry convergence happens when one firm acquires another in an industry that is developing, with the hope that this industry will grow in the future (Bower, 2001). In the following section, the organisational behaviour school of thought is explained.

5.1.3 The Organisational Behaviour School of Thought

Birkinshaw *et al.* (2000) declared that organisational and human activities affect performance of M&A in a similar way as the financial and economic activities. Birkinshaw *et al*. (2000) opined that academics in this school of thought focus on effect of human resources and how the organisation responds to M&A. Birkinshaw *et al.* (2000) opined that at the centre of this school of thought is the alignment of different cultures from the merging companies. These cultures positively affect the performance of M&A through the seamless facilitation of employee approval of the acquisition process and effective integration of the two entities (Rottig, Reus, and Tarba, 2013). According to Weber, Tarba, and Reichel (2011), this school of thought pays attention to the human impact of M&A, which in most instances manager's objectives of performing M&A disregard it. Queensly Jeyanthi *et al*. (2016) found that at the centre of these studies is resistance to change and lack of harmony of cultures on the part of merging entities. Krug and Aguile (2005); Leung, Tse, and Westerholm (2018); Queensly Jeyanthi *et al*. (2016); Siegel and Simons (2008) posit that the strenuous experience that employees and managers go through during the merger process, increases turnover rate. Some employees and managers resort to voluntary departures. These departures and strenuous experience result in a negative performance of the organisation. The ensuing section discusses the process perspective school of thought.

5.1.4 The Process Perspective School of Thought

Calipha, Tarba, and Brock (2010); Sarala (2008) are of the view that the process perspective school of thought believes that the success or failure of M&A is largely determined by the post-acquisition process. This school of thought suggests that at the centre of the success or failure of the acquisition, management actions and post-integration process are the key determining factors. Sarala (2008) states that this school of thought is built from both management school of thought and organisational behaviour school of thought. This school of thought is centred around the fact that acquisition synergies are as a result of both strategic and organisational fit. Sarala (2008); Papadakis (2005) opine that the realisation of both strategic and organisational fit is dependent on the effective management and implementation of post-acquisition process. This school of thought further adds that decision-making during acquisition and integration stage impact on the final outcome. The next section establishes the conceptual framework of this study.

5.2 THE CONCEPTUAL FRAMEWORK OF THE STUDY

It is essential to understand the conceptual framework of the research study, as it gives the pillar on which certain M&A decisions might be based. It further locates the discipline within which a particular M&A is grounded. According to Weber *et al*. (2011), most of the studies on M&A lack theoretical foundations and are scattered across different disciplines. Further to this statement, Weber *et al*. (2011) further claim that research on M&A lack methodological approach and is not associated to any complete theory. These foregrounding arguments necessitated a need to establish the conceptual framework for this study. In the preceding section, four schools of thought which are process behaviour, organisational behaviour, strategic management, and capital market / financial economics were discussed. The discussion of these schools of thought was done in order to establish the conceptual framework for this study. The conceptual framework for the study was based on strategic management and financial economic schools of thought which are discussed in the following sections.

5.2.1 The Strategic Management School of Thought

Kim and Finkelstein (2009) opine that strategic school of thought considers the effect of M&A on individual entities. Accordingly, this school of thought sees the best performance achieved through M&A as a result of economies of scale, extend scope and market power. The afore-mentioned statement was supported by Singh and Montgomery (1987) who are of the view that acquisitions lead to economies of scale, economies of scope and market power. Eun and Resnick (2007); Leepsa and Mishra (2016) believe that M&A are driven by the desire to achieve synergy in the form of increased share of market, cross selling, economies of scale, reduced taxes and minimised fixed costs. These factors mentioned in this paragraph influence the role of M&A on the performance of organisation post the process which is in turn influenced by the strategic fit. Bauer and Matzler (2014) opine that strategic fit determines the success of a M&A, which is anchored on the common goals of M&A which is synergy and increase of the shareholders' value. They believe that strategic fit has a positive impact on both cultural fit and integration of merging entities. The strategic fit serves as a source of inorganic growth and corporate development in M&A. In a broader view, Angwin and Meadows (2015); Bauer and Matzler (2014); believe that strategic fit is about two merging entities being related, similar and complementary to each other. As mentioned by Leepsa and Mishra (2016) the common goal of M&A is that the value of the combined entities must be greater than the sum of the two entities on their own. Bauer and Matzler (2014); Kim and Finkelstein (2009) further argue that strategic fit improves the performance of M&A, thereby creating value for the shareholders.

Strategic fit is achieved when the target entity enhances the acquirer's strategy and makes a meaningful contribution both financially and non-financially to the acquiring entity. According to this study, strategic fit is related to overcapacity M&A, geographic expansion, product, or market extension M&A and lastly R&D M&A. The ensuing section describes the financial economic school of thought.

5.2.2 Financial Economic School of Thought

According to Cartwright and Schoenberg (2006); Kaplan (2006), this school of thought is of the view that M&A create value for shareholders. This implies that the role of M&A is to increase the financial performance of the merged entity (Vahid, Dehghanpour, and Nasirizadeh, 2013). The increased financial performance of the merged entity results in more cash that is available to shareholders as dividends (Yanan *et al*., 2016). The following section illustrates the hypotheses and develops a model of the study.

5.3 THE DEVELOPMENT OF HYPOTHESES AND RESEARCH MODEL OF THE STUDY

Gupta (2012); Grigorieva and Petrunina (2013); Inoti *et al.* (2014); Reddy and Natekar (2015); opine that M&A are mainly used by companies to expand their portfolio with the aim of increasing financial and non-financial performance of the acquirer. The general notion around M&A is that the performance of two merged entities is better than the performance of separate entities on their own. Harvey (2015); Ntuli (2017), posit that information that is used to determine financial performance is based on the previous financial or accounting data of the company for the previous years.

The financial performance of merged entities is determined amongst other variables by the profitability, liquidity, and capital market share (Inoti *et al*. 2014). Mahesh and Prasad (2012) state that entities make use of financial indicators to compare or measure their performance over time with itself or with its competitors in the same industry. It is one of the motives of M&A that when companies have merged, the financial performance of the merged entity will improve. Yanan *et al*. (2016) contend that improved profitability is the primary objective of M&A. Akenga and Olang (2017) found that banks in Kenya engage in M&A to increase financial performance. Abbas *et al.* (2014) alluded that M&A are done to achieve improved profitability, liquidity, efficiency and leverage ratio. Study by Lasher, Nizam and Hassan (2015); Ntuli (2017) found that the financial performance in the form of profitability increased after the M&A. Yanan *et al.* (2016) also confirmed in their study that M&A increased the profitability of a merged entity. The foregoing discussion leads to the formulation of the hypotheses below.

H_1: M&A have a positive impact on the financial performance of companies in the chemical industry in South Africa.

M&A not only result in the increased financial performance, but they also result in the increase of non-financial performance. The study by Harvey (2015) revealed that companies increase their growth after M&A. According to Yanan *et al*. (2016), M&A result in the increase of market share. The foregoing discussion leads to the formulation of the hypothesis below.

H_2: M&A result in the increased non-financial performance of companies in the chemical industry.

Polyarus *et al*.(2013) view synergy as one of the key motives and a dominant success factor of M&A. De Graaf and Pienaar (2013), concurs with the view by Polyarus *et al*. (2013) and further posit that the objective of M&A is to create synergy from the resulting entity. According to Polyarus *et al.*(2013:1703), synergy is defined as "the kind of interaction which takes place when two materials or two factors have together greater effect than a sum of two independent constituents". Synergy gained from a merger or an acquisition may be because of the efficient use of managers of the target company, exploitation of market and use of complementary resources. Synergies can be realised by evaluating, amongst other things, a higher growth rate in revenue, increased margins due to economies of scale, increased economies of scope, and lower taxes (De Graaf and Pienaar, 2013). It is essential that when reporting the economies of scale, a difference should be made of the benefits in the short and in the long run. Secondly, the economies of scale can result from redundancy caused personnel, office, space, accounting, and auditing services. De Graaf and Pienaar (2013) posit that M&A can also bring about the reduction of redundancy in distribution, research and development and management control. The merger can result in the formation of one single brand, which can lead to reduced advertising costs. Huyghebaert and Luypaert (2013) revealed that synergy after mergers resulted in the increase on sales growth during a third-year post merger. Huyghebaert and Luypaert (2013) further found that acquisition results in the cost base synergies. The foregoing discussion leads to the formulation of the below hypothesis.

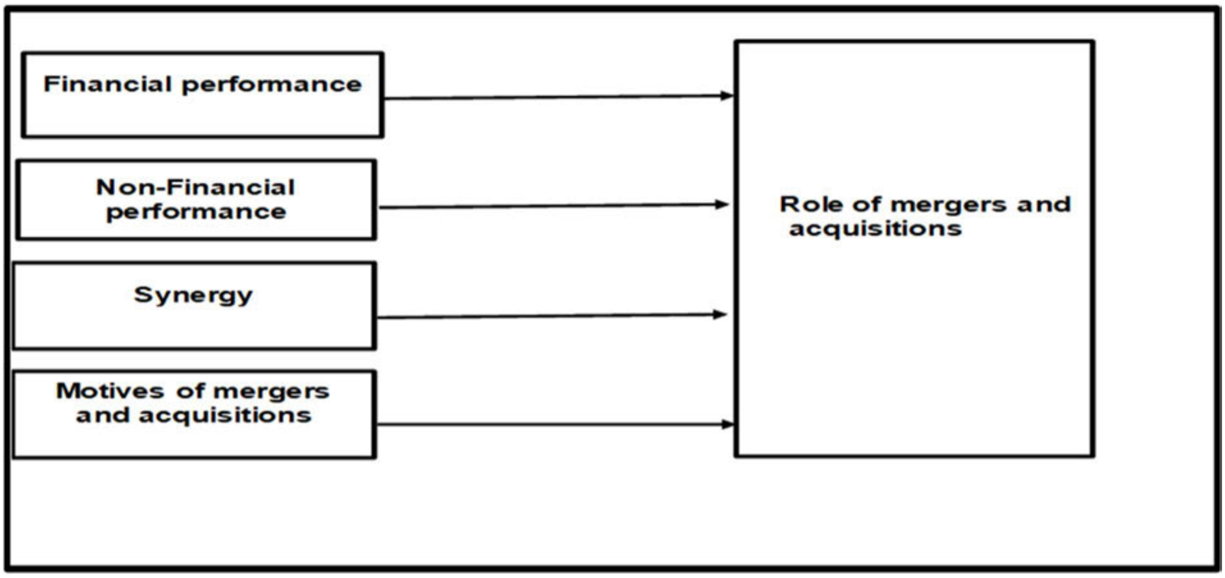
H_3: M&A result in increased synergy.

Motives of M&A are concerned with what drives the decision to embark on mergers. Mensah and Onumah (2017) point that motives of M&A are the underlying factor that assists scholars to understand the application of different theories in M&A. Koi-Akrofi (2014) further adds that the understanding of motives behind M&A assists researchers and managers to have better understanding of M&A dynamics. This view is based on the fact that one transaction might be driven by different motives (Leepsa and Mishra, 2016). In further explaining the link between motives of M&A and theories of M&A, Mohapatra (2014) opine that the logic behind M&A transactions is explained by M&A theories. These theories which explained M&A motives can be in the form of achieving financial performance, synergy and non-financial performance. Yanan *et al*. (2016) found that M&A are used to enlarge the market value of the company by impacting on company's profitability, thereby increasing financial performance. In addition, Azhagaiah and Sathishkumar (2014) revealed that operating performance of manufacturing firms in India had increased significantly after the M&A acquisition process. Furthermore. Joash and Njangiru (2015) found that merged banks in Kenya benefited from financial synergy. This happened when merged banks expanded their capital, thereby increasing chances of accessing more resources like credit facilities which further increases liquidity of the business. The preceding argument leads to the formulation of the below hypothesis

H_4: M&A motives contribute to the performance of companies within the SA chemical industry.

The hypothesised relationship results in the below suggested research model shown in Figure 5.

Figure 5.1:Proposed model of the study



5.4 SUMMARY OF THE CHAPTER

This chapter presented different schools of thought which are used to draw conceptual frameworks of M&A. These of schools further allow the researchers and practitioners studying performance of M&A to base their measurement tools of performance. The widely used schools of thoughts are financial economics, strategic management, organisational behaviour, and process perspective. Furthermore, the chapter developed conceptual framework of the based on strategic management and financial economic schools of thought. Strategic management school of thought believes that the strategic intent by managers improves the performance of M&A, thereby creating value for the shareholders. Whilst the financial economic schools of thought implies that the role of M&A is to increase the financial performance of the merged entity. Lastly, four hypotheses were developed which led to the formulation of the proposed model of the study as illustrated in Figure 5.1. The ensuing chapter presents the research methodology and research tools used to define the sample, collect and analysed the data.

CHAPTER SIX:

RESEARCH DESIGN AND METHODOLOGY OF THE STUDY

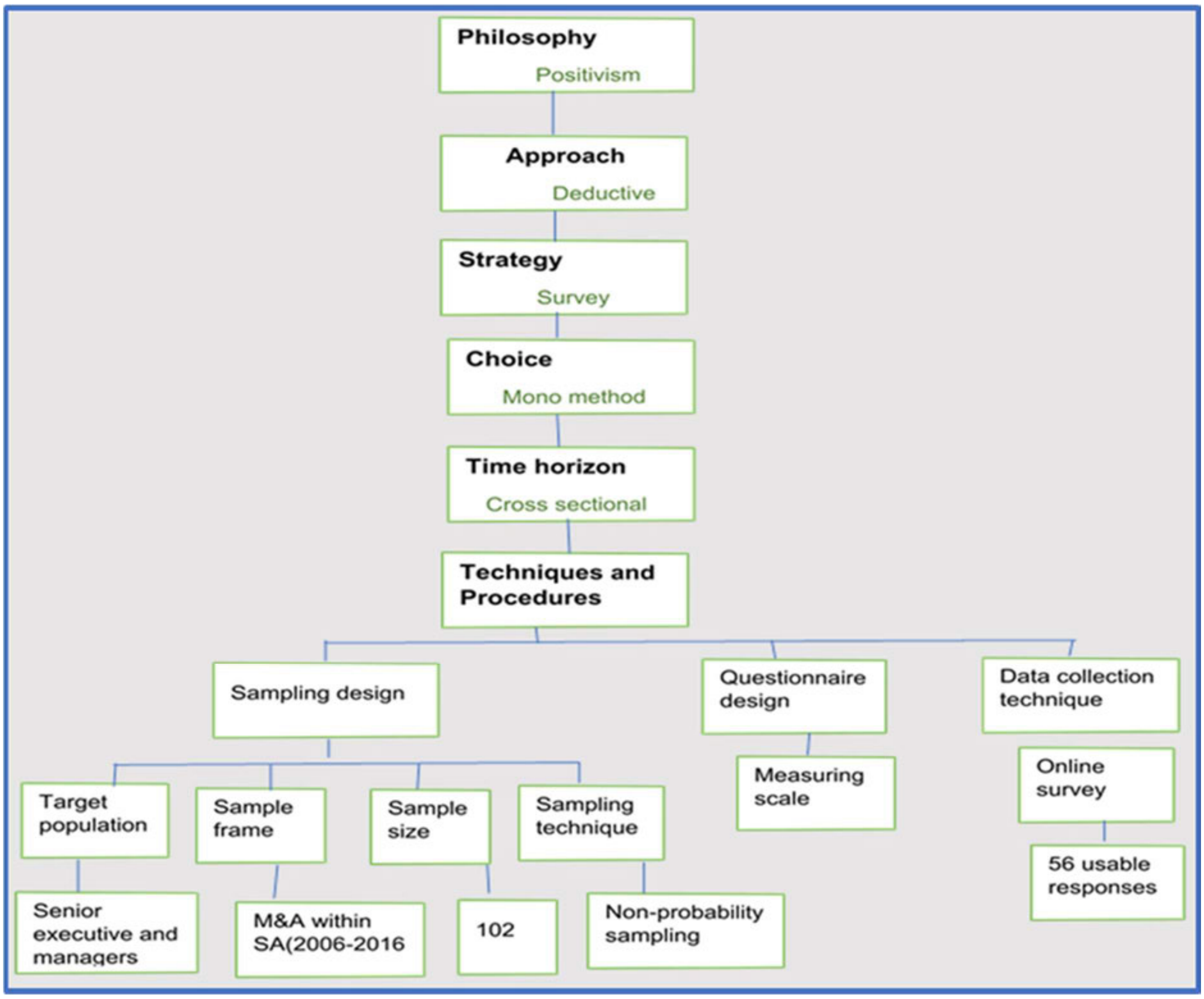
6 INTRODUCTION

This chapter outlines the type of research philosophy adopted in this study. It further elaborates on the research approach and strategy used. The chapter further presents research methodology used in the study by defining and describing target population, sampling, research instrument, pilot study, administration and collection of the questionnaire, data analysis and validity and reliability, and ethical consideration.

6.1 OVERVIEW OF RESEARCH METHODOLOGY USED

Figure 6.1 presents a pictorial overview of the research methodology used in the study.

Figure 6.1: Pictorial illustration of the research methodology



Source: Summary of the research methodology used in the study

This section details the method that was pursued to undertake the research study. Figure 6.1 is a high level presentation that illustrates that the research study was quantitative in nature. In addition, the target population and the sample frame that were adopted for this study are presented. The sample size of 102 for this study is shown. A discussion of this computed estimate is presented in the next section. The figure further shows that a non-probability sampling technique was utilized to the sample frame for this study. Finally, the picture shows that data were gathered using closed ended questionnaire, that was administered via an online platform.

6.2 THE AIM OF THE STUDY

The aim of the study was to determine the role of M&A on the performance of companies within the chemical industry in South Africa. This was translated into the below objectives.

6.3 THE OBJECTIVES OF THE STUDY

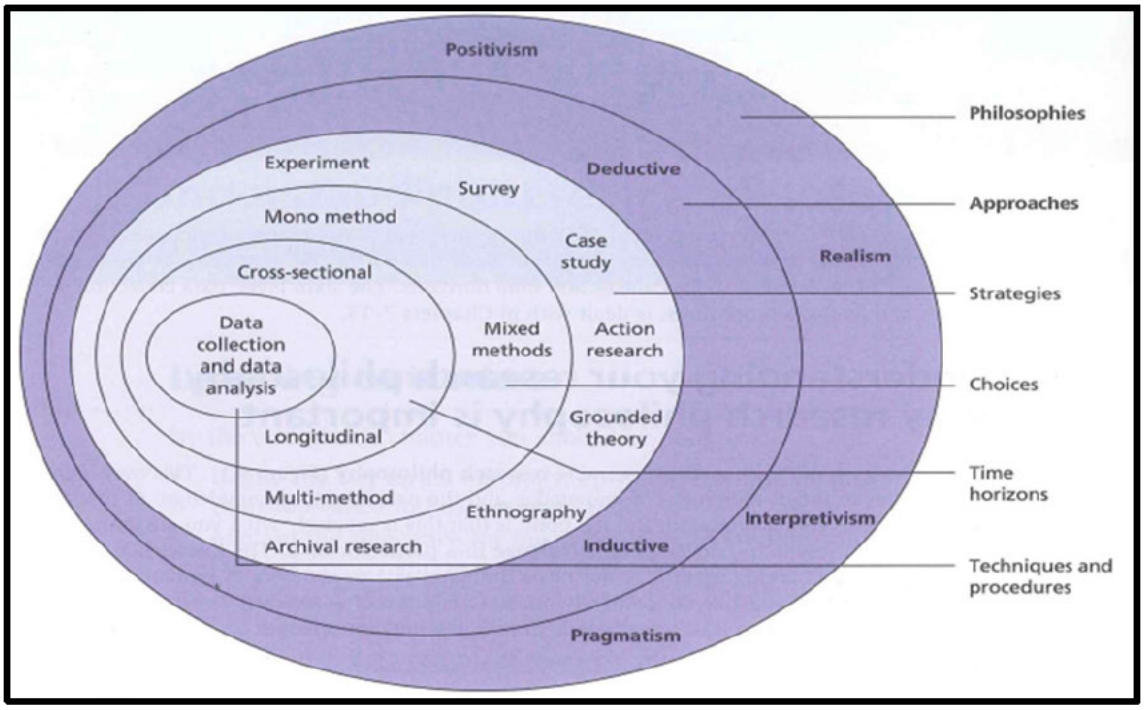
- Examine the role of M&A on the financial performance of companies within the chemical industry in SA
- Determine the role of M&A on the non-financial performance of companies within the chemical industry in SA
- Identify the role of M&A in creating synergy in companies within the chemical industry in SA
- Determine the motive of M&A within the chemical industry in SA
- Recommend a model that can be used in M&A of companies within the chemical industry in SA

6.4 RESEARCH PHILOSOPHY AND APPROACH

6.4.1 Research Philosophy

Al Marzooqi (2015); Pandey and Pandey (2015) define research philosophy as the method in which the researcher thinks of different ways of answering research questions. It is through answering research questions that knowledge is developed. Saunders, Lewis, and Thornhill (2015) concur with Al Marzooqi (2015) and further affirm that through the research philosophy, knowledge is developed. Saunders *et al.* (2015) further posit that the development of knowledge is influenced by research philosophy. The type of research philosophies used in a research is determined by whether the researcher seeks to uncover facts or wants to understand feelings and attitudes. Saunders *et al*. (2015) posit that there is no one research philosophy that is better than the others, as their use is informed by the objective of research. The choice of research philosophy is influenced by the type of research question to be answered. Subsequently, the type of research question can easily be answered by aligning it to the philosophical domain described as the research onion as depicted on Figure 6.2.

Figure 6.2: The research process onion



Source: Saunders et al. (2015: 180)

The research onion depicts the way data will be collected. As illustrated in Figure 6.2, the first layer of the research onion depicts different research philosophies, namely: pragmatism, positivism, interpretivism or realism. These research philosophies or paradigms have underlying philosophical assumptions that provide the basis for their existence. These philosophical assumptions are ontology, epistemology, axiology, and methodology. It is upon these philosophical assumptions that a researcher chooses a stance to base the research upon. Table 6.1 summarises these philosophical assumptions and the implications or choices of the research paradigm. These research philosophies define thoughts used by the researcher to answer research questions. The philosophical assumption adopted for this study is research methodology assumption as the study is quantitative in nature. The reason that lead the researcher to choose methodology assumption, is because one of its main characteristic, which is to use inductive logic. (Saunders *et al.*, 2015). The topic that is being studied in this study, is within a defined context. This defined context for this study is all the M&A transactions that were completed within SA chemical industry between years 2006 and 2016. The information was gathered from the CompCom website.

Table 6.1: Summary of philosophical assumptions

	Research paradigm			
Assumptions	**Positivism (naïve realism**	**Post-positivism (critical realism**	**Interpretivism (constructivism)**	**Pragmatism**
Ontology: the position on the nature of reality	External, objective, and independent of social actors	Objective. Exists independently of human thoughts and beliefs or knowledge of their existence, but is interpreted through social conditioning (critical realist)	Socially constructed, subjective, may change, multiple	External, multiple, view chosen to best achieve an answer to the research question

Table 6.1 (continued)

Assumptions	Positivism (naïve realism	Post-positivism (critical realism	Interpretivism (constructivism)	Pragmatism
Epistemology: the view on what constitutes acceptable knowledge	Only observable phenomena can provide credible data, facts. Focus on causality and law-like generalisations, reducing phenomena to simplest elements	Only observable phenomena can provide credible data, facts. Focus on explaining in a context or contexts	Subjective meanings and social phenomena. Focus on the details of situation, the reality behind these details, subjective meanings and motivating actions	Either or both observable phenomena and subjective meanings can provide acceptable knowledge dependent upon the research question. Focus on practical applied research, integrating different perspectives to help interpret the data

Table 6.1 (continued)

Assumptions	Positivism (naïve realism	Post-positivism (critical realism	Interpretivism (constructivism)	Pragmatism
Axiology: the role of values in research and the researcher's stance	Value-free and etic Research is undertaken in a value-free way, the researcher is independent of the data and maintains an objective stance	Value-laden and etic Research is value-laden; the researcher is biased by world views, cultural experiences and upbringing	Value-bond and emic Research is Value-bond, the researcher is part of what is being researched, cannot be separated and so will be subjective	Value-bond and etic-emic Values play a large role in interpreting the results, the researcher adopting both objective and subjective points of view
Research methodology: the model behind the research process	Quantitative	Quantitative or qualitative	Qualitative	Quantitative and qualitative (mixed or multimethod design).

Source: Johnstone (2004: 254-271)

The most commonly used paradigms are interpretivism and positivism. For this study, the positivism paradigm was applied. The reason for choosing positivism paradigm was informed by the nature of the purpose of this study, which was to examine the role of mergers and acquisitions on the performance of companies within the chemical industry in SA. In order to achieve this purpose, the data which was required had to be quantifiable. Bradley (2013) further claim that the use of positivism research philosophy requires collection of numerical data. The numerical data for this study was collected using a closed ended structured questionnaire. In support of the choice of the positivist philosophy, Saunders *et al*. (2015); Creswell (2014) further contend that, positivist philosophy encourages replication of results, objectivity, and reliability of findings. The objectivity for this study was established by designing a research instrument based on the information collected from the literature review and following the best methods on creating the research instrument as recommended by (Rezaeian, 2014). The reliability of the results was established by the us subjecting the instrument to Cronbach's alpha test (Pallant, 2016). Creswell (2014) state that the advantage of positivism philosophy is that the results based on this method can be generalizable to the whole population. For this study, generalising the results was impossible as the sample size of the study was small to meet the purpose. The ensuing section discusses the research approach used in this study.

6.4.2 Research Approach

The second layer of the research onion as shown in Figure 6.2 defines research approach adopted in this study (Al Marzooqi, 2015). The research approach is defined by Cooper and Schindler (2014: 665) as "a sequence of clearly defined steps within a research study". It is the way in which the research process has been framed and detailed to show procedures that will be undertaken. According to Saunders *et al.* (2015) a structured research approach establishes aims, questions and samples in advance. The deductive approach uses an instrument that has been developed to measure specific variables. For this study, the research instrument that was used, was a self-administered closed ended questionnaire. Nayak and Singh (2015) allude that deductive approach also offers an opportunity to test underlying relationship between variables. On the same token, underlying relationship for this study, was between the role M&A play on financial performance, non-financial performance, creation of synergy, and the motives of M&A on companies within the chemical industry in SA. The research design of the study is discussed in the following section.

6.5 RESEARCH DESIGN AND STRATEGY

6.5.1 Research Design

The strategy to be adopted in collecting the data is represented by the third layer of the research onion, as depicted in Figure 6.2. Bryman and Bell (2015) describe research design as the structure that shows how to collect and analyse data. It is a technique that the researcher utilises to organise a research project. Burns and Bush (2012); Gorard (2015) further add that, research design presents plans, methods and procedures that clearly specify how to collect and analyse data. It represents the overall framework for data collection. Clow and James (2014) mention different types of research design; exploratory, descriptive, and causal research approach. For this study, the research design chosen was explanatory research design. Saunders *et al*. (2015) explain that the explanatory research design is a controlled research design, which associates properly with quantitative research approach. Gorard (2015) further alludes that this approach, describes the reasons for phenomena through the use of theories and derived hypotheses. The purpose of choosing explanatory research design was to minimise expenditure, enable smooth scaling, collect suitable data and technique, provide blueprint for plan, and give direction. For this study, the seven M&A theories were used in an attempt to understand the motives behind M&A decision in SA chemical industry. Creswell (2014) further opines that explanatory research design seeks to recognise causal relationships between variables that relate to the research problem. The causal relationship between the role M&A play on the performance of companies in the chemical industry in SA was tested amongst statistical tests using correlation and multiple regression analysis. The results of these statistical tests are presented in more detail in chapter seven of this study. The ensuing section gives an account of the research approach.

6.5.2 Research Strategy

Wiid and Diggines (2013) state that research strategy is used to answer research questions and meet research objectives. The research strategies act as tools that are used to collect data and are aligned to either the deductive approach or the inductive approach. Wiid and Diggines (2013) declare that research strategies include experiments, case study, surveys, action research, grounded theory, ethnography, and archival research. For this study, the research strategy chosen was survey research. According to Creswell (2014), survey research strategy consists of studying a sample of the population with the objective of producing numeric or quantitative explanation of trends, opinion and attitudes. Survey was adopted as the intention of the researcher was to collect primary data that was to be analysed in an attempt to answer the research question of the study. The primary data was collected by directly questioning research participants using a questionnaire. The research questions tapped into the personal beliefs, individual opinions, general characteristics, past behavioural patterns, and personal experiences of the executives, for M&A that occurred in their presence (Bryman and Bell, 2015; Clow and James, 2014). The main tool that was used to collect survey data from participants was research questionnaire. Furthermore, survey was used as it commands high response rate and offer respondents enough time to respond to questions at their own convenience and pace (Clow and James, 2014). Through surveys, it was possible to propose probable reasons for relationship between variables and build a model of these relationships. The proposed relationship was between the role of M&A as a dependent variable and performance of companies in the chemical industry in SA, synergy motive and role of M&A, as independent variables. The research method of the study is discussed in the succeeding section.

6.6 CHOICE OF RESEARCH METHOD

Figure 6.2 depicts that the fourth layer of the research onion defines the type of research methods that a researcher can adopt. Cooper and Schindler (2014) describe a research method as a procedure that is used to collect data using different instruments. The instrument used to collect data is guided by the type of research method used in a specific research. According to Cooper and Schindler (2014), three types of research methods are mono research method, multiple research method and mixed research methods. The researcher in this study, chose mono research method**.** Mono research method was chosen as it allows the researcher to use one data collection technique in combination with corresponding analysis procedure. Furthermore, this method was selected as it was the best method suitable to obtain the information for this study as the information that was gathered was numerical in nature (Bradley, 2013). Bradley (2013) explained that quantification of data in quantitative research method entails quantifying and subjecting data to statistical analysis with the goal of generalizing the results to the rest of the population. Amongst the statistical tools that the data were subjected to varimax analysis, factor analysis, Cronbach’s alphas, and validity testing. The following section discusses the time period in which the data was collected.

6.7 TIME HORIZON

Depending on the type of research question, the researcher will determine the time period in which to collect the data. The time period is called time horizon and can either be cross-sectional or longitudinal. The time horizon is depicted on the fifth layer of the research onion in Figure 6.2. Bradley (2013) stipulates that one aspect of the descriptors of research design is the time horizon or time dimension. Based on whether the researcher wants a snapshot of a research taken at a certain point or a series of snapshots over a given period, research can be cross-sectional or longitudinal, respectively. For this study, the cross-sectional study was adopted. Bradley (2013); Cooper and Schindler (2014) state that cross-sectional studies are conducted at one point in time, and they represent a snapshot in that period. Cross-sectional was chosen as it has an element of descriptive research and allows the researcher to explain the relationship between role of M&A and performance of organisation in the chemical industry in SA. A detailed research methodology used to collect, analyse, and interpret data is discussed in the next section.

6.8 SAMPLING TECHNIQUE

The sixth and the last layer of research onion, as illustrated in Figure 6.2 defines techniques, tools, and procedures used for data collection and conduct data analysis (Al Marzooqi, 2015:128). The sampling technique chosen for this study was quantitative research technique. The quantitative research strategy involves very sharp emphasis on the quantification of data to be analysed. It was chosen as it allowed the researcher to summarise data mainly in graphs and tables (Bryman and Bell, 2015; Clow and James, 2014). As Bradley (2013) opines, the quantitative research method was the best technique for this study, as it allowed the data to be summarised in numbers and measured numerically, the phenomena that was being studied. The data was quantified into numbers and subjected to statistical analysis with the aim of answering the research questions. Leedy and Ormrod (2014) further postulate that the quantitative research measures opinions and attitudes. For this study, the opinions of the executives were crucial to be measured as they allowed the researcher to understand whether these executives believed that M&A improved the performance of companies, created synergy and whether these understood the fundamental theories informed their decisions to embark on mergers. Table 6.2 gives a summary of the key features of quantitative research technique applicable to this study.

Table 6.2: Key features of quantitative research technique

Feature	Quantitative
Aim	The aim was to identify the role of M&A on the performance of entities in the South African chemical industry.
Purpose	Generalisability, prediction, causal explanations
Tools	Survey as a tool was used to collect numerical data.
Data collection	Via a structured questionnaire
Output	Data is in the form of numbers and statistics.
Sample	Sample based on the population size and the respondents were purposively selected
Objective	Pursued to measure and analysed the role of M&A on the performance of merged companies
Researcher role	Researcher used the structured to remain objectively separated from the subject matter.
Analysis	Statistical analysis using SPSS version 25

Source: MacDonald and Headlam (2008:9)

The ensuing section discusses the population, sample, sampling framework, and sample of the study.

6.9 POPULATION OF THE STUDY

Population is described as the entire lot under study, to which the objectives of the research study has been specified for (Efron and Ravid, 2013; Leedy and Ormrod, 2014). It is the total whole lot from which the data can be collected. Efron and Ravid (2013) further point that it can be a group of elements or cases, individuals, objects or events that conform to a certain criterion, to which results of the study are intended to be generalized. Etikan, Musa, and Alkassim (2016) contend that the eligible criteria for members to be part of the population is that the members must meet a list of defined characteristics. CompCom SA (n.d.) merger activity reported that there were 60 M&A transactions within SA chemical manufacturing industry that took place between 2006 and 2016. These 60 transactions are a representative from different companies. Depending on the structure of the company that was involved in a merger or an acquisition, two senior executives in the form of either CEO, MD or any other senior executive who might have initiated the merger or an acquisition, were chosen as part of the population. This meant that the population of the study was 120 individuals in the form of CEO, MD, or any other senior executive. The criteria for determining the total number of population was used as M&A decisions are in most instances initiated by senior executives in the form of CEO, MD, and other senior executives (Levi, Li, and Zhang, 2014). With structures having at least two executives, it was vital that representation is kept constant. These are the people who are involved in formulating company strategies with the aim of adding more value to shareholders. Jonker and Pennink (2010) mention that, it is essential to target a typical group to whom the outcome of a research study can be inferred to. Informed by the view by Jonker and Pennink (2010), the survey was only open to the executives of the merged companies as they are the ones in the first place who initiated the mergers and acquisitions. Depending on the authority bestowed on an individual and their involvement in a merger or acquisition, the population consisted of senior managers, Managing Directors (MDs), Chief Executive Officers (CEOs), Chief Financial Officers (CFO), Directors of the merged companies. One of the characteristics of the population was that the companies must have jurisdiction in South Africa. Secondly, M&A must have been approved by CompCom SA. Furthermore, companies must be within the chemical industry and that the M&A must have taken place between 2006 and 2016.

6.9.1 Sampling and the Sample of the Study

Al Marzooqi (2015); Etikan *et al*. (2016) describe sample as the subset or the portion that stands for the whole population, hence a conclusion about the population can be reached based on the sample chosen. Sampling can be achieved using either probability sampling method or non-probability sampling method. Baniya and Shah (2016); Bradley (2013) define sampling frame as those elements from which the sample may be drawn. Sampling frame must mirror the population from which it is taken. The sampling frame for this study was based on all M&A deals within the chemical industry in SA that were completed between 2006 and 2016. The resulting company must be a company that is going to operate within the borders of SA. Once the sampling frame has been established, Nayak and Singh (2015) believe that the researcher must identify the unit of analysis. Nayak and Singh (2015) describe unit of analysis as an object, an individual, or a collective that is a target of investigation. Nayak and Singh (2015) point out that identifying unit of analysis is essential as its identification allows the researcher to determine the type of data to be collected. For this study, the type of data to be collected were opinions of the executives, about the role of mergers and acquisitions on the performance of entities, hence the unit of analyses were individual CEO, MDs, and senior executives. Once the unit of analysis has been identified, the researcher needs to establish the adequate sample size for the study. Rowley (2014) states that, it is essential to ensure that a sufficiently large sample size that is a representative of the population is selected. Bradley (2013) further posits that the size of a sample in quantitative research is informed by the type of relationship that the researcher wants to establish between the sample and the population. Both Rowley (2014); Taherdoost (2017) agree that the adequate sample size justifies the generalisation of results from random sample. Gill, Johnson, and Clark (2010) state that adequate sample size is affected by the complexity of the population, type of statistical calculations that will be done during data analysis and the objectives of the research. Bradley (2013) further elevates the importance of adequate sample size by identifying some essential aspects to be considered when determining sample size in quantitative research. These essential aspects that determine the sample size are the level of precision, confidence level, and degree of variability. The level of precision defines the nearness of the sample estimate to the characteristic of the true population. Furthermore, the precision of the sample is normally associated with or is the function of range of variability. Lastly, the variability is known as the standard error which is a function of standard deviation and the mean of the population (Bryman and Bell, 2015). The lower the standard error, the closer the sample mean to the population. For the study, the standard error for the constructs was 0.319, signifying that the sample mean was closer to the population mean (Sekaran and Bougie, 2013). Confidence level determines the level of certainty of the sample estimates to the true population. Confidence level can hold any number from zero to hundred. It is usually expressed as the level of significance. The smaller the level of significance, the closer the sample statistics will hold true to the population characteristic. For this study, the level of significance chosen was 99% or 0.01. This was done as a trade-off between not having so large population and the sample size that was chosen for the study (Sekaran and Bougie, 2013). Creswell *et al*. (2017) further state that three factors justify the use of a bigger sample. These three factors are the statistical analysis to be used in the research, accuracy required out of the sampling process and lastly, the sample representativeness. Table 6.3 summarizes prominent factors influencing sample size. The factors that influenced sample size for this study were the number of variables, which were five, hence there was no necessity for a much bigger sample. Based on factors listed on Table 6.3, the other factor that influenced the sample size for this study was the type of research, which was the quantitative research where the correlation between variables was reported, hence the minimum threshold of 30 respondents applied. As per the table provided by Gill *et al*. (2010), the sample size for this study was 102 based on 5% margin of error and 99% confidence interval

Table 6.3: Summary of factors that influence sample size.

Sample size Consider the impact of eight factors: 1.Type of research Correlation research: minimum 30 respondent s Comparing groups: minimum 15 respondents per group Major research: 100 respondents per sub-group; 20 – 50 per minor group 2. Research hypothesis (if you expect small differences, use a large sample) 3. Financial constraints 4. Importance of results 5. Number of variables studied: the more, the large the sample needs to be 6. Methods of data collection: inaccurate / inconsistent methods – large sample 7. Accuracy needed (accuracy of results is greater when sample size increases) 8. A size of population (as population size increases, a progressively smaller percentage of respondents may be selected).

Source: Creswell et al. (2017: 243)

The next section gives the details of the sampling method and sampling techniques used to gather data for this study.

6.10 THE SAMPLING METHOD OF THE STUDY

Sekaran and Bougie (2013) describe sampling as an act in statistical analysis of drawing a pre-defined number of observations from a larger population. Sampling can be achieved using either probability sampling method or non-probability sampling method. The sampling method used in this study was non-probability sampling. On the other hand, non-probability sampling method consists of the following sampling techniques, expert or purposive sampling, convenience sampling, quota sampling, and judgment sampling technique. The chosen sampling technique for this study was the purposive or expert sampling technique. Purposive sampling technique permits the use of the subject matter experts that are knowledgeable on the subject under investigation to participate in the research study (Etikan *et al*., 2016). That is why the selected respondents were therefore assumed to be the most representative of the population under study. Hence, Bradley (2013) confirms that the use of expert sampling technique in a quantitative research is suitable in instances where the group of participants possesses expertise in the area of research. In this instance, it is usually the executives that initiate and drive growth of their companies through mergers and acquisitions, hence they are the ones who have detailed view on why in the first place these mergers are done (Levi *et al*., 2014). The next section details the use of the research instrument in this study.

6.11. RESEARCH INSTRUMENT

6.11.1 Construction of the Research Instrument

Maree *et al*. (2016) allude that, questionnaire is the most essential step of the research process as it is the instrument that is used to collect data. Questionnaire design is influenced by the type of data that will be collected and type of statistical methods that will be used to analyse the collected data. Maree *et al*. (2016: 178) state that when designing a questionnaire, the researcher needs to be aware of “ appearance of questionnaire, question sequence, wording of questions and response categories”. Clow and James (2014) define questionnaire design as the systematic process that considers various question formats, number of characteristics of the survey at hand, words to be used in the survey and the layout to be used in the survey. In summary, the structure of the questionnaire is influenced by pre-defined steps. The structure begins by determining research objectives, deciding on data collection method, developing questions, evaluating questions, gaining approval from client, pre-test, revising the questions, finalizing and duplicating, gathering data and lastly, tabulation and final report. The best practices that were followed when designing the questionnaire for this study, were those that are suggested by Rezaeian (2014), as illustrated in Table 6.4.

Table 6.4: How to design a questionnaire in the area of research: introducing a ten-item checklist

1. "Make sure you conceptualize the aims of your study by extensive literature review. This is the first important step in your research that should not be overlooked.
2. Make sure you design your questionnaire only when you have not found an already designed questionnaire that effectively meets the aims you have outlined in step 1. An already designed questionnaire saves your resources.
3. Make sure you design a valid and reliable questionnaire which is not too long. Remember that for a self-administered questionnaire people do not spend more than 20 minutes filling it out.
4. Make sure you provide your respondents with clear instruction on how to complete your questionnaire
5. Ensure you do not begin your questionnaire with sensitive questions. Leave them until the end of your questionnaire
6. Make sure you don't design an ambiguous question and a "Double-barrelled" question, that is, a question which asks two items simultaneously.
7. Make sure you end your questionnaire by acknowledging the cooperation of the respondents.
8. Make sure you use an attractive format in terms of layout, font, size, paper, etc. for your questionnaire.
9. Make sure you pre-test your designed questionnaire before actually using it on the targeted population. This helps you to pick up any unwanted mistakes or ambiguities. 10. Ensure to use introductory paragraph in the questionnaire."

Source: Rezaeian (2014: 55)

The questionnaire items for this study were compiled in English, as English is one of the official languages used in almost every organisation in SA. Questionnaire was chosen for this study as the accounting information was going to be difficult to obtain, from those companies that are private and do not have an obligation as per the JSE rules of listed entities, to publish their financial results (Malik *et al*., 2014). In addition, the questionnaire was able to reach out to many respondents at the same time and it was easy and cost effective to administer. Lastly, questionnaire was chosen as it allowed the respondents an opportunity to work on the questions at their determined time and pace (Clow and James, 2014).

6.11.2 Structure of the Questionnaire

The questionnaire items for this study were structured in a professional and easy to comprehend format. The questions were straightforward and easy to understand. Moreover, they were clearly marked, and a transition was used from one topic to the ensuing one (Van Zyl, 2014). The questionnaire was divided into section A and section B, as per Appendix A. Section A of the questionnaire was used to identify biographic information of the respondents. Whilst on the other hand, section B was used to measure the main constructs of this study, namely, financial performance, non-financial performance, synergy obtained, motive of M&A, and lastly, role of M&A. Synergy consisted of ten scores, whilst five scores were used on financial performance, with six scores used on non-financial, four items were under the role of mergers and acquisitions, and lastly, nine scores were used under motives of M&A. The attitudes of the constructs were measured using 5 point Likert scale, with 1= "strongly disagree", 2 = "disagree", 3= "neutral", 4= "agree", 5= strongly agree". More details on the choice of 5 point Likert scale are discussed on Section 6.12.

6.11.3 Advantages and Disadvantages of a Questionnaire

The advantages of using a questionnaire measuring instrument in this study are listed below:

- ❖ The questionnaire provided clear and explicit direction on how to complete it;
- ❖ It was less costly to administer questionnaire as the researcher only incurred the cost of data.

- ❖ The researcher did not need to possess any special skills to work with the questionnaire as Clow and James (2014) state that questionnaire requires minimal skills as opposed to interviews.
- ❖ The researcher did not have any probability of influencing the questionnaire, as the researcher did not have any role on the questionnaire. The main reason that the questionnaire was not subjected by the researcher is that all the questions on section B of the questionnaire were based on information collected from scholarly research articles, hence the bias of the researcher was totally eliminated.
- ❖ Clow and James (2014) state that the research questionnaire is easy to use and can be applied to study attitudes, values, beliefs, and motives. For this study, the motives that were studied were the motives of M&A in the chemical industry in South Africa.
- ❖ The questionnaire allowed the respondents to answer or attempt the questions at their own comfort and convenience (Clow and James, 2014).
- ❖ The questionnaire provided high level of anonymity which encourages the respondents to be truthful as they can, especially in cases where sensitive information is required (Clow and James, 2014); and
- ❖ The questionnaire did not put awkward demands on the respondents, and it did not contain any hidden purpose (Van Zyl, 2014).

Clow and James (2014) list a variety of disadvantages experienced using self-administered questionnaire and for this study these were:

- ❖ Low response rate as the response rate of this study was 55 percent. The results were acceptable though as Mugenda and Mugenda (2013); Kothari (2011) point that the response rate of 50 percent is adequate for any quantitative study; and
- ❖ It was difficult to established in-depth information from the respondents as they were guided by the closed ended questions.

Despite the disadvantages mentioned above, the researcher decided to use the questionnaire as the advantages of a questionnaire applicable to this study outweighed the disadvantages.

6.11.4 Administering the Questionnaire

The questionnaire can be administered using four methods, which are mail, telephone, delivery by hand and lastly, electronic. The electronic surveys are usually delivered via internet. The three main types of surveys that are done via the internet are emailed survey, link or web-based survey, and interactive voice response surveys. For this study, the link or web-based survey was used (Clow and James, 2014; Leedy and Ormrod, 2014). Web based survey allowed responses from the respondents to be automatically captured directly via an electronic computerized database which eliminates any possibility for the research to use paper. The use of an electronic computerized database mitigated the tedious phase of transferring data from the paper questionnaire into a database. Secondly, the use of electronic computerized database eliminated unnecessary errors and mistakes associated with transferring the data (Clow and James, 2014; Leedy and Ormrod, 2014). The questionnaire was administered electronically using two platforms, which were link via LinkedIn social network site and a link sent via email. The questionnaire was created using an online Google form which then means that there was no paper used during collection of data. The Google form like any other online survey allowed the data to be captured directly via an electronic computerized database (Clow and James, 2014; Leedy and Ormrod, 2014). Electronic survey was preferred as the researcher wanted to ensure and guarantee anonymity and confidentiality. It also allowed the questionnaire to be sent to respondents at the same time thereby eliminating travelling costs and other associated costs as compared to hand deliveries and postal surveys (Clow and James, 2014; Leedy and Ormrod, 2014). The questionnaire was administered over a period of seven months, between August 2018 and March 2019. Some respondents were called, and others were sent an email to inform them about the intention of the survey that they were going to receive. In some instances, both techniques, were used to make respondents aware that they were going to receive a survey and the survey was described to individual respondents (Clow and James, 2014; Leedy and Ormrod, 2014). Telephone calls and emails reminders about the questionnaire were done to remind the respondents of the survey. During the seven-month period, the respondents were reminded about the importance of their participation on the survey. The reminders were done via email or through private message sent via LinkedIn. The researcher was aware of the fact that the reminder was also being sent to those respondents that have already completed the survey, and apology was made to this effect as the researcher could not identify who has already completed the survey or not, as the form was set in such a way that the researcher was unable to identify those who have completed or not completed the survey. Respondents were made aware the questionnaire was strictly confidential and anonymous. To ensure anonymity, the Google form was set up in such a way that respondents needed not to include their personal details on the form. The Google form was set in such a way that the respondents had to answer all the questions, otherwise the form was not going to allow the respondents to proceed from one section to another without completing the prior section. Respondents were encouraged to attempt all questions as honestly as possible and that there were no correct or wrong answers. In as much as the completion of the questionnaire was set to take between 10-15 minutes, the actual average completion time was 7 minutes.

6.12 MASUREMENT SCALE AND VARIABLES OF THE STUDY

Joshi, Kale, Chandel, and Pal, (2015) document that social sciences research uses Likert scale to measure data. Joshi *et al.* (2015) claim that Likert scale is widely used as it is the most basic tool to gather data. Likert scale was used as the researcher wanted to quantify the data collected from the respondents. In addition, it was used, as its development allows comprehension of the theoretical construct and links it to abstract understanding of the constructs (Nemoto and Beglar, 2014). For this study, all the results from the data were linked to the literature review. Nemoto and Beglar (2014) point that, the outcome space of Likert scale represents the magnitude of responses to the items of the questionnaire and enables the items to be categorised and scored. The commonly used outcome space varies from 4, 5, 6, 7, and 9 categories. The researcher in this study opted for outcome space of 5, with 1 to 5 measurement. With 1 representing "strongly disagree, and "strongly agree" representing 5. This 5-point Likert scale was employed as it allowed the adjacent options to have more radical differences. The asymmetric scale, with 3 being neutral was adopted by the researcher as the asymmetric allows respondents to independently choose between two extremes in a balanced manner (Joshi *et al.,* 2015). Creswell (2014) stresses the fact that in the method section one makes mention of variables used in the study. Pallant (2016) describes variables or constructs as main items that are being measured in a study. These form a core of what the study is about as they answer research questions and define the objectives of the study. The variable or constructs of this study were synergy, financial performance, non-financial performance, motive of M&A decision, and role of M&A. Table 6.5 presents a summary of variables measured, source of items and number of items per variable.

6.12.1 Synergy

The first construct was synergy, and it is described as an outcome emanating from two or more agents, entities, factors, or substances that yield an outcome better than the sum of their separate effects. Synergy can be due to increased efficiency, reduction of costs, increased market and economies of scale (Akenga and Olang, 2017; Rohra and Chawla, 2015). Synergy is normally realised in companies that are related, whereas reverse synergies are experienced when companies are unrelated. It is essential that synergy is determined after an A&M process. The determination of synergy is vital, especially to the shareholders as through M&A, shareholders are expecting increased shareholders value (Clarke and Lovette, 2015; Clark, 2013). Synergy consisted of ten items where the respondents were asked to rank various items on whether they agree or disagree that the merger or an acquisition brought in some form of synergy.

Table 6.5: Variables measured, source of items and number of items

Variable	**Source of items**	**Number of items**
Synergy	Andriuskevicius and Ciegis (2017); Hamza *et al.* (2016); Mahesh and Prasad (2012); Taher, Adnène and Firas (2016).	10
Financial performance	Andriuskevicius and Ciegis (2017); Borhan *et al*. (2014); Abbas *et al*. (2014); Joash and Njangiru (2015); Mahesh and Prasad (2012); Yanan *et al*. (2016)	5
Non- financial performance	Yanan *et al*. (2016); Kotler and Keller (2012) Mahesh and Prasad (2012); Richard *et al.* (2009).	6

Table 6.5 (continued)

Motive behind M&A	Hamza *et al*. (2016); Joash and Njangiru (2015); Parimala and Kalaiselvi (2015); Savovic (2016); Tripathy and Prajapati (2014).	9
Role of M&A	Akenga and Olang (2017); Khan *et al*. (2011); Rani *et al*. (2015); Sehleanu (2015).	4

Source: Compilation from literature sources

6.12.2 Financial Performance

Financial performance measures how the company have increased its profits, return on assets and return on investments (Mahesh and Prasad, 2012). Akenga and Olang (2017) agrees with this statement and further state that the financial performance refers to the state of the monetary value of the company that is measured through the entity's policies and operations. The increase in financial performance contributes to the shareholders' value. Financial performance was measured using five items. The items that were used to measure financial performance were profitability, liquidity, capital market Daddikar and Shaikh (2014), cash flow and sales growth (Borhan *et al*., 2014; Abbas *et al*., 2014; Joash and Njangiru, 2015; Mahesh and Prasad, 2012; Yanan *et al*., 2016).

6.12.3 Non-Financial Performance

Non-financial performance is an indication of whether the company managed to achieve any form of growth other than the financial growth (Yuliansyah and Razimi, 2015). The items that were used to measure non-financial performance were six and were market share, customers, pricing, buying power, penetration into new markets and penetration into new geographies (Hamza *et al*., 2016; Mahesh and Prasad, 2012). There are different motives that are cited in literature as the causes of corporates to use M&A as a form of corporate restructuring (Andriuskevicius and Ciegis, 2017).

6.12.4 Motives of M&A

The main aim of this study is to determine the role of M&A on the performance of companies within the chemical industry in SA. It is therefore essential that when determining performance of M&A the motive behind M&A is identified (Vretenar et al., 2017). Motives of M&A are related to different theories and these are not mutually exclusive in defining certain M&A motives. Seth *et al*. (2002) argue that motives and theories of M&A are vital in understanding success or failure of M&A. Questions under motives were meant to identify theories applicable to M&A. As there is no single theory that can define M&A, nine questions relating to various theories were measured under this construct (Glaister and Ahammad, 2010).

6.12.5 Role of M&A on Performance

Companies engage in M&A to achieve different overall objectives. These different objectives play different roles on the performance of companies' financial and non-financial performance after the acquisition. The role of M&A on performance was measured against financial performance, non-financial performance, motives of M&A, and synergy (Malik *et al*., 2014; Savovic, 2016). Savovic (2016) opine that, it is essential for the company to identify the role of merger or an acquisition on both financial and non-financial performance. Determining the role of M&A on financial and non-financial performance is done to identify if the entity has achieved cost reduction and improved its income, market share and its ability to compete after the acquisition.

6.13 PILOT STUDY

Cooper and Schindler (2014); Howell (2013); Howes (2018) state that pilot study of a questionnaire is conducted during the process of gathering the data to detect weaknesses in the design and instrumentation of the questionnaire. It utilizes subjects from target population and simulates the procedures and protocols that have been designated for data collection (Cooper and Schindler, 2014). The pilot study collection method should follow the same way the main collection method is going to follow. The questionnaire was sent to five respondents of the merged companies and results did not reveal any defects on the questionnaire.

6.14 PREPARING DATA FOR ANALYSIS

Bradley (2013) highlights four stages that are essential for preparing data to be used in quantitative data analysis. These four stages are editing, coding, data entry and tabulation. Editing for this study involved inspecting line item of the completed questionnaire for any omissions and errors on the date. This was carried over the Microsoft excel spreadsheet. It was done to ensure that the questionnaire was completed correctly, accurately and was ready for processing (Leedy and Ormrod, 2014). The collected data was edited to guarantee completeness, consistency, accuracy, and uniformity (Leedy and Ormrod, 2014). Leedy and Ormrod (2014) note that data cleaning of raw data includes data editing, setting up of categories, coding of the categories, data tabulation and data testing. Sekaran and Bougie (2013) contend that data coding involves simplifying complex descriptions and assigning codes to the simplified descriptions. Data was coded by assigning numbers to responses given by the participants. The coded responses were then entered into SPSS software to tally the data (Bradley, 2013; Cooper and Schindler, 2014). Pre-coded questionnaire made it easy to transfer the data after the respondents completed the questionnaires from the Google forms software (Bradley, 2013; Cooper and Schindler, 2014). The data was then coded, tabulated, and fed into MS Excel 2013 spreadsheet as illustrated in Table 6.6. As demonstrated in Table 6.6, all the items in Section B of the questionnaire were Likert scale based and 1 was allocated the least preferred option and 5 allocated to most preferred option: 1 “strongly disagree”, 2 “disagree”, 3 “neutral”, 4 “agree”, and 5 “strongly agree”. The data was then transferred into SPSS version 25.0 data editor file to further conduct statistical processing. Cooper and Schindler (2014) state that data entry is a process of converting gathered information from the questionnaires into a state that it will allow the researcher to view and manipulate data.

Table 6.6: Coding of the data

Question	**Variable**	**SPSS Variable**	**Coding instruction**
Question	Identification number	ID	Subject identification number
Question1	Synergy	Q1_1 to Q1_10	1=strongly disagree, 5=strongly agree
Question 2	Financial Performance	Q2_1 to Q2_5	1=strongly disagree, 5=strongly agree

Table 6.6 (continued)

Question	Variable	SPSS Variable	Coding instruction
Question 3	Non-financial Performance	Q3_1 to Q3_6	1=strongly disagree, 5=strongly agree
Question 4	Motive of M&A	Q4_1 to Q4_9	1=strongly disagree, 5=strongly agree
Question 5	Role of M&A	Q5_1 to Q5_4	1=strongly disagree, 5=strongly agree
Question 6	Were you part of the merger process	Q6	1= Yes, 2 = No
Question 7	Position in a company	Q7	1 = Managing Director, 2 = Chief Executive Officer, 3 = Chief Financial Officer, 4 = Chief Operating Officer, 5 = Director, 6 = Executive Manager, 7 = Manager, 8 = Other
Question 8	Number of years with the company	Q8	1=0 to 5, 2 = 6 to 10, 3 = 11 to 15, 4 = 16 and above
Question 10	Demographic_Age	Q10	1 = below 25, 2 = 25 to 30, 3 = 31 to 35, 4 = 36 to 40, 5 = 41 to 45, 6 = 46 to 50, 7 = 51 to 55, 8 = 56 and above
Question 11	Demographic_Gender	Q11	1 = Female, 2 = Male
Question 12	Demographic_Ethnicity	Q12	1 = African, 2 = Asian, 3 = Coloured, 4 = Indian, 5 = White, 6 = Other, 7 Prefer not to say.

Source: Research instrument

As the data from the study was extracted using Google forms, it was easy for the researcher to directly transfer and save the data to the SPSS version 25.0 software.

This eliminated the manual data entry. The last step of preparing data for analysis was the tabulation of data, which involved presenting data in tables and graphs to yield an answer to the research question. Cooper and Schindler (2014) further allude that tabulation of data can be carried out manually, mechanically and electronically. For this study, the data tabulation was done electronically via SPSS. The SPSS was used to describe data using descriptive statistics such as frequency, mean, media, standard deviation, factor analysis, Pearson correlation, multiple regression analysis and Cronbach's alpha. The following section details the concept of reliability and validity and state the types of reliability and validity that were used to ensure that the data collected was robust enough and was ready to be analysed.

6.15 Reliability and Validity

6.15.1 Reliability

Jain, Dubev, and Jain (2016) define reliability as the valuation of the extent of reproducibility and uniformity of the research instrument. As the research instrument was specifically developed for this study, it was significant to establish its consistency and replicability. For this study, test-retest reliability was evaluated by calculating correlation (Pallant, 2016). Test-retest reliability of above 0,3 was acceptable as Pallant (2016) asserts that the reliable scale demonstrates a high test-retest correlation. The internal consistency of the scale is the extent to which the items are said to be measuring the same fundamental attributes in a scale. Internal consistency demonstrates homogeneity of the items. The motive for measuring the internal consistency was mainly because the scale used in this study, was developed for this study and has never been tested before (Joshi *et al.*, 2015). As suggested by Pallant (2016), Cronbach's coefficient alpha was used to measure the internal consistency reliability. All the values of the scale for this study were acceptable as they were all above 0.9, which is above the commonly accepted reliability threshold of 0.6 (Mungule and Van Vuuren, 2016).

6.15.2 Validity

Validity is the ability of the measurement scale used in research to measure what it claims to measure (Pallant, 2016). It was essential that the validity of the instrument was established, as the researcher required to confirm the rationality of the instrument.

Divergent and construct validity were used to test the validity of the scale (Cooper and Schindler, 2014). Construct validity was measured by the use of convergent validity and discriminant validity. Creswell (2014) states that, the convergent validity looks at whether each measure in a scale highly and positively correlates with other measures of the same construct. For this purpose, the SPSS loading factors were used to calculate both convergent and discriminant validity. In measuring validity, the discriminant validity looks at the relation between constructs of the same scale, in terms of how different or unique a measured construct is compared to other constructs of the same scale. In this study, determine discriminant validity, was to measure correlations amongst the constructs of the instrument. The constructs did not highly correlate amongst each other as the highest correlation between the constructs was 0.65 (Henseler, 2017). More details of the correlations of the instrument are presented in Chapter 7. Furthermore, the construct validity was determined by subjecting the instrument to factor analysis. Factor analysis was done to indicate which items were most appropriate for each of the dimensions or constructs. All the items that were cross loading to more than one dimension were dropped. Moreover, the items that were loading below 0.5, which is the recommended cut off point for the scale items, were dropped (Tabachnick and Fidell, 2014). Convergent validity was determined by calculating the average variance extracted (AVE). AVE is used to measure the overall quantity of variance in the indicators accounted for by the latent construct. The AVE values for all the constructs were between 0,500 and 0,650, indicating the acceptability of the constructs (Tabachnick and Fidell, 2014).

6.16 DATA ANALYSIS OF THE STUDY

Bradley (2013) views data analysis as the process that involves several closely related operations that are performed with the purpose of summarizing the collected data. It involves organizing the data in such a manner that it yields an answer to the research questions. Data analysis is meant to organise, give structure, and provide meaning from the data collected. For this study, the research questions formulated in chapter one were answered and these are discussed in more details in chapter seven of this study. In addition, the research hypotheses formulated in chapter five were tested and the results are always presented in chapter seven. The data analysis included performing factor analysis for the instrument to test its reliability and remove all those items that were cross-loading and were below 0.5, which is the minimum threshold for the score (Tabachnick and Fidell, 2014). The continuous data consisted of education, age, position held in the company and number of years with the company. Whilst on the other hand race, gender, and whether respondents were part of the merger decision, were classified under the categorical data. Descriptive statistics was done to ensure that date met all the assumptions for performing multiple regression. In analysing categorical data, frequency was applied, and its use was to ensure the identification of the number of respondents in different subgroups of the sample. Mean and standard deviation were calculated for all the continuous variables as well as all the constructs of this study. Sekaran and Bougie (2013) opine that, mean and standard deviation are commonly used as descriptive statistics for interval and ration scale data.

Standard deviation is a measure of dispersion and it determines the index of the spread of distribution or the variability in the data. Pallant (2016) states that Cronbach's alpha is used to measure internal consistency and reliability of the scales. For this study, the results of Cronbach's alpha were above the required minimum acceptable value of 0.6 (Wiid and Diggines, 2013). The composite reliability (CR) index were between 0.800 and 0.900 which indicated reliability and acceptability as Bryman and Bell (2015) propose that the minimum threshold is 0.7. Pallant (2016) state that correlation analysis is used to describe the strength and direction of a linear relationship between two variables. The factor analysis was used to reduce the scale items into small and manageable dimensions or factors. It was used to measure the underlying structure of a scale by identifying items that are closely related. The factor analysis was done by using exploratory factor analysis (EFA), and the data for factor analysis was tested with the Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's test of sphericity. The reliability of the scale was measured with Cronbach's alpha coefficient. To extract the constructs of the scale, the principal component analysis was chosen as the extraction method. The principal component analysis helped the researcher to reduce the number of variables into manageable components as the scale used in this study has been tested as it was designed for this study. The technique used to research unwanted variables were varimax and quartimax techniques. The varimax technique was chosen as it allowed the researcher to minimise the number of variables that had high loadings across different factors (Pallant, 2016). Minimising the number of variables that had high loading on factors was essential for this study as the researcher sought to have a clear and clean scale without variables cross loading onto other factors. This in turn was to ensure that the scale would result in a simple structure with variables loading high on one component only, and with each component being a representation of strongly loading variables (Pallant, 2016). Table 6.7 is a summary of steps followed when conducting factor analysis

Table 6.7: Summary of steps made when conducting factor analysis

STEP 1	STEP 2	STEP 3
Sample size	**Factor extraction**	**Factor rotation**
102	Principal component analysis	Varimax of orthogonal

Source: Pallant (2016: 245)

The last action in data analysis was to conduct multiple regression. Multiple regression determines the extent to which the dependent variable is influenced by independent variables. Multiple regression allowed the researcher to assess the impact of each of the independent variables in the model and tested the overall fit of model data (Pallant, 2016). Few assumptions were met before the multiple regression was conducted and these were normality distribution, multicollinearity, linearity, homoscedasticity. Multicollinearity was tested using Tolerance and Variable Inflation Factor Index Whilst homoscedasticity was tested using the scatterplot, and the outcome of the scatter plots revealed that the pattern of data points showed a horseshoe pattern, and this did not violate the assumptions. Linearity was tested using Normal P-P plots. Lastly, multiple regression was used to test the predicting ability and strength of independent variables, financial performance, economies of scale, synergy motive, M&A motive to the dependent variable and role of M&A. The following section gives an account on how the researcher in this study ensured that ethical considerations were adhered to, more so to ensure the protection of the respondents and the information they have provided.

6.17 ETHICAL CONSIDERATIONS

Bryman and Bell (2015) suggest that ethics represent the standards, principles, moral and values that govern the way individuals and groups perform their activities. It is therefore the responsibility of the researcher to ensure that the research is conducted within the ethical framework. For this study, the researcher had to ensure that University of Kwa Zulu Natal's research ethics were adhered to. In addition, participants were made aware that the research was going to guarantee the following ethical considerations; privacy, and anonymity and that the respondents were free from harm and risk. The researcher emphasised the maintenance of confidentiality during collection and analysis of data. The researcher ensured that all participants knew what the study was about and ensured that all participants were aware that participation was voluntary. In addition, the respondents were made aware of their right to pull out from the survey at any given time with no penalties (Creswell, 2014). The next section gives a summary of what has been discussed in this chapter.

6.18 SUMMARY OF THE CHAPTER

In this chapter, the researcher discussed philosophical paradigm, the research approach, and the purpose of the study. The chapter gave details on which methodology was used in this study. Furthermore, it provided details on which methods and techniques were used to collect and analyse the data. This chapter revealed that the philosophy adopted was positivism philosophy, whist the research approach that best suited the current research was deductive research approach. Amongst a variety of strategies that can be used to collect data, the survey strategy was utilized using a mono research method. A cross-sectional approach was used to collect data from a target population of senior executives within the merged entities. A non-probability sampling technique was used to collect data from a sample of 102 respondents. The sample of 102 respondents was chosen based on certain criteria or meeting certain sampling frame requirements. The sampling frame was that the merger or an acquisition must have happened within the borders of the SA and concluded between 2006 and 2016. The data collection was done using closed-ended questionnaires which were administered using online platform in the form of LinkedIn and email. The following chapter is going to present and discuss results and findings of the study

CHAPTER SEVEN: PRESENTATION OF THE RESULTS AND DATA ANALYSIS

7 INTRODUCTION

The previous chapter discussed research design and the research paradigm applicable to this study. It also detailed the research methodology used to collect data used for the study. The current chapter presents the results of the study and further analyses results obtained through the survey questionnaire. The results are the answers to the major objectives of the study, which was to determine the role of M&A on the performance of companies within the chemical industry in South Africa. This chapter therefore answers the research questions which were set in chapter one of this study. This chapter presents the results from a questionnaire in the following manner: descriptive statistics, univariate analysis, bivariate analysis and multivariate analysis. Descriptive statistics presents the percentage response of the respondents, the frequency, mean, standard deviation and percentages of all the items. Bivariate analysis reports correlation and lastly, multivariate analysis determines the multiple regression of the study model as determined by the hypotheses which was formulated in chapter four of the study. All these techniques were performed using Statistical Package for Social Sciences version 25.0 (SPSS 25.0).

7.1 UNIVARIATE ANALYSIS

Univariate analysis is a method of data analysis using one variable at a time. It allows the researcher to capture all observations into a numerical list. In this study, univariate analysis was used to characterize data and identified patterns that were found within the data. The type of data that is used to calculate descriptive statistics can either be categorical or continuous. For this study, continuous data consisted of education, age, position held in the company and number of years with the company. Whilst on the other hand race, gender, and whether respondents were part of the merger decision fall under categorical data.

7.1.1 Response Rate

The response rate of the research study demonstrates the fraction of the total number of respondents that actually completed and returned the research questionnaire to the total number of respondents that were asked to complete the research questionnaire and they did not return it (Susan *et al*., 2012). The sample size chosen for the study using scientific method as described by Sekaran and Bougie (2013) was 102 as illustrated in Table 7.1. The response rate of 50 percent is regarded as enough response for a researcher to analyse and publish the results, whilst 60 percent is good, and 70 percent is exceptionally good (Babbie, 2007). Mugenda and Mugenda (2013); Kothari (2011) likewise, agree that the response of 50 percent is acceptable for a study. The respondents who took part in the study and returned questionnaires that were usable for data analysis were 56. This number (56) represented 55 percent response rate, which was enough to conduct quantitative data analysis.

Table 7.1: Response rate of the study

Population	**Target sample**	**Usable questionnaire**	**Questionnaire discarded**	**Percent response rate**
120	102	56	0	55

7.1.2 The Socio-Demographic Information of the Respondents

The socio-demographic information of the respondents was done in order to better understand and profile the respondents. Gender orientation was done in the study as presented in Table 7.2. The results in Table 7.2 indicate that most of the respondents were males which constitutes 75 percent of the total participants. The results in Table 7.2 further demonstrate that 28.6 percent of the respondents were of ages between 41 to 45 years old. The results further show that one quarter of the respondents were of ages between 46 to 50 years. The respondents were asked to state if they were part of the merger and acquisition process and 73.8 percent stated that they were part of the merger and acquisition decision. With regards to the position held within the company, 50 percent of the respondents indicated that they are managers, whilst 19.6 percent stated that they were directors and the other 19.6 percent reported to be executive managers. The results show that the majority, (32.1 percent) of the respondents have been with the company for six to ten years, whilst 30.4 percent indicated that they have been with the company for a period of eleven to fifteen years and 21.4 percent were with the company for a duration of zero to 5 years. Majority of the respondents (33.9 percent) had their educational qualification at a Master’s degree level. Those with Honours degree constituted 25 percent of the respondents. Lastly, the ethnicity of the respondents was done, with 37.5 percent of the respondents being

African, whilst 33.9 percent were White, and lastly Indians were 21.4 percent of the total number of respondents.

Table 7.2: Descriptive statistics of socio demographics variables

Description	Frequency	Percentage
Gender		
Female	14	25
Male	42	75
Age		
25 -30	1	1.8
31-35	1	1.8
36-40	10	17.9
41-45	16	28.6
46-50	14	25.0
51-55	8	14.3
56 and above	6	10.7
Part of the M&A decision		
Yes	41	73.8
No	15	26.8
Position		
Managing Director	3	5.4
Chief Operations Officer	3	5.4
Director	11	19.6
Executive Manager	11	19.6
Manager	28	50.0
Years with the company		
0-5	12	21.4
6-10	18	32.1
11-15	17	30.4
16 and above	9	16.1

Table 7.2 (continued)

Description	Frequency	Percentage
Highest qualification		
No formal qualification	1	1.8
Matric	5	8.9
Diploma	6	10.7
Degree	10	17.9
Honours degree	14	25.0
Master's degree	19	33.9
PhD	1	1.8
Ethnicity		
African	21	37.5
Asian	1	1.8
Coloured	2	3.6
Indian	12	21.4
White	19	33.9
Prefer not to say	1	1.8

The ensuing section details the reliability and validity tests that were done in this study.

7.2 TABULATION OF VARIABLES

After the results were cleaned and coded, they were presented in a tabular format to demonstrate the frequency of each item under their construct. Table 7.3 represents the items that were measured under construct, financial performance. The item with the highest scoring was "The company benefited from the economies of scale due to market power" as 60 percent of the respondents agree that the company benefited from the economies of scale. The second highest scoring item was item "The company benefited from increased market share", where about 60 percent (58.9 percent) of the respondents agree that the company benefited from increased market share. The lowest scoring item was "The company benefited from increased cash flow" with just under 50 percent (46 percent) of the respondent agreeing that the company benefited from increased cash flow

Table 7.3: Descriptive statistics of the items on financial performance

Item description	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
The company benefited from increased sales growth	8,9	16,1	19,6	30,4	25
The company benefited from increased market share	7,1	14,3	19,6	**44,6**	**14,3**
The company benefited from increased customers	5,4	21,4	19,6	**39,3**	**14,3**
The company benefited from increased profitability	5,4	23,2	17,9	35,7	17,9
The company benefited from increased cash flow	7,1	25	21,4	28,6	17,9
The company benefited from increased liquidity	7,1	17,9	25	33,9	16,1
The company benefited from the economies of scale due to market power	7,1	16,1	16,1	**33,9**	**26,8**
The company benefited from increased capital market	7,1	12,5	30,4	35,7	14,3

Table 7.4 presents items that were measured under construct, economies of scale. The item with the highest scoring was “The company benefited from the economies of scale due to reduction of redundancy in accounting services.” as 69 percent of the respondents agree that the company benefited from the redundancy in accounting services. The second highest score items were items “The company benefited from the economies of scale due to reduction of redundancy in accounting services” and “The company benefited from the economies of scale due to managerial efficiencies”. Respondents scored both of these items at 55.4 percent. The least scoring item was “The company benefited from the economies of scale due to reduction of redundancy in personnel.” with just under 50 percent (48.2 percent) of the respondent agreeing that the company benefited from redundancy in personnel

Table 7.4: Descriptive statistics of the items on economies of scale

Item description	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The company benefited from the economies of scale due to reduction of redundancy in auditing services.	14,3	5,4	25,0	**42,9**	**12,5**
The company benefited from the economies of scale due to reduction of redundancy in accounting services.	8,9	21,4	10,7	**41,1**	**17,9**
The company benefited from the economies of scale due to reduction of redundancy in personnel.	8,9	23,2	19,6	33,9	14,3
The company benefited from the economies of scale due to managerial efficiencies	7,1	21,4	16,1	**39,3**	**16,1**
The company benefited from the economies of scale due to reduction of redundancy in office space.	28,6	5,4	14,3	33,9	17,9

Table 7.5 demonstrates the items that were measured under construct, synergy motive. The item with the highest scoring was “The motive was to gain operational synergies” as 76,8 percent of the respondents agree that the company benefited from the economies of scale. The second highest scoring item was “The motive was to gain managerial synergies”, where about 62.5 percent of the respondents agree that the company benefited from managerial synergies. The lowest scoring item was “The motive was to facilitate wealth transfer from target to acquirer” with just under 40 percent (39.2 percent) of the respondents agreeing that the company benefited from wealth transfer from the target to the acquirer.

Table 7.5: Descriptive statistics of the items on synergy motive

Item description	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The motive was to gain managerial synergies	3,6	23,2	10,7	41,1	21,4
The motive was to gain operational synergies	3,6	10,7	8,9	53,6	23,2
The motive was to gain financial synergies	3,6	10,7	16,1	50	19,6
The motive was to facilitate wealth transfer from target to acquirer	5,4	25	30,4	32,1	7,1

Table 7.6 represents items that were measured under the construct, motive of M&A. Table 7.6 shows that the item with the highest scoring was "The motive was to maximize managers' utility" as 53,6 percent of the respondents agree that the motive of M&A was to maximize managers' utility. The was followed by item "The motive was based on knowledge of target's financial performance", where 39,3 percent of the respondents agree that the motive of M&A was to maximize manager's utility. The lowest scoring item was "The motive was because of economic disturbances" 30.6 percent of the respondents agreeing that the motive of M&A was due to economic disturbances.

Table 7.6: Descriptive statistics of the items of motive of M&A

Item description	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The motive was due to influenced by organisational routine	10,7	25	30,4	30,4	3,6
The motive was because of economic disturbances	8,9	30,4	30,4	26,8	3,8

Table 7.6 (continued)

Item description	Strongly disagree	Disagree	Neutral	Agree	Strongly
The motive was to maximize. managers' utility	3,6	16,1	26,8	37,5	16,1
The motive was based on knowledge of target's financial performance	5,4	32,1	23,2	35,7	3,6

Table 7.7 presents items that were measured under construct, role of M&A. Table 7.7 shows that the item with the highest scoring item was "Mergers and acquisition increase synergy of a merged entity" as 71,5 percent of the respondents agree that the role of M&A on performance of companies is to increase synergy. As illustrated in table 7.7, the lowest scoring item was "mergers and acquisitions increase the non-financial performance of the company" 53.5 percent of the respondents agree that the role of M&A on performance of companies is to increase non-financial performance.

Table 7.7: Descriptive statistics of the items on role of M&A

Item description	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Mergers and acquisition increase the non-financial performance of the company	3,6	21,4	21,4	44,6	8,9
Mergers and acquisition increase synergy of a merged entity	3,6	14,3	10,7	53,6	17,9
Mergers and acquisition increase the financial performance of the company	3,6	17,9	16,1	50	12,5

7.3 RELIABILITY AND VALIDITY OF THE INSTRUMENT

7.3.1 Reliability of the Instrument

Table 7.8 is a tabular representation of the Cronbach's alpha of the variables. Cronbach's alpha was used to measure the internal consistency and reliability of the scale (Pallant, 20168). Wiid and Diggines (2013) mention that the Cronbach's alpha values are interpreted based on the values achieved. The higher values demonstrate acceptability. The results in Table 7.8 demonstrate that all the Cronbach's alpha of the items were above 0.9, demonstrating that all the scores of the scale achieved excellent reliability as it is suggested by George and Mallery (2016) that any item that achieves values between 0.8 and 0.95 achieves excellent reliability. The scores with the highest values of 0.921 were: "The motive was based on knowledge of target's financial performance", "The motive was due to economic disturbances", and "The motive was due to the influence of organisational routine". A couple of items have the lowest values of 0,913 and these were: "Mergers and acquisition increase the financial performance of the company", "The company benefited from the economies of scale due to managerial efficiencies", "The company benefited from increased liquidity", and "The company benefited from increased sales growth".

Table 7.8: Reliability of the instrument

Construct	**Item description**	**Cronbach's alpha**
Financial Performance	The company benefited from increased sales growth	.913
	The company benefited from increased market share	.914
	The company benefited from increased customers	.915
	The company benefited from increased profitability	.914
	The company benefited from increased cash flow	.915
	The company benefited from increased liquidity	.913
	The company benefited from the economies of scale due to market power	.914
	The company benefited from increased capital market	.914

Table 7.8 (continued)

Construct	Item description	Cronbach's alpha
Scale economies	The company benefited from the economies of scale due to reduction of redundancy in accounting services	.914
	The company benefited from the economies of scale due to reduction of redundancy in auditing services.	.915
	The company benefited from the economies of scale due to reduction of redundancy in personnel.	.915
	The company benefited from the economies of scale due to managerial efficiencies	.913
	The company benefited from the economies of scale due to reduction of redundancy in office space.	.915
Synergy motive	The motive was to gain managerial synergies	.917
	The motive was to gain operational synergies	.914
	The motive was to gain financial synergies	.915
	The motive was to facilitate wealth transfer from target to acquirer	.919
Motive for M&A	The motive was based on knowledge of target's financial performance	.921
	The motive was to economic disturbances	.921
	The motive was to maximize managers' utility	.919
	The motive was due to influenced by organisational routine	.921
Role of M&A	Mergers and acquisition increase the non-financial performance of the company	.918
	Mergers and acquisition increase synergy of a merged entity	.914
	Mergers and acquisition increase the financial performance of the company	.913

7.3.2 Validity of the Instrument

The validity of the instrument was measured using construct validity and discriminate validity. Construct validity is measured by identifying if the items of the scale cross-load amongst different dimensions and it was determined by performing factor analysis of the instrument (Tabachnick and Fidell, 2014). The purpose of conducting the factor analysis was to identify those items that were most appropriate for each of the variables. Items that loaded above 0.50, which is the minimum recommended value in research were considered for further analysis (Tabachnick and Fidell, 2014). Likewise, those items that were cross loading above 0.50 on more than one variable were deleted from the scale. Table 7.9 illustrates that the factor loadings for financial performance variable were between 0.647 and 0.914. On the other hand, the factor loadings for scale economies variable were between 0.620 and 0.822. Acceptable factor loadings of between 0.517 and 0.818 were obtained for synergy motive variable as demonstrated in Table 6.9. The factor loadings for variable, motive of M&A were between 0.653 and 0.760. Lastly, role of M&A construct achieved loadings of between 0.674 and 0.912. The factor loadings for all the variables demonstrate that the factor analysis results satisfied the criteria of construct validity including both the discriminant validity (loading of at least 0.50, no cross loading of items above 0.50) and convergent validity (eigenvalues of 1, loading of at least 0.50).

Table 7.9: Construct validity using factor analysis of individual variables

Description	Loading	Eigen value	% variance	% cumulative	Communalities extracted
Factor 1: Financial Performance					
FP 2.5	.914	7.729	36.803	36.803	.849
NFP 3.1	.911				.853
NFP 3.2	.849				.736
FP 2.1	.793				.678
FP 2.4	.788				.672
FP 2.2	.786				.677
Syn1.10	.773				.671

FP 2.3	.647				.507
Factor 2: Economies of Scale					
Syn 1.4 Syn 1.5. Syn 1.2. Syn 1.6 Syn 1.3	.822 .812 .764 .661 .620	4.064	19.355	56.157	.755 .710 .663 .696 .511
Factor 3: Synergy motive					
Mot 4.3 Mot 4.2 Mot 4.1 Mot 4.4	.818 .769 .706 .517	2.248	10.703	66.861	.778 .796 .659 .641
Factor 4: Motive for M&A					
Mot 4.9 Mot 4.5 Mot 4.8 Mot 4.6	.760 .749 .731 .653	1.386	6.599	73.459	.641 .741 .605 .588
Factor 5: Role of M&A					
RoleMA 5.2 RoleMA 5.3 RoleMA 5.1	.912 .711 .674	2.380	59.495	59.495	.505 .454 .832

For this study, correlation amongst the constructs of the instrument was used to determine discriminant validity. It was done by constructing correlation matrix of

Pearson's product moment coefficients. To show that validity of the instrument is acceptable, the constructs of the same instrument must not highly correlate. Highly correlating variables have a Pearson coefficient of close to 1. Table 7.10 illustrates that none of the constructs highly correlated with the highest correlation being between economies of scale variable and role of M&A variable at 0.616. This is followed by 0.593 between financial performance variable and role of M&A. The lowest coefficient is 0.015, which is between motive of M&A and the financial performance. These results confirmed the discriminant validity of the instrument and rendered the data useful for further analysis.

Table 7.10: Coefficients table

Correlations						
		Roleof MA	**Financial Performa**	**Scale Economies**	**Synergy Motive**	**Motive for MA**
Pearson Correlation	RoleofMA	1.000	.593	.616	.352	.065
	Financial Perfor	.593	1.000	.393	.250	.015
	Scale Economies	.616	.393	1.000	.556	.204
	SynergyMotive	.352	.250	.556	1.000	.401
	MotiveforMA	.065	.015	.204	.401	1.000

Table 7.11 illustrate the AVE of the construct for this study. Tabachnick and Fidell (2014) define discriminant validity as the extent to which scores of the instrument are unrelated. This is a measure that different constructs are unrelated. Hair, Black, Babin, and Anderson (2014) suggest that average variance extracted (AVE) is the best tool to measure discriminant validity. Acceptable values should all be above 0.5. It is shown in Table 7.11, that this holds true for all the variables in the study.

Table 7.11: Construct validity using average variance extracted

Construct	Item	Loading (λ)	λyi^2	$\sum\lambda yi^2$	εi	$\sum\varepsilon i$	AVE	Composite reliability
Financial Performance	FP 2.5	0,914	0,835	6,461	0,165	2,730	0,659	0,939
	NFP 3.1	0,911	0,830		0,170			
	NFP 3.2	0,849	0,721		0,279			
	FP 2.1	0,793	0,629		0,371			
	FP 2.4	0,788	0,621		0,379			
	FP 2.2	0,786	0,618		0,382			
	Syn1.10	0,773	0,598		0,402			
	FP 2.3	0,647	0,419		0,581			
Economies of scale	Syn 1.4	0,822	0,676	3,679	0,324	2,260	0,548	0,857
	Syn 1.5.	0,812	0,659		0,341			
	Syn 1.2.	0,764	0,584		0,416			
		0,661	0,437		0,563			
	Syn 1.6	0,620	0,384		0,616			
	Syn 1.3							
Synergy motive	Mot 4.3	0,818	0,669	2,810	0,331	1,974	0,507	0,800
	Mot 4.2	0,769	0,591		0,409			
	Mot 4.1	0,706	0,498		0,502			
	Mot 4.4	0,517	0,267		0,733			
Motive of M&A	Mot 4.9	0,76	0,578	2,893	0,422	1,901	0,525	0,815
	Mot 4.5	0,749	0,561		0,439			
	Mot 4.8	0,731	0,534		0,466			
	Mot 4.6	0,653	0,426		0,574			

Table 7.11 (continuing)

Construct	Item	Loading (λ)	λyi^2	$\sum\lambda yi^2$	εi	$\sum\varepsilon i$	AVE	Composite reliability
Role of M&A	RoleMA 5.2	0,912	0,832	2,297	0,168	1,208	0,597	0,813
	RoleMA 5.3	0,711	0,506		0,494			
	RoleMA 5.1	0,674	0,454		0,546			

7.4 DESCRIPTIVE ANALYSIS

The respondents were asked to determine what was the role of M&A on the performance of companies with regards to the four constructs namely, financial performance, scale economies, motive for M&A, synergy motives of the merger or an acquisition and lastly, role of M&A. This was achieved by using a five-point Likert-scale with 1 representing “strongly disagree” and 5 representing “strongly agree”. This section presents the results of the data in the form of mean and standard deviation. The smaller standard deviation signifies that the responses of the respondents were spread alongside the population mean. The spread of the sample mean values alongside the population mean value demonstrates that there was a less variability between the sample mean and the population mean. The results in Table 7.12 show the mean (M) and standard deviation (SD) of the items under the construct, role of M&A on financial performance. All the items reported mean values that are above three (M>3). Mean values above 3 indicate that most of the respondents agreed with the item that M&A play a role in the financial performance of merged entities. The item with the highest mean (M = 3.46, SD =1.279) on Table 7.12 is item “The company benefited from increased sales growth”. Both items “The company benefited from increased profitability” and “The company benefited from increased capital market” had (M=3.48). Table 7.12 shows a summary of the descriptive statistics on the role of M&A on the scale economies. Results reveal that the “The company benefited from the economies of scale due to reduction of redundancy in accounting services” had the highest mean value (M=3.38, SD=1.259).

Table 7.12: Descriptive statistics of financial performance variable

Item description	N	Mean	Standard deviation
The company benefited from increased sales growth	56	3.46	1.279
The company benefited from increased market share	56	3.45	1.127
The company benefited from increased customers	56	3.36	1.135
The company benefited from increased profitability	56	3.38	1.184
The company benefited from increased cash flow	56	3.25	1.225
The company benefited from increased liquidity	56	3.34	1.164
The company benefited from the economies of scale due to market power	56	3.57	1.248
The company benefited from increased capital market	56	3.38	1.105

This result indicates that most of the respondents agree that the role of M&A on the economies of scale was to “benefit from the economies of scale due to reduction of redundancy in accounting services”. Table 7.13 demonstrates the descriptive statistics of the economies of scale variable.

Table 7.13: Descriptive statistics of the economies scale variable

Item description	N	Mean	Standard deviation
The company benefited from the economies of scale due to reduction of redundancy in accounting services	56	3.38	1.259
The company benefited from the economies of scale due to reduction of redundancy in auditing services.	56	3.43	1.059
The company benefited from the economies of scale due to reduction of redundancy in personnel.	56	3.21	1.217
The company benefited from the economies of scale due to managerial efficiencies	56	3.36	1.197
The company benefited from the economies of scale due to reduction of redundancy in office space.	56	3.30	1.220

The item in Table 7.13 with the lowest mean (M=3.21, SD=1.217) was “The company benefited from the economies of scale due to reduction of redundancy in personnel”. This indicates that respondents were of the view that the company did not benefit from the economies of scale due to reduction of redundancy in personnel. It is evident from results in Table 7.14 that most of the items under this factor had mean values greater than 3.5. The item with the highest value of (M=3.82, SD=1.022), was “The motive was to gain operational synergies”. The item with the lowest mean value (M=3.11; SD=1.039) was “The motive was to facilitate wealth transfer from target to acquirer”. It is demonstrated by the results in Table 7.14 that most of the respondents agreed that synergy motive play a role in M&A.

Table 7.14: Descriptive statistics of synergy motive

Item description	**N**	**Mean**	**Standard deviation**
The motive was to gain managerial synergies	56	3.54	1.175
The motive was to gain operational synergies	56	3.82	1.029
The motive was to gain financial synergies	56	3.71	1.022
The motive was to facilitate wealth transfer from target to acquirer	56	3.11	1.039

Table 7.15 illustrates the descriptive statistics of motives of M&A in the chemical industry. As demonstrated on Table 7.15, item “The motive was based on knowledge of target’s financial performance” has the highest mean value (M=3.46; SD=1.061).

Table 7.15: Descriptive statistics of motives of M&A in the chemical industry

Item description	**N**	**Mean**	**Standard deviation**
The motive was based on knowledge of target’s financial performance	56	3.46	1.061
The motive was to economic disturbances	56	2.86	1.034
The motive was to maximize managers’ utility	56	3.00	1.027
The motive was due to influenced by organisational routine	56	2.91	1.066

The item with the lowest mean value (M=2.86; SD=1.034) is “The motive was due to economic disturbances”. The results demonstrate that the respondents did not agree that “The motive for merger transactions was driven by economic disturbances” and that “The motive was due to the influence of organisational routine” as both mean values were below 3.0 The respondents were in agreement that the motive of M&A is based on the knowledge of target’s financial performance. Table 7.16 shows the descriptive statistics of the role of M&A. It is illustrated in Table 7.16 that all items had mean values above 3. The item with highest mean values (M=3.86; SD=1.046). This is an indication that respondents agree that the role of M&A in the chemical industry is to increase financial performance.

Table 7.16: Descriptive statistics of the role of M&A

Item description	**N**	**Mean**	**Standard deviation**
Mergers and acquisition increase the non-financial performance of the company	56	3.50	1.044
Mergers and acquisition increase synergy of a merged entity	56	3.34	1.032
Mergers and acquisition increase the financial performance of the company	56	3.68	1.046

The standard deviation of all the items under this construct are around 1, which demonstrates that the mean value of the sample was spread around the population mean, indicating consensus by the respondents.

7.5 BIVARIATE CORRELATION ANALYSIS

7.5.1 Pearson Correlation

Pearson correlation was used to measure the degree of association between variables of the study (Creswell, 2014). The relationship between variables can either be a weak one or strong one and ranges from +1 to -1. Cooper and Schindler (2014) further argue that a perfect positive correlation is indicated by +1, whilst -1 indicates a perfect negative relationship. A non-existing relationship is demonstrated by 0. The results in Table 7.17 demonstrate that there is a positive and strong relationship between all the independent variables and the dependent variables. The results further reveal that the strongest and significant (p=0.000) relationships exist between role of M&A on economies of scale (.616). This is followed by the positive and significant (p=0.000) correlation between financial performance and role of M&A (.593). The weakest and positive insignificant (p=0.456) relationship occurred between financial performance and motive of M&A (0.015).

Table 7.17: Coefficients table

Correlations						
		Role of MA	**Financial Perfor**	**Economies of Scale**	**Synergy Motive**	**Motive for MA**
Pearson Correlation	RoleofMA	1.000	.593	.616	.352	.065
	Financial Perfor	.593	1.000	.393	.250	.015
	Economies of scale	.616	.393	1.000	.556	.204
	SynergyMotive	.352	.250	.556	1.000	.401
	MotiveforMA	.065	.015	.204	.401	1.000
Sig.(1-tailed)	RoleofMA	.	.000	.000	.004	.317
	Financial Perfor	.000	.	.001	.032	.456
	Economies of scale	.000	.001	.	.000	.065
	SynergyMotive	.004	.032	.000	.	.001
	MotiveforMA	.317	.456	.065	.001	.

7.6 MULTIVARIATE ANALYSIS

7.6.1 Exploratory Factor Analysis

Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy measures the fitness of data for factor analysis. KMO looks at each variable in the model and complete model and measure their sampling adequacy. The proportion of variance amongst variables is measured by the statistic. In order for the factor analysis to be conducted, the range of KMO statistic must be on the 0 to 1, with values closer to 1 showing intact

correlations patterns (Field, 2018). For this study, KMO=0.722, which is classified as middling was acceptable for the researcher to continue with the factor analysis. Field (2018), further notes that Bartlett's test of Sphericity is one of the tests that must be satisfied to continue with factor analysis and is considered significant at $p \leq 0.05$.
In addition, the Bartlett's test of Sphericity was acceptable for this study as shown in Table 7.18, that a Chi-square value of 64.020 with a df=6 resulted in a significant value of p=0.000 which is less than p=0.001. These results indicate that data from this study is fit as a candidate for factor analysis as there is enough correlation.

Table 7.18: KMO and Bartlett's tests

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.722
Bartlett's Test of Sphericity	Approx. Chi-Square	64.020
	Df	6
	Sig.	.000

7.6.1.1 Varimax Component Analysis

Factor rotation is the means of presenting the underlying pattern of loadings in a way that is easy to interpret (Pallant, 2016). The varimax technique was chosen as it allowed the researcher to minimise the number of variables that had high loadings on more than one factor. The factors or items that had more than one loading were cross-loading items and these were dropped. The cross-loading items are dropped to give a clearly defined structure of the measurement scale (Pallant, 2016).

7.6.1.2 Rotated Factor Analysis

Rotated factor was performed on a scale consisting of five factors, that is one dependent variable and four independent variables. The number of the items on the initial scale were thirty-four items and three items were dropped. Two items were dropped because they were the only two items on the factor, this is against the recommendation by (Tabachnick and Fidell, 2014) who recommend that the number of items on each factor to be retained after factor analysis should be at least three. The third item was dropped because, it was below 0.5 which was the cut-off point (Tabachnick and Fidell, 2014). Although there is no consensus on the cut-off point, Tabachnick and Fidell (2014) recommends that a scale needs to be formed of items that are loading strongly and are not cross loading on the other factors.

7.6.1.3 Interpretation of Factors Loading

Williams, Onsman, and Brown (2010) mention that during interpretation of factor analysis, the researcher must determine the variables that are attributed to a factor and assign a name or a theme to that factor. The factor loadings were done to eliminate all those items that were cross-loading, as well as to eliminate all those which were below 0.5, which is the minimum threshold for scores to be kept in a measurement scale (Tabachnick and Fidell, 2014). Lastly, factor loadings were done to also determine if there were new factors that resulted from exploratory factor analysis. Table 7.19 represents all factor loadings of the variables of this study.

Factor 1: Financial Performance

Originally, this factor had five items and all the five items were retained with additional three items loading on this factor which resulted in eight items under this factor. The additional items that loaded on this factor were “The company benefited from the economies of scale due to market power”, “The company benefited from increased market share” and “The company benefited from increased customers”. Of the five original items, FP 2.5 “The company benefited from increased sales growth” loaded strongly with the loading of .914 with an eigenvalue of 7.729, which is above 1 and highest variance of 36.80%. The other items that were kept which originally were from other factors were FP 2.1 “The company benefited from increased profitability”, FP 2.4 “The company benefited from increased cash flow”, FP 2.3 “The company benefited from increased capital market” and FP 2.2, “The company benefited from increased liquidity” and all of them loaded well above 0.60. The reported communalities for all the items were all above 0.5.

Factor 2: Economies of Scale

This factor was determined after the factor analysis with all the items under this factor belonging to the original factor synergy. After the factor analysis the factor had to be renamed as per (Hair *et al.* 2014) using the first two high loading items. Based on the first two high loading items, this factor was called scale economies. The items that loaded on this factor were “The company benefited from the economies of scale due to reduction of redundancy in personnel”, “The company benefited from the economies of scale due to reduction of redundancy in office space”. The last three items were “The company benefited from the economies of scale due to reduction of redundancy in accounting services”, “The company benefited from the economies of scale due to reduction of redundancy in auditing services” and “The company benefited from the economies of scale due to managerial efficiencies”. The highest loading factor was “The company benefited from the economies of scale due to reduction of redundancy in accounting services” with loading value of 0.822 with an eigenvalue of 4.064, which is above 1 and highest variance of 19.36%, with communalities of all the scale items reporting values above 0.5.

Table 7.19: Factor loadings of the variables

Description	**Loading**	**Eigen value**	**% variance**	**% cumulative**	**Communalities extracted**
Facto 1: Financial Performance					
FP 2.5	.914	7.729	36.803	36.803	.849
NFP 3.1	.911				.853
NFP 3.2	.849				.736
FP 2.1	.793				.678
FP 2.4	.788				.672
FP 2.2	.786				.677
Syn1.10	.773				.671
FP 2.3	.647				.507
Factor 2: Scale economies					
Syn 1.4	.822	4.064	19.355	56.157	.755
Syn 1.5.	.812				.710
Syn 1.2.	.764				.663
Syn 1.6	.661				.696
Syn 1.3	.620				.511

Table 7.19 (continued)

Description	Loading	Eigen value	% variance	% cumulative	Communalities extracted
Factor 3: Synergy motive					
Mot 4.3	.818	2.248	10.703	66.861	.778
Mot 4.2	.769				.796
Mot 4.1	.706				.659
Mot 4.4	.517				.641
Factor 4: Motive for M&A					
Mot 4.9	.760	1.386	6.599	73.459	.641
Mot 4.5	.749				.741
Mot 4.8	.731				.605
Mot 4.6	.653				.588
Factor 6: Role of M&A					
RoleMA 5.2	.912	2.380	59.495	59.495	.505
RoleMA 5.3	.711				.454
RoleMA 5.1	.674				.832

Extraction Method: Principal Axis Factoring.

Factor 3: Synergy Motive

This factor was determined after the factor analysis with all the items under this factor belonging to the original factor, motive of M&A. After the factor analysis, the factor had to be renamed as per suggestion by (Izquierdo, Olea, and José Abad, 2014) using the first two high loading items. Based on the first two high loading items, this factor was called synergy motive. The items under this factor were “The motive was to gain financial synergies”, “The motive was to gain operational synergies”, “The motive was to gain managerial synergies” and “The motive was to facilitate wealth transfer from target to acquirer”. The highest loading items is “The motive was to gain managerial synergies” with a loading of 0.818. This factor had eigenvalue of 2.248 which is above 1 and percentage variance of 10.70%. The communalities of the indicators are all above 0.7 indicating a good correlation among the scale items. The communalities of all the items are above 0.6, demonstrating good correlation among the scale items.

Factor 4: Motive for M&A

Originally, this factor had 9 items and after factor analysis was conducted, one item was dropped and four others were loaded highly on other factors hence, they were dropped from this factor. The items that were retained were, “The motive was to maximize managers’ utility”, “The motive was due to the influence of organisational routine”, “The motive was due to economic disturbances” and “The motive was based on knowledge of target’s financial performance”. The item with the highest loading factor was “The motive was to maximize managers’ utility” with a loading factor of 0.749. This factor has eigenvalue of 1.386 which is above 1 and percentage variance of 6.60% and the communalities of all the scale items are above 0.6.

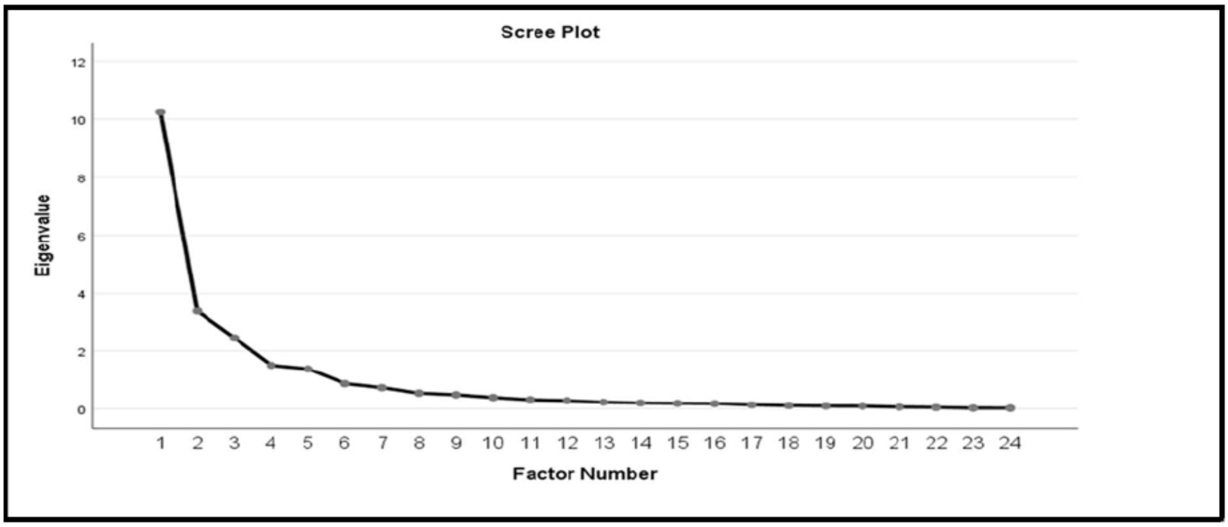
Factor 5: Role of M&A

The original items under this factor were four and one factor was dropped during factor analysis as it did not load under this factor. The three items were then retained and the item with highest loading was “Mergers and acquisition increase the non-financial performance of the company”, with a loading of 0.912. This factor has eigenvalue of 2.380, which is above 1 and highest variance of 59.50%, with communalities of all the scale items are above 0.5.

7.6.1.4 Scree Plot

The alternative method to determine number of factors except using eigenvalue is called scree plot. Scree plot is a graph that is characterised by a sharp decline followed by a tailing off (Wiid and Diggines, 2013). It plots factors on the X-axis and eigenvalues on the Y-axis (Field, 2018). The point of inflection marks the last extracted factor. It is evident from Figure 7.1, below that the last extracted factor is where the tailing begins to make a horizontal shape.

Figure 7.1: Scree plot of the loaded factors



7.7 Testing for Normality of Multivariate Analysis

Normality test is one of the requirements that need to be checked for multiple regression analysis in order to determine its validity. In a large sample size, it is possible to derive significant results even in cases where there is small deviation from normality and this small deviation will not affect the results.

7.7.1 Test of Normality

Skewness and kurtosis coefficients are measures of shape that are used during statistical analysis to compare the observed distribution with a normal distribution. Kurtosis can either assume a pointy peak or a rounded peak (Field, 2018). Kurtosis of zero demonstrates a data with a normal distribution which becomes more peaked when it is positive. On the other hand, a kurtosis that is flatter distribution is characterised by negative values. The results on table 5.35 demonstrate that all the kurtosis fall within the suggested value of ±1.96 (Field, 2018). Three kurtosis values were negative, which demonstrated that the distribution of data around these values were flatter, whilst one value was positive, indicating that distribution had a peak. Skewness measures can either be systematic or skewed (Field, 2018). A distribution that is systematic is characterised by values on both sides of the centre that are equal, with equal mean, median and mode. A skewed distribution is one with unequal mean consisting of both positive and negative deviations. A score of zero for Skewness demonstrate a perfectly normal distribution (Field, 2018). The results on Table 7.20 demonstrate that three skewness values fall within the suggested value of ±1.96, whereas only two values for skewness outside this stipulated requirement (Field, 2018).

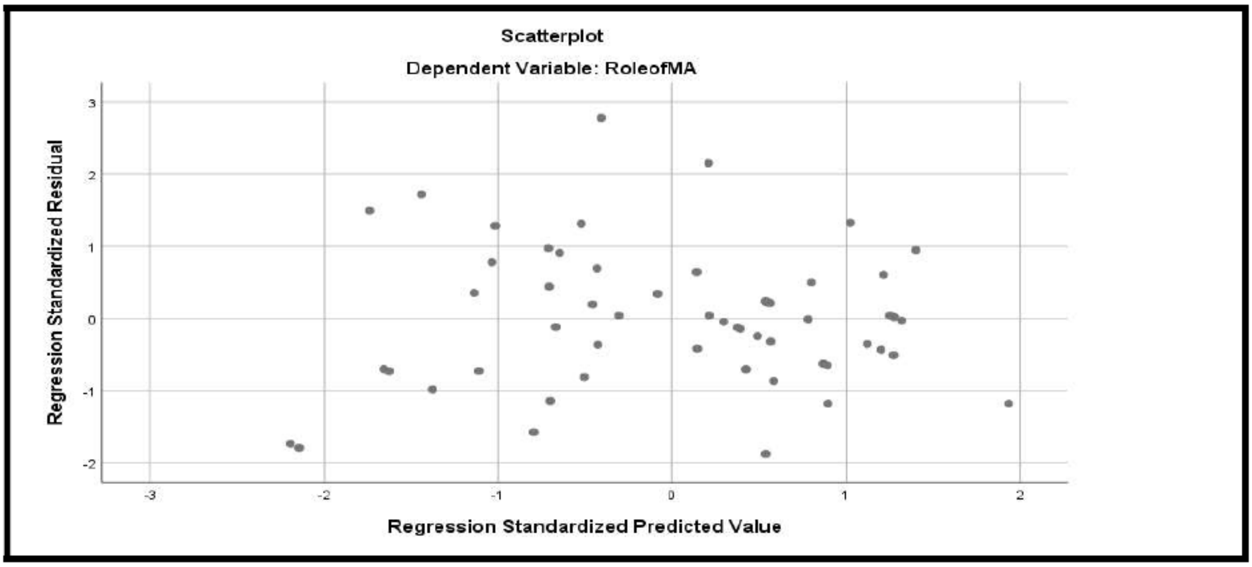
Table 7.20: Skewness and kurtosis of the overall variables

Descriptive Statistics							
	N	**Skewness**			**Kurtosis**		
Variable	**Statistic**	**Statistic**	**Std. Error**	**Value**	**Statistic**	**Std. Error**	**Value**
FinancialPerfor	56	-.582	.319	-1.824	-.055	.628	-0,088
ScaleEconomies	56	-.385	.319	-1,207	-.657	.628	-1,046
SynergyMotive	56	-.916	.319	-2,871	1.062	.628	1,691
MotiveforMA	56	-.235	.319	-0,737	-.175	.628	-0,279
RoleofMA	56	-.860	.319	-2,696	1.122	.628	1,787

7.7.2 Homoscedasticity

For data to be accepted, scores should be clustered around the centre, with points roughly distributed around a rectangular shape. Figure 7.2 below demonstrate that all points roughly distributed around a rectangular shape, which shows that data met the assumption, hence data can be subjected to the multiple regression analysis.

Figure 7.2: Scatter plot



7.7.3 Mahalanobis and Cook's Distances

Table 7.21 demonstrates the results of Mahalanobis and Cook's distances. It is evident that there were no outliers present in the data set as the calculated Mahalanobis distance 15.860 which is lower than the maximum distance of 18.47. The same results were found for Cook's distances, as the calculated value is .649, which is lesser than (Pallant, 2016). When calculating the Mahalanobis and Cook's distances it became evident that no outliers were present in the dataset which further confirmed that the data is suitable for multiple regression analysis (Pallant, 2013).

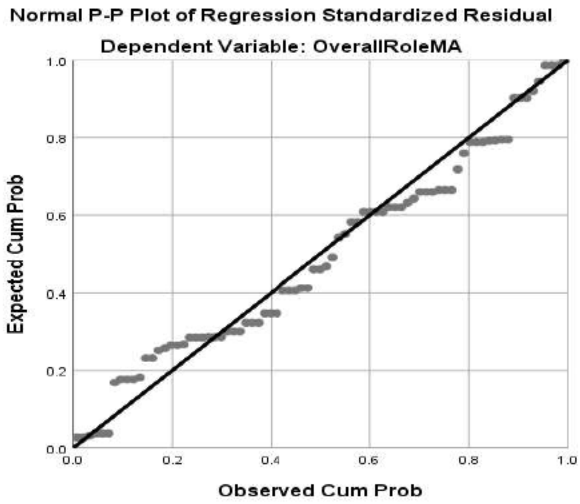
Table 7.21: Mahalanobis and Cook's distances

Residuals Statistics					
	Minimum	Maximum	Mean	Std Deviation	N
Predicted value	2.0992	4.7465	3.5060	0.64107	56
Std Predicted Value	-2.194	1.935	0.000	1.000	56
Standard Error of Predicted Value	0.089	0.349	0.180	.058	56
Adjusted Predicted Value	2.2699	4.8940	3.5045	.64837	56
Residual	-1.18503	1.75477	.00000	.60728	56
Std. Residual	-1.879	2.783	.000	.963	56
Stud. Residual	-2.038	3.194	.001	1.032	56
Deleted Residual	-1.50335	2.31257	.00143	.70041	56
Stud. Deleted Residual	-2.106	3.536	.007	1.065	56
Mahal. Distance	**.102**	**15.860**	**3.929**	**3.319**	56
Cook's Distance	**.000**	**.649**	**.033**	**.095**	56
Centered Leverage Value	.002	.288	.071	.060	56

7.7.4 Linearity

Pallant (2016) states that the points must lie in a reasonably straight diagonal line from bottom left to the top right. As can be seen from Figure 7.3 the data met the requirement mentioned above.

Figure 7.3: Normal P-P plot



7.7.5 Multicollinearity

Pallant (2016) mention that multicollinearity exists when two or more independent variables highly correlate. Highly correlating independent variables can compromise multiple regression effects. It is acceptable that the independent variables should have at least a correlation with dependent variable (≥.3). Whilst on the other side the correlations between independent variables should be as high as (≥.7) but not higher than (≥.9). The results in Table 7.22 show that all independent variables were correlating with dependent variable with values (≥.3).

Table 7.22: Coefficients table

Correlations						
		Role of MA	**Financial Perfor**	**Scale Economies**	**Synergy Motive**	**Motive for MA**
Pearson Correlation	RoleofMA	1.000	.593	.616	.352	.065
	Financial Perfor	.593	1.000	.393	.250	.015
	Scale Economies	.616	.393	1.000	.556	.204
	SynergyMotive	.352	.250	.556	1.000	.401
	MotiveforMA	.065	.015	.204	.401	1.000

Table 7.22 (continued)

Correlations						
		Role of MA	**Financial**	**Role of MA**	**Financial**	**Role of MA**
Sig. (1-tailed)	RoleofMA	.	.000	.000	.004	.317
	Financial Perfor	.000	.	.001	.032	.456
	Scale Economies	.000	.001	.	.000	.065
	SynergyMotive	.004	.032	.000	.	.001
	MotiveforMA	.317	.456	.065	.001	.

There are no independent variables that are highly correlating (≥0.9) to each other. This demonstrates suitability of data for multiple regression analysis. In addition to the correlation effects, variable inflation factor index (VIF) and Tolerance values are used to test if multicollinearity exists in a data set. Acceptable Tolerance values are those that are not smaller than 0.10, whilst VIF values are acceptable if they are not larger than 10. As illustrated in Table 7.23, the results show that all Tolerance values are larger than 0.10. In addition, the results in Table 7.23 show that all VIF values are not larger than 10.

Table 7.23: Coefficients values of Tolerance and variable inflation factor index (VIF)

Variables	**Tolerance**	**VIF**
(Constant)		
FinancialPerfor	.837	1.195
ScaleEconomies	.621	1.609
SynergyMotive	.601	1.663
MotiveforMA	.831	1.203

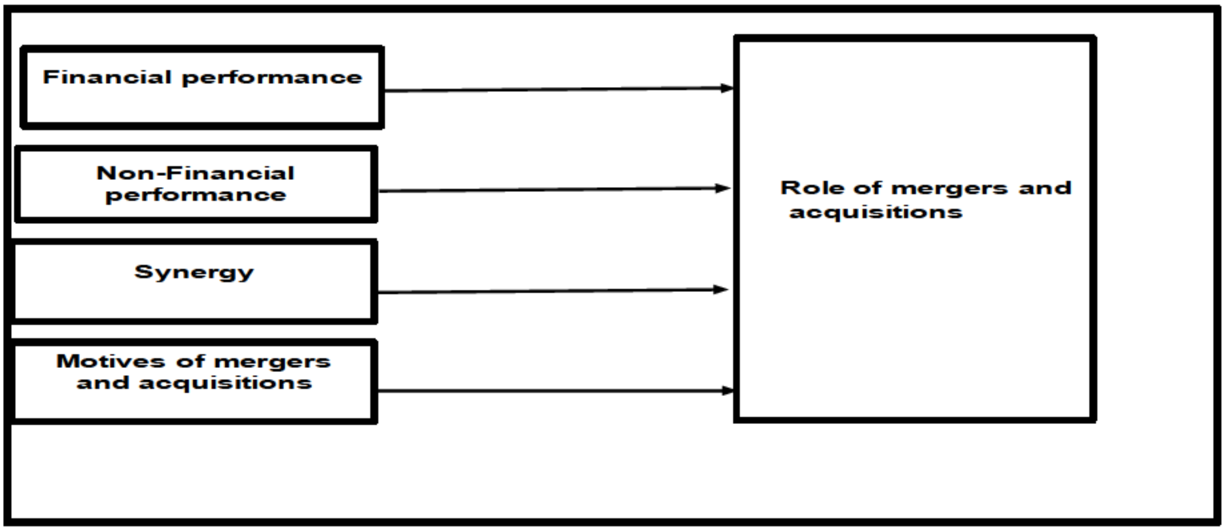
7.8 MULTIPLE REGRESSION ANALYSIS

Multiple regression analysis allows evaluation of the importance of each of independent variables in the model and test of overall fit of model data. The below hypotheses were the proposed before the exploratory factor analysis was performed, and their model is shown in Figure 7.4.

H1: M&A have a positive impact on the financial performance of companies in the chemical industry in South Africa.
H2: M&A result in the increased non-financial performance of companies in the chemical industry.
H3: M&A result in increased synergy.
H4: M&A motives contribute to the performance of companies within the SA chemical industry

The above hypotheses resulted in the below initial model of the study

Figure 7.4: Initial model of the study



After the exploratory factor analysis was performed one variables were dropped, as it was not meeting the minimum requirements to be named as factors and new variables were created. The original variables were tested for hypotheses and the results are presented in Table 7.24.

H1: M&A have a positive impact on the economies of scale of companies within the chemical industry in South Africa.
H2: M&A result in the increased financial performance of companies within the chemical industry.

H_3: Motive of M&A has positive impact on performance of M&A.

H_4: M&A result in increased synergy motive

Table 7.24: The results of original hypothesised relationship

Alternative hypotheses	**Results**
H_1: M&A have a positive impact on the financial performance of companies in the Chemical industry in South Africa.	supported
H_2: M&A result on the increased non-financial performance of companies in the Chemical industry	not tested
H_3: M&A result on the increased synergy	not tested, instead two variables were created from this variable
H4: M&A motives contribute to the performance of companies within the SA chemical industry	not supported

7.8.1 Interpreting Multiple Regression: Model Summary

The results in Table 7.25 demonstrate that the model explains 52.7% of variance. Tabachnick and Fidell (2014) gives a recommendation, that when the sample is small, it is an acceptable practice to report adjusted R square instead of R square, hence it can be reported that 49.0 percent of the variables explains the model.

Table 7.25: Summary of the model

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.726[a]	.527	.490	.63064
a. Predictors: (Constant), MotiveforMA, FinancialPerfor, ScaleEconomies, SynergyMotive				
b. Dependent Variable: RoleofMA				

ANOVA is used to assess the statistical significance of the results and the significant fit of the regression model (Tabachnick and Fidell, 2014). As illustrated in Table 7.26, the results show that the model as a whole is fit with (p=.000).

Table 7.26: ANOVA of dependent variable and predictors

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	22.604	4	5.651	14.208	.000[b]
	Residual	20.283	51	.398		
	Total	42.887	55			
a. Dependent Variable: RoleofMA						
b. Predictors: (Constant), MotiveforMA, FinancialPerfor, ScaleEconomies, SynergyMotive						

Standardised coefficient or Beta value are used to examine the standardised importance of independent variable in regression model and the statistical significance of each independent variable contributing to dependent variable. Statistically, significant of variables is demonstrated by p-value (p=0.000) (Pallant, 2016). The results in Table 7.27 summarise the standardized coefficient of multiple regression. The results in Table 7.27 reveal that the variable, scale economies is statistically significant and is the best predictor of role of mergers and acquisitions (β=0.456, p=0.000). The second-best predictor of the model is the role of M&A on financial performance (β=0.412, p=0.000). The least predictor which is statistically insignificant is the role of M&A on synergy motive (β=0.011, p=0.929).

Table 7.27: Coefficients

Model		Standardized Coefficients	t	Sig.	Correlations		
		Beta			Zero-order	Partial	Part
1	(Constant)		2.308	.025			
	FinancialPerfor	**.412**	3.911	**.000**	.593	.480	**.377**
	ScaleEconomies	**.456**	3.735	**.000**	.616	.463	.360
	SynergyMotive	**.011**	.089	**.929**	.352	.012	.009
	MotiveforMA	**-.039**	-.367	**.715**	.065	-.051	-.035

Table 7.28 presents the hypotheses of the constructs after the factor analysis was conducted. It is demonstrated that two hypotheses, “M&A have a positive impact on

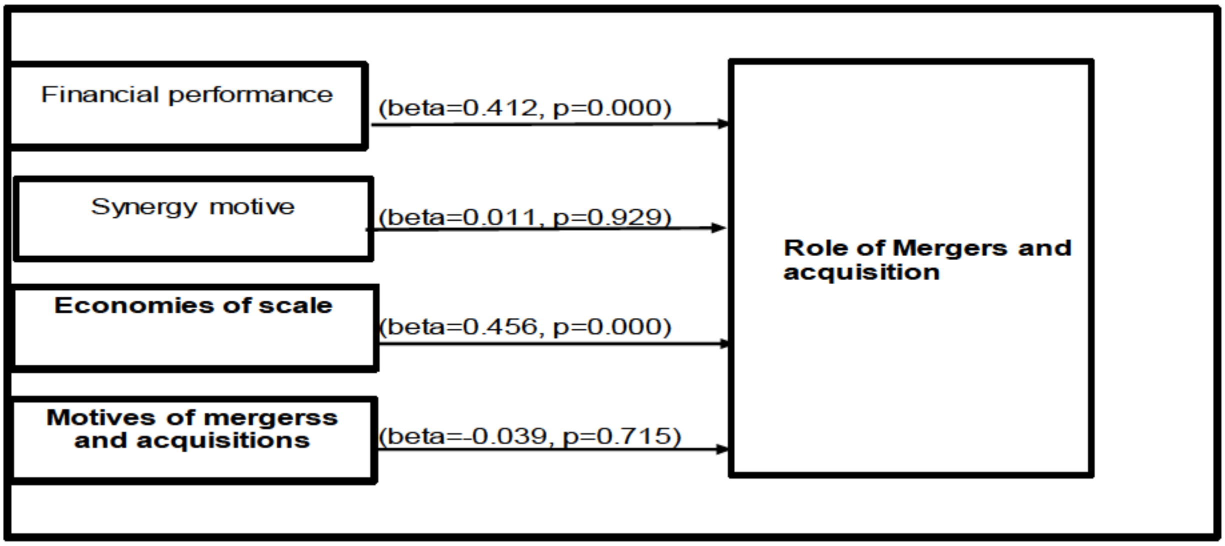
the economies of scale of companies within the chemical industry in South Africa", "M&A result in the increased financial performance of companies within the chemical industry", were supported.

Table 7.28: The hypotheses results of tested variables

Alternative hypotheses	Results
H_1: M&A have a positive impact on the economies of scales of companies within the chemical industry in South Africa.	**H_1 supported**
H_2: M&A result on the increased financial performance of companies within the chemical industry	**H_2 supported**
H_3: Motive of M&A has positive impact on performance of M&A	H_3 not supported
H_4: M&A result on increased synergy motive	H_4 not supported

Figure 7.5 is the graphical representation of the model resulting from the tested hypotheses.

Figure 7.5: Research model of the study



The model demonstrates that economies of scale and financial performance contribute statistically significant to the dependent variable and have a strong positive relationship. The results of Figure 7.5 further illustrate that synergy motive has a weak and positive relationship with the dependent variable.

7.9 SUMMARY OF THE CHAPTER

In this chapter results obtained from a survey questionnaire were presented using quantitative statistical techniques. The following statistics and measures were performed on the results, descriptive statistics, correlation variables, analysis of predictive independent variables on dependent variables, testing of the hypotheses and formulation of the model for the study. For the results to be generalisable, both reliability and validity of the constructs were tested. The results show that 50% of the questionnaires returned were usable, which represents the response rate of the study. The tabulated results of the questionnaire further show that 60% of the respondents agree that the company benefited from the economies of scale.

CHAPTER EIGHT: DISCUSSION OF THE RESULTS

8 INTRODUCTION

The previous chapter presented the findings and results of the study based on the research objectives. The purpose of the study was to explore the role of M&A on the performance of companies within the chemical industry in SA. This was to be achieved through answering five main objectives that were established for the study in chapter one. It further examines the extent to which the empirical results support or are contrary to literature concerning the role of M&A on the performance of companies with specific focus on the SA chemical industry. The chapter links the research findings with the literature review on the role of M&A in line with research methodology. The chapter is organized in the following sections: demographic discussion, the descriptive statistical analysis, the bivariate results discussion section, and lastly the multivariate.

8.1 DESCRIPTIVE STATISTICAL DISCUSSION

The overall mean for financial performance was (M=3.4005, SD=1.03534). This implies that the majority of the respondents agree that the role of M&A is to increase financial performance within the chemical industry in SA. The item with the highest mean is item, the company benefited from increased sales growth (M = 3.46, SD =1.279). The results show that the respondents believe that M&A benefit the company through the economies of scale due to reduction of redundancy in auditing services with mean value (M=3.43, SD=1.059). This result is in agreement with De Graaf and Pienaar (2013), who revealed that economies of scale result from redundancy caused by duplicated auditing services. The results further reveal that the respondents were of the view that the motive for M&A was to gain operational synergies. The mean value for this item was (M=3.82, SD=1.029). This finding concurs with what Tripathy and Prajapati (2014) whose results demonstrated that merged entities benefit from operational synergy. Operational synergy is achieved when the merged entities reduce their costs due to increased revenue. It is evident from the results that the motive for M&A was based on knowledge of target's financial performance, with mean value (M=3.46, SD=1.061). According to Hellgren *et al*. (2011), there are cases where the management of the acquirer has the information about target's financial performance which is supposed not to be known by the rest of the stock market. Hellgren *et al.* (2011) further note that some of the information known to the management of the acquirer might be that the target entity has been undervalued and about to be sold in pieces. In some instances, the management might have a best plan about the struggling company under assumption on how to make it profitable when carved out from the parent company. The role of M&A within the chemical industry is seen as to increase financial performance, (M=3.68; SD=1.046). This findings concur with a lot of scholars like Abdulwahab and Ganguli (2017); Agarwal and Mittal (2014); Akenga and Olang (2017); Borhan *et al*.(2014); Kumara and Satyanarayana (2013); Ntuli (2017); Oghuvwu and Omoye (2016); Omah *et al.* (2013); Yanan *et al*. (2016) who found that role of M&A is to increase financial performance of the merged entities. It is clear from the foregoing discussion that, M&A within the chemical industry in SA are not different from those that are happening elsewhere in the world when it comes to their aim of increasing financial performance, increasing operational synergy and increasing the economies of scale.

8.2 MULTIVARIATE RESULTS DISCUSSION

After the factor analysis was performed, the variable, non-financial performance was dropped as some of its items were cross loading on some of the variables. The structure of the instrument was then changed with some of the items falling on new variables altogether. In addition, two variables; economies of scale and synergy motive were created. These variables were mainly constituted of the scores from the original variable synergy. The naming of the new variables was based on the rule suggested by (Williams *et al*., 2010). Williams *et al*. (2010) rule underline that, during interpretation of factor analysis, the researcher must determine the variables that are attributed to a new factor and assign a name, or a theme based on the first two high loading scores. The below new hypotheses were developed.

H_1: M&A have a positive impact on the economies of scales of companies within the chemical industry in South Africa.

H_2: M&A result in the increased financial performance of companies within the chemical industry.

H_3: Motive of M&A has positive impact on performance of M&A.

H_4: Synergy motive has a positive impact on performance of M&A

8.2.1 Objective One: Establish the Role of M&A on Financial Performance of the Companies within the Chemical Industry in SA

The first objective was to examine the role of M&A on the financial performance of companies within the chemical industry in SA. This objective is associated with the below hypothesis:

H_1: M&A result in the increased financial performance of companies within the chemical industry.

This objective was achieved by asking the respondents about the impact of M&A on liquidity, profitability, sales growth, capital market and cash flow. The results demonstrate 55.4 percent of the respondents agree that M&A are done to achieve increase in sales growth. Rahman and Lambkin (2015) assert that, sales growth is a demonstration of increased customer base, adding of new lines, and new products. Sales growth also influences the profitability of the organisation. This finding agrees with Ahmed and Ahmed (2014); Akenga and Olang (2017), who have contend that, one of the motives behind M&A is to achieve and increase financial performance These results concur with Ogada *et al*. (2016) whose findings revealed that M&A helped the banks in Kenya experienced improved financial performance through the financial synergy. The study further revealed that half of the respondents agree that M&A increased liquidity, whilst 53 percent of respondents agree that M&A have a positive impact on profitability. These findings agree with the findings by Ogada *et al*. (2016) which revealed that financial performance improved with regards to profitability and liquidity. In their study, Akenga and Olang (2017) also found that M&A increased shareholders' value. The opposite findings against the findings of this study is that of Ashfaq *et al*. (2014); Gupta and Banerjee (2017); who found in their study that M&A deteriorated the financial performance. In the same token, Abbas *et al.* (2014) reported that M&A do not improve financial performance of a company post-merger and acquisition transaction. Abbas *et al.* (2014) reported that there was no significant difference between pre and post M&A on financial performance based on the information collected using accounting and financial data. It is clear from the foregoing discussion that there are alternative views on the impact of M&A on the financial performance of companies. It is also evident that different methods and different parameters are used to measure financial performance. The different methods used to measure financial performance, include amongst others, accounting, and financial data. It is therefore imperative when reporting and interpreting the results, that one takes cognisance of the fact that the method used might influence the outcome.

8.2.2 Objective Two: Determine the Role of M&A on the Non-Financial Performance.

This objective was to evaluate the role of M&A on non-financial performance of companies within the chemical industry in SA. This objective is based on the original hypothesis below which was not tested.

H_2: M&A increases non-financial performance of companies within the SA chemical industry.

The variable measuring this objective was not analysed beyond factor analysis as it was dropped. The reason for dropping this variable is that its scores were not loading enough and only two items that loaded on the financial performance variable used under financial performance variable. The reason for dropping these scores is based on the rule of thumb which states that factor loading during factor analysis that have values of less than 0.5 are not fit to be included in analysis (Hair *et al*., 2014).

8.2.3 Objective Three: The Role of M&A in Creating Synergy in Companies within the Chemical Industry in SA

This objective was to establish the role of M&A on creating synergy in companies within the chemical industry in SA. After factor analysis was performed, this objective was renamed using the first three top loading items into role of M&A in creating economies of scale in companies within the chemical industry (Hair *et al.,* 2014).

The original hypothesis was:

H_2: M&A result in the increased synergy within the SA chemical industry.

The resulting new variables resulted in the new developed hypotheses below, after factor analysis was performed.

H$_2$: Synergy motive has a positive impact on performance of M&A.

The results of the synergy motive demonstrate that over three quarters (76.8%) of the respondents agree that through M&A, their entities increased operational synergies. Taher *et al*. (2016) state that operational synergy is when the merged entity decides to cut back on investment expenditure. The results are in agreement with the findings by Pathak (2006) that, through M&A, companies are able to benefit from operational synergy. Operational synergy benefits the shareholders as the combined assets become much more effective on mergers within the same industry. The combination of assets results on the increase of monopoly power within the industry (Salama, 2015). The results further demonstrate that almost 70 percent (69.6 percent) of the respondents agree that the motive behind M&A was to gain financial synergies. Financial synergy occurs when two merged organisations combined their cash flows to achieve lower cost of capital. Parimala and Kalaiselvi (2015) further state that tax savings from two merged organisations produces financial synergy. Yousef (2016) further states that financial synergy results from tax benefits, corresponding growth opportunities and debt consolidation.

These results are in agreement with the findings by Ogada *et at*. (2016); Parimala and Kalaiselvi (2015), whose results revealed that M&A result in financial synergy. Lastly, the results demonstrate that 62.5% of the managers that took part in the survey agree that the motive behind M&A was to benefit from managerial synergies. Parimala and Kalaiselvi (2015) state that managerial synergy occurs when the management of a performing organisation identifies an organisation with management that is underperforming and decide to take over the organisation in order to put the organisational resources into better use. The aim of acquiring an underperforming organisation is to use the excess resources of the performing organisation to improve efficiency and performance of the underperforming organisation (Nouwen, 2012; Parimala and Kalaiselvi, 2015). Although the findings of this study reveal that M&A result in different types of synergy, they are against the findings by Wadhwa and Syamala (2015) whose results revealed that at return on assets level there was no synergy created due to a merger. It is evident from the above discussion that the aspect synergy creation due to M&A might be influenced by certain aspects of the merging entities.

H$_3$: M&A increase the economies of scale of companies within the chemical industry in South Africa.

The success of the pursuit economies of scale in M&A is seen in the reduction of redundancy in auditing services, accounting services, personnel, managerial efficiencies, and office space. The results of the study demonstrate that 59 percent of the respondents agree that their companies benefited from the economies of scale due to reduction of redundancy in accounting services. Redundancy in accounting services is achieved via combination of business functions from the two merging companies (Kangueehi, 2015). Over half (55 percent) of the respondents were in agreement that M&A benefited their companies through reduction of redundancy in auditing services and managerial inefficiencies. Reduction in managerial inefficiencies most happens during the post-integration phase where the acquirer would want to impose its control over the target (Iroanya, and Njingolo, 2017). The results of this study show that M&A in the South African chemical industry are done to increase economies of scale. These results are in agreement with the Allahar (2015); Ianenkova, and Solesvik (2016) who believe that companies engage in M&A to increase economies of scale. Economies of scale happen when companies combine their asserts to take advantage of reduced costs due to an increase in product scale (De Graaf and Pienaar, 2013).

In the manufacturing world, there is a belief that the larger the size, the better it is for the entity. Companies are seeking economies of scale as through this method, the company can reduce the average unit cost per unit. The average unit cost reduction is achieved by increase in the production output (Sharma and Goswami, 2017). Mergers and acquisitions are meant to spread fixed costs over a large volume of production, triggering the decline in the unit cost of production (Sharma and Goswami, 2017). The findings by Grigorieva and Petrunina (2013); Gupta (2012); Reddy and Natekar (2015) support the evidence from this study as their study revealed that M&A are meant to increase the economies of scale. According to Hitt *et al*. (2015), the economies of scale achieved through horizontal mergers. De Graaf and Pienaar (2013) further affirm that economies of scale result from redundancy caused by personnel, office, space, accounting, and auditing services. M&A can also bring about the reduction of redundancy in distribution, research and development and management control (De Graaf and Pienaar, 2013). The merger can result in the formation of one single brand, which can lead to reduced advertising costs. It is evident from the results that companies in SA chemical embark on horizontal mergers and acquisitions as these type of mergers result on increased economies of scale.

8.2.4 Objective Four: Determine the Motives of M&A within the Chemical Industry in SA

The aim of this objective was to establish the motives behind M&A in the chemical industry in SA. This objective is associated with the hypothesis below.

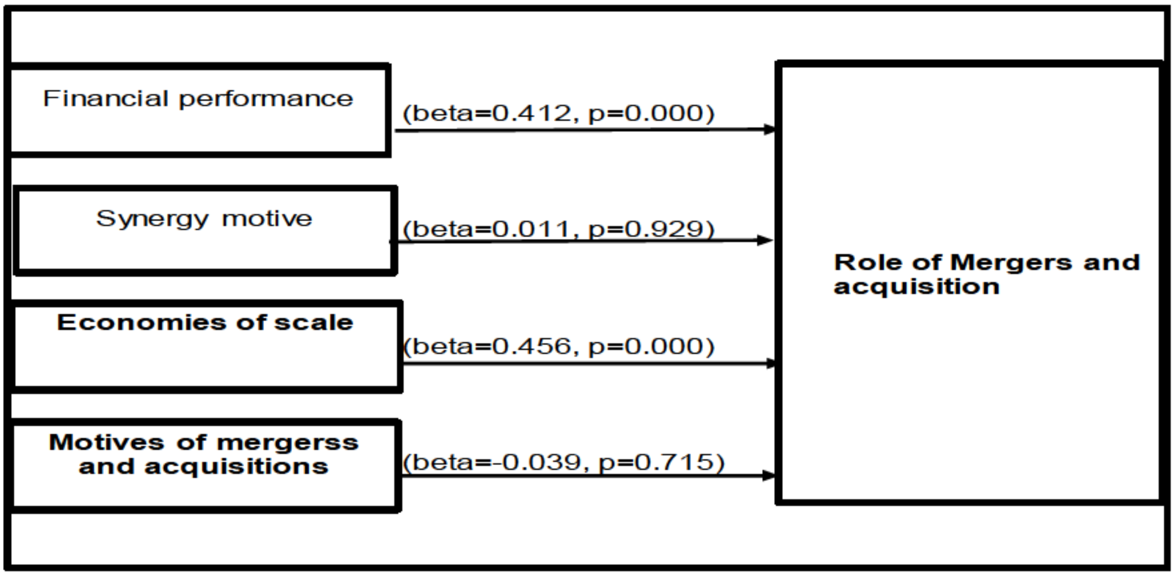
H_4: M&A motives contribute to the increased performance of companies within the SA chemical industry.

This variable had original nine items and some of the items were dropped as they loaded highly on a new variable called synergy motive, as a result four scores were retained. Hair *et al.* (2014) mention that during factor analysis, some of the factors might be dropped whilst some new factors might be established. The naming of the newly established variable is based on the top three high loading items and the minimum factor loading is 0.5 (Hair *et al.*, 2014). The results demonstrated that 53 percent of the respondents agree that, the motive behind chemical industry in SA is to maximise manager's utility. This demonstrates that there is an element within the SA chemical industry of mangers wanting to increase their empire at the expense of the shareholders. This further show that executives within the chemical industry are involved in transactions that do not bring any value to the shareholders. In the same token, Goel and Thakor (2010) revealed that greedy executives usually engage in unprofitable acquisitions for the sake of increasing their benefits as opposed to those of shareholders. Goel and Thakor (2010); Ndura (2010) further corroborate that selfish managers are in conflict with the objectives of the company of increasing value of shareholders and instead they put their interest ahead of those of shareholders.

8.2.5 Objective Five: To Recommend the Model that can be used in M&A of Companies within the Chemical Industry in SA

The last objective was to develop a model that can be recommended for use by mangers who want to embark on a M&A decision within the SA chemical industry. Figure 8.1 demonstrates that both economies of scale and financial performance are significant contributors to the model. In addition, both these constructs demonstrate the strongest unique contribution with (Beta = 0.456) for economies of scale and with (Beta = 0.412) for financial performance. The results of this model concur with most of the studies that have been conducted, which demonstrate that M&A are done to gain economies of scale DePamphilis (2014); Zhanga *et al*. (2018) and increase financial performance (Akenga and Olang, 2017; Maroof, Shah, and Ahmad, 2017; Savovic, 2016). Financial performance might be achieved through increased profitability, liquidity, capital market cash flow, sales growth, market share, customers, and market power (Borhan *et al*., 2014; Krishnakumar and Sethi, 2012; Mahesh and Prasad, 2012; Trautwein, 1990). The results on financial performance are contrary though to those of Ashfaq *et al*. (2014); Bhardwaj and Bisht (2016); Inoti *et al* (2014) who reported that the performance pre-merger and post-merger did not improve.

Figure 8.1: Model of the study



On the other hand, achieving economies of scale might be done through reduction of redundancy in personnel, office space, accounting services, auditing services and managerial efficiencies (Parimala and Kalaiselvi, 2015). In as much as the synergy motive shows insignificant contribution, it however shows a weak but positive contribution to the model with (Beta = 0.011). The results are contrary to most of the studies which have demonstrated that M&A are done to achieve synergy (Fiorentino and Garzella, 2014). Synergy is when the performance of two companies is much greater than the output of the two companies on their own. The view by Rahman and Lambkin (2015) is that synergy in M&A is realised when companies are involved in horizontal mergers. On the other hand, Borhan *et al*. (2014) warns executives that they should be careful in embarking on vertical M&A as it is difficult to accrue synergy in vertical M&A. On the same token as Borhan *et al*. (2014), may be most companies that embarked on M&A under the period in review in the chemical industry in SA were mainly engaged in vertical mergers hence there is no synergy realized. The implication of the results of this study is that M&A within the chemical industry in South Africa are likely done to achieve economies of scale and increase financial performance. This model must be used and interpreted in relation to the M&A in the chemical industry in South Africa. It is evident from the literature that there are contrasting views with regards to M&A contributing to economies of scale and increasing financial performance. The opposing views are because of different methodologies and variables that are used to measure economies and financial performance. It is clear though that with the SA chemical industry, M&A contribute to increasing economies of scale and financial performance.

8.3 CHAPTER SUMMARY

Findings presented in chapter six were discussed in this chapter. The findings were discussed using support from literature review and comparing it with findings from studies done by various scholars. It was evident from this chapter that different methods and different parameters are used to measure financial performance. The different methods used to measure financial performance, include amongst others, accounting, and financial data. It is therefore imperative when reporting and interpreting the results, that one takes cognisance of the fact that the method used might influence the outcomes. The results show that both economies of scale and financial performance are significant contributors to the model. In addition, both these constructs demonstrate the strongest unique contribution with (Beta = 0.456) for economies of scale and with (Beta = 0.412) for financial performance. The resulting model to be used as a guideline for M&A in SA within the Chemical industry was also presented. The following chapter summarises the study and further makes recommendations based on the study. The chapter states the limitations of the study and identify contribution of the study.

CHAPTER NINE:
CONCLUSION, RECOMMENDATIONS AND FUTURE RESEARCH

9 INTRODUCTION

The previous chapter discussed results and findings from the study. This was to answer the main aim of the study, which was to determine the role of M&A on performance of companies within the chemical industry in SA. The current chapter provides a conclusion of the study, followed by contributions made to the body of knowledge. The chapter will further highlight the managerial implications and state the limitations associated with the study. This chapter will further provide an outline of recommendations to the managers within the chemical industry on how to approach M&A and suggest areas for future research. Lastly, the chapter is going to give a final summary of the study.

9.1 SUMMARY OF THE RESULTS

The aim of this study was to determine the role of M&A on the performance of companies within the chemical industry in SA. Some of the hypotheses were developed based on literature reviewed and the results show that some variables were significant contributors and others show non-significant relationship.

9.2 CONCLUSION BASED ON LITERATURE REVIEWED

The theoretical objectives of the study were to survey the literature concerning theories used in M&A, methodologies used to measure M&A performance, motives of M&A, types of M&A, impact of M&A on different stake holders. The objectives of the study outlined in Chapter one, were extensively discussed as variables of the study in Chapter three. Furthermore, different schools of thought which inform scholars and practitioners on how to measure performance of M&A, using different methodologies were discussed in Chapter four. The discussion of different schools of thought lead to formulation of conceptual framework of the study. Further to conceptual framework of the study, the hypotheses of the study were formulated. It is clear from the literature reviewed that there are conflicting views on the role of M&A on the performance of companies post-merger. The literature demonstrate that some scholars believe that M&A do not improve financial performance of the company, whilst some believe that M&A improve performance of the company. The paradox on the role of M&A on performance is based on the fact that performance is a multidimensional variable. Secondly, the different methodologies and different measurement variables used to M&A performance differ, which in turn affects the manner in which M&A performance results are measured and reported. The literature also reveals that there a different motives that manger use to embark on merger decisions. These motives form core basis of M&A theories. Furthermore, majority are difficult to validate or there is lack of evidence to support them. The below section gives a conclusion of the study based on empirical results of this study.

9.3 CONCLUSION BASED ON EMPIRICAL RESULSTS

This section illustrates five conclusions that are derived from the empirical objectives as outlined in chapter one of this study. To realise the empirical objectives, this study formulated hypotheses in chapter five. Primary data collected from company executives and managers was subsequently utilised to test the hypotheses. Chapter six set the research methodology and data collection techniques which were utilised in this study. Multiple regression analysis was used to test the research data and to test statistical testing of the hypothesised relationships in this study. In closing, the contribution of the study, recommendations, and implications relating to the role of M&A on the performance of companies within the SA chemical industry are presented in this concluding chapter.

9.3.1 Objective One: Establish the Role of M&A on Financial Performance of the Companies within the Chemical Industry in SA

This objective was formulated to identify if M&A have an impact on the financial performance of companies within the chemical industry in SA. The findings of the hypothesis testing demonstrate that financial performance contributes significantly and positively to the model of the study, hence it is concluded that M&A in the SA chemical industry increase financial performance of companies post-merger. This finding concurs with the majority of scholars whose results demonstrated that M&A were done in order to increase financial performance, thereby contributing to shareholders' wealth.

9.3.2 Objective Two: Determine the Role of M&A on the Non-Financial Performance

Objective two was set to determine the role of M&A on the non-financial performance of companies within chemical industry in SA. This objective was dropped, hence not tested further as its items failed the factor analysis testing. Some of the items loaded positively onto other variables and others were dropped as they did not load positively (Hair *et al*., 2014).

9.3.3 Objective Three: The Tole of M&A in Creating Synergy in Companies within the Chemical Industry in SA

This objective intended to establish whether M&A create synergy for companies within the chemical industry in SA. After conducting factor analysis, this variable was broken into two factors, namely economies of scale and synergy motive. A significant and positive relationship was observed from the hypothesised relationship between economies of scale and the role of M&A in the SA chemical industry. It is therefore concluded that in the SA chemical industry, M&A result on increased economies of scale. Economies of scale happen when companies combine their asserts to take advantage of reduced costs due to an increase in product scale. Economies of scale are a result of reduction of costs due to redundancy caused to personnel, office, space, accounting, and auditing services. M&A can also bring about the reduction of redundancy in distribution, research and development and management control. On whether the synergy motive is the reason behind M&A, the results demonstrate positive but insignificant relationship between synergy motive and role of M&A. It can be concluded that the M&A in the SA chemical industry do not achieve efficiency. Furthermore, it is suggested that managers and executives within the chemical industry in SA, evaluate carefully on why they engage in M&A if they cannot create efficiency for the merged entity.

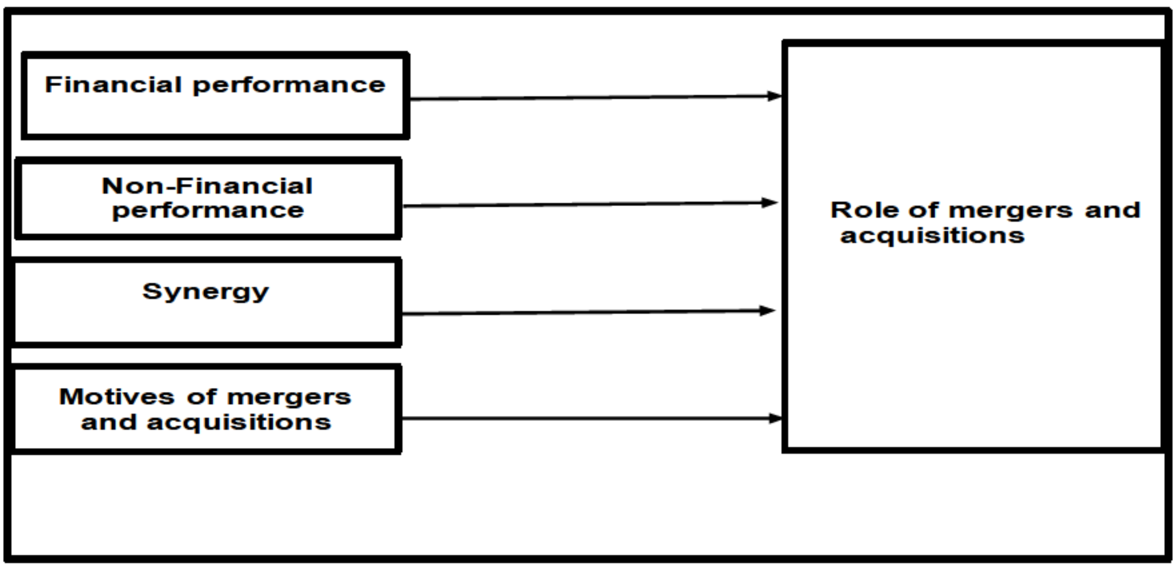
9.3.4 Objective Four: Determine the Motives of M&A within the Chemical Industry in SA

This objective on motives of M&A was meant to identify the theories applicable to M&A in the SA chemical industry context. The result of the hypothesised relationship between motive of M&A on the performance of companies and role of M&A was statistically insignificant. This results demonstrate that M&A decisions in the SA chemical industry are not anchored on any of the M&A theories. This is contrary to the view that theories are meant to put logic behind M&A and explain the theory behind M&A decision (Mohapatra, 2014). In addition, the results of the study are contrary to the findings by Huang and Ye (2018), which revealed that M&A theories remain relevant in explaining some M&A motives. Moreover, Huang and Ye (2018) revealed M&A decision in the Chinese internet companies were based on M&A theories their findings revealed that these transactions were meant to increase market competitiveness (monopoly theory), improving company value (efficiency theory), and agency motives (agency theory). It can be concluded that within the chemical industry in SA, M&A decisions are not anchored on any theory. It is therefore advised that managers and executives considering any merger or acquisition decision, consider the importance of the M&A as they guide decision - making in identifying whether the merger or acquisition decision will be beneficiary or not, to the shareholders.

9.3.5 Objective Five: to Recommend the Model that can be used when Making M&A Decision within the Chemical Industry in SA

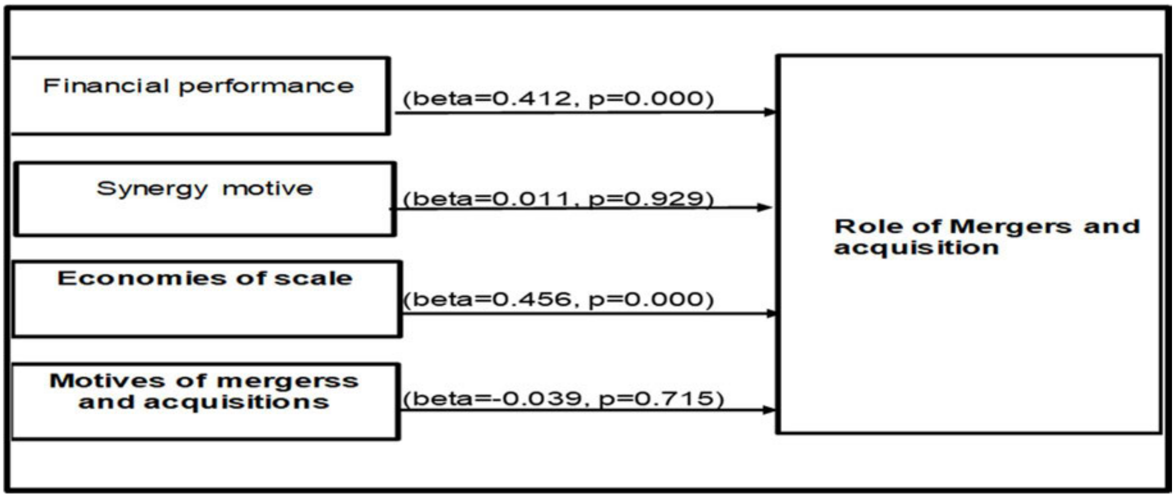
The intention of objective five was to recommend a model that can be used when making a M&A decision within the chemical industry in SA. This objective was met by developing a model for this study. Initially, the model was based on four hypothesised relationships as demonstrated in Figure 9.1

Figure 9.1: The original proposed model of the study



After the factor analysis, one variable, non-financial performance was dropped, and two variables economies of scale and synergy motive were developed. Based on the hypothesised relationships, it is evident from Figure 9.2, that economies of scale and financial performance show positive statistically significant relationship with the role of M&A. The results further show that economies of scale are the strongest contributor followed by financial performance. Whilst on the other hand, motive of M&A shows negative and insignificant relationship. Lastly, synergy motive demonstrated positive and insignificant relationship. Based on the proposed model, it can be concluded that the transactions that took place within the chemical industry in SA seek to contribute to the shareholders' wealth by increasing financial performance. It can be further concluded that transactions within the SA chemical industry were meant to increase economies of scale

Figure 9.2: The final proposed model of the study



9.4 CONTRIBUTIONS OF THE STUDY

Based on the empirical findings, this study contributes to:

9.4.1 Contribution of the Study to the Body of Knowledge

The study adds to the body of knowledge, the element of the SA chemical industry context to the M&A debate. It draws a link between theories of M&A and the empirical results within the South African chemical industry, which, as per the knowledge of the researcher, there is limited, or no work done before. The study developed a model that can be consulted by managers when embarking on M&A decision targeted to the South African chemical industry. Moreover, the research provides an opportunity to other researchers to further perform validity testing of the scale on a different industry or mixed industries.

9.4.2 Contribution of the Study to the M&A Process

The study used primary data collected from executives of merged companies using a structured questionnaire. This study further contributes to body of knowledge by using the multidimensional approach to determine M&A performance in a developing economy. This in support of the proclamation by Savovic (2016) who argues that the multidimensional approach of assessing performance within M&A, has been mainly applied in developed economies and has been extremely limited in developing economies. The study used a homogeneous sample by focussing on companies that are in the same industry and that are influenced by the same market or industry related factors.

9.4.3 Contribution of the Study to Management

The study recommended a model that can be used when considering venturing into an acquisition or merger within the South African chemical industry. The research is going to assist investors' decision making in determining whether there is value in investing within the chemical industry in SA.

9.4.4 Contribution of the study to Government Regarding M&A.

CompCom SA is tasked with regulating M&A, by ensuring that there are no obstructive business habits and exploitation of dominant positions through mergers. It is therefore imperative that the mergers happening in the chemical industry in SA are not against this task of CompCom SA and are meant to bring positive impact to the industry. Secondly, the knowledge of successes or failures of the M&A transactions within the South African chemical industry is essential as this industry is at the centre of the value chain that has a significant impact on the South African GDP. Hence, the knowledge would assist policy makers in terms of monitoring and ensuring that the transactions within the industry do not inhibit competition.

9.5 LIMITATIONS OF THE STUDY

The following limitations were detected:

- Some of the companies that were listed on the merger activity list by CompCom are no longer in existence, which meant that there is a missing pool of executives that were not contactable.
- In as much as the research wanted to have at least two people from each company, some companies nominated one person to complete the survey, and this was likely to have an impact on the sample size.
- Manager views were only collected from South African based executives and excluded the views from those companies that merger or acquisition was initiated by executives from outside the borders of SA. This may have presented the weakness on information provided on the questionnaire as the SA based executives might not have been the ones that initiated a merger or an acquisition.
- The sample size of the study presents a limitation as a small sample size limits the robustness of the results and generalizability of results.
- The time between the merger transaction in most cases is more than five years. This period of time is long such that some of the executives might experience difficulties in recalling some of the positive or negative outcomes of the merger and acquisition activities.

9.6 RECOMMENDATIONS

The purpose of this study was to identify the role of M&A on the performance of companies within the chemical industry in SA. The findings of the research revealed that there is a significant relationship between independent variables; financial performance and economies of scale and the dependent variable; role of M&A. Henceforth, it can be drawn from the empirical evidence of this study that the following recommendations are suggested as possible motives of M&A within the chemical industry in SA.

9.6.1 Financial Performance

This study posited that the financial performance is the key objective that managers use as a motive to acquire or merge with other entities. Hence, there will always be an interest on the role of M&A on the financial performance of merged entities. The findings of this study demonstrated that the role of M&A in the SA chemical industry is to increase the financial performance of companies, post-merger. It is thus, recommended that managers within SA chemical industry, must embark on M&A with the aim of increasing the financial performance of the merged entity. These mergers must aim at increasing the profitability of the merged companies, which in turn will increase shareholders' wealth.

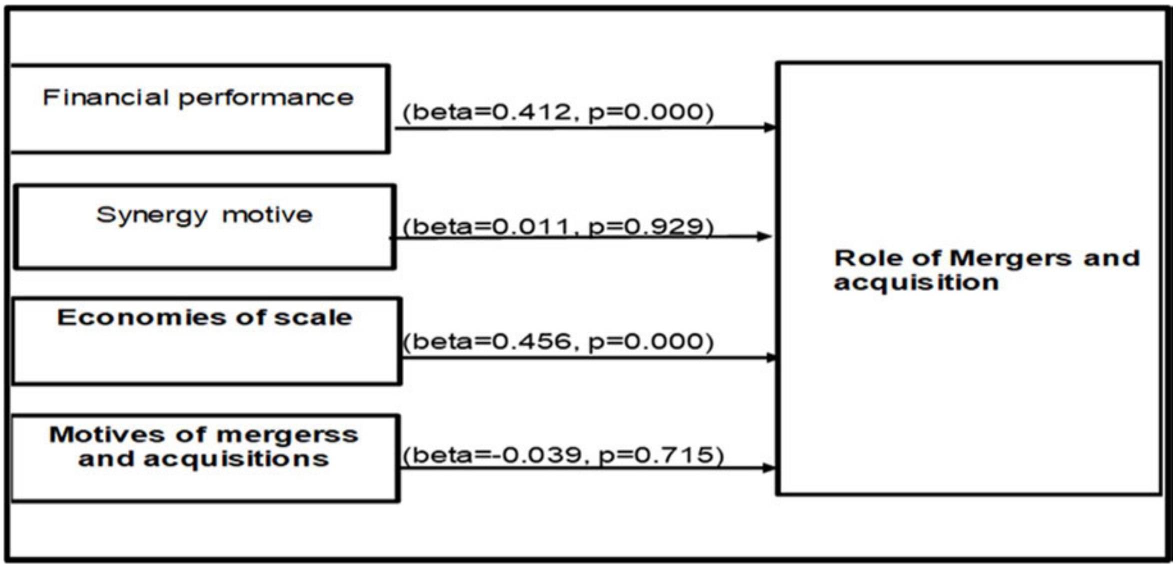
9.6.2 Economies of Scale

Economies of scale is defined as a scenario where a company, through a merger or an acquisition, achieves reduction of fixed costs by eliminating redundant departments and /or operations. Economies of scale are achieved when the mergers are done amongst companies that are operating on the same level of value chain within the industry. The results of this study revealed that, there is a positive and significant relationship between economies of scale and the role of M&A within the chemical industry in SA. It can, therefore, be put forward that managers within this industry must pursue M&A to achieve synergy when embarking on M&A. Furthermore, the achieved synergy will subsequently stimulate the increased economies of scale. It is further recommended that the merger transactions within the SA chemical industry must be done by those companies that are operating on the same level of the value chain, as well as competing for the same customers.

9.6.3 Model of the Study

This study intended to develop a model that can be used to make decisions when embarking on M&A in the chemical industry in SA. It can thus be recommended that the below model can be considered, with great caution as the sample of the study was small to have full confidence on the model.

Figure 9.3: Recommended model of the study



9.7 FUTURE RESEARCH

Future research on post-acquisition performance should be conducted using a larger sample. The future studies should also measure success using other methods so that empirical comparison of various performance measures can be carried out to determine whether there is a correlation between them. The future studies can further use the same instrument but target practitioners as respondents as they are also involved in a lot of M&A processes. Furthermore, future studies can consider using a homogeneous sample in terms of time horizon. This can be done by measuring the performance of companies within one window period, that is, if for example, ten years is considered as a time horizon of the sample study, then all the companies considered must have concluded their transactions within a period of ten years.

9.8 SUMMARY OF THE STUDY

The study is spread over 9 chapters. Chapter one opened this study by giving the background of the study and putting the SA chemical industry as the context of the study. In chapter two, the SA chemical industry, which forms the context of the study was reviewed. Following was chapter three, which discussed the background of M&A, different types of M&A, M&A performance measurement and methodologies used to measure M&A performance. Chapter three closed by outlining some of the methodologies used to measure M&A performance in SA. Chapter four presented the theoretical and empirical literature of M&A were discussed. Moreover, chapter four presented motives behind M&A decisions which are the bases of theories used in M&A. Different schools of thoughts used by different scholars and practitioners as a guide to establish framework to measure performance of M&A, were discussed in chapter five. Additionally, chapter five, created the hypotheses of the study as introduced in chapter one. These hypotheses led to the formulation of the conceptual framework of the study, which was also introduced in chapter one of this study. Chapter six discussed the research design, philosophy and the methodology adopted to conduct quantitative research methodology. Chapter seven presented and analysed the empirical results of the study, collected via closed ended questionnaire. Chapter eight discussed the empirical results of the study, pointing to either agreements or disagreement of the empirical results to the established literature. Lastly, chapter nine gave a summary of the entire study based on the objectives and aim of the study which were set in chapter one. Limitations of the study with regards to the sample size and different methodologies used to measure M&A performance were presented. Finally, contributions, recommendations, and suggestions for future research were made.

REFERENCES

Abbas, Q., Hunjra, A.I., Azam, R.I., Ijaz, M.S. and Zahid, M. (2014). Financial performance of banks in Pakistan after merger and acquisition. *Journal of Global Entrepreneurship Research,* 4(1), 1.

Abdulwahab, B.A., and Ganguli, S. (2017). The impact of mergers and acquisitions on financial performance of banks in the Kingdom of Bahrain during 2004-15. *Information Management and Business Review*, 9(4), 34-45.

AECI. (2017). *Integrated report and annual financial statements 2017*. [Online]: https://www.aeciworld.com/reports/ar-2017/pdf/full-iar.pdf [Accessed: 10 August 2019].

Agarwal, P., and Mittal, R. (2014). Mergers and acquisitions analysis with the case study method. *International Journal of Management and Commerce Innovations,* 2(1), 236-244.

Aggarwal, N., Budhlani, G., and Kohli, R. (2016). Mergers and acquisitions. *International Research Journal of Management Sociology and Humanity*, 7(5), 230-238.

Ahmed, M., and Ahmed, Z. (2014). Mergers and acquisitions: Effect on financial performance of manufacturing companies of Pakistan. *Middle East Journal of Scientific Research*, 21(4), 689-699.

Akenga, G.M., and Olang, M.A. (2017). Effect of mergers and acquisitions on financial performance of commercial banks in Kenya. *Journal of Business and Management,* 19(8), 85-90.

Akben-Selcuk, E. (2015). Do mergers and acquisitions create value for Turkish target firms? an event study analysis. *Procedia Economics and Finance*, 30, 15-21.

Al Marzooqi, O. (2015). Impact of different factors on organizational productivity-research methodology. *International Journal of Sales, Retailing and Marketing*, 4(8),110-138.

Allahar, H. (2015). An overview of key issues in mergers and acquisitions: A case of Trinidad and Tobago. *International Journal of Economics, Commerce and Management*, 3(8), 409-425.

Altaf, N. (2016). Economic value-added earnings: what explains market value in Indian firms? *Future Business Journal*, 2, 152-166.

Amihud, Y., and Lev, B. (1981). Risk reduction as a managerial motive for conglomerate mergers. *Bell Journal of Economics*. 12. 605-617.

Anderson, J., Sutherland, D., and Severe, S. (2015). 'An event study of home and host country patent generation in Chinese MNEs undertaking strategic asset acquisitions in developed markets.', *International Business Review*, 24 (5),758-771.

Andriuskevicius, K., and Ciegis, R. (2017). Developments and challenges of measuring M&A performance on a corporate and macroeconomic levels. *Oeconomia Copernicana*, *8*(2), 199 -220. doi: 10.24136/oc.v8i2.13

Angwin, D.N., and Meadows, M. (2015). New integration strategies for post-acquisition management. *Long Range Planning*, 48(2015), 235-251.

Anna, A. (2015). *Assessing the effects of mergers and acquisitions on the performance of a company: A case study of Guinness Ghana breweries limited.* Unpublished Master's Thesis. Accra: Kwame Nkrumah University of Science and Technology

Antoniadis, I., Alexandridis, A., and Sariannidis, N. (2014). Mergers and acquisitions in the Greek banking sector: An event study of a proposal. *International Conference on Applied Economics (ICOAE) 2014: Procedia Economics and Finance,* 14 (2014),13 -22.

Arnoldi, M. (2019). *M&A activity to rebound in 2019: Baker McKenzie*. [Online]: http://www.engineeringnews.co.za/article/ma-activity-to-rebound-in-2019-bakermckenzie-2019-01-25 [Accessed: 25 January 2019].

Arora, M. and Kumar, A. (2012). A Study on mergers and acquisitions-Its impact on management and employees. *Research Journal of Economics and Business Studies*, 1(5), 30-34.

Arvanitis, S., and Stucki, T. (2015). Do mergers and acquisitions among small and medium-sized enterprises affect the performance of acquiring firms? *International Small Business Journal, 33,* 752-773.

Ashfaq, K., Usman, M., Hanif, Z., and Yousaf, T. (2014). Investigating the impact of merger and acquisition on post-merger financial performance (relative and absolute) of companies (Evidence from non-financial sector of Pakistan). *International Journal of Academic Research in Business and Social Sciences*, 4(11), 258-281.

Azhagaiah, R., and Sathishkumar, T. (2014). Impact of merger and acquisitions on operating performance: evidence from manufacturing firms in India. *Managing Global Transitions,* 12(2),121-139.

Babbie, E. (2007). *The basics of social research*. Wadsworth, Canada: Wadsworth Cengage Learning.

Baniya, D., and Shah, M. (2016). *A study on the factors affecting merger and acquisition decision in Nepalese banking sector*. Unpublished Master's Thesis. Napalese: Agder

Baran, D., and Saikeviˇcius, D. (2015). Comparative analysis of mergers and acquisitions in the new member states of European Union. *Intellectual Economics*, 9 (2015) 1-7.

Bari, M.W., Fanchen, M., and Baloch, M.A. (2016). Management practices and performance of mergers and acquisitions in Pakistan: Mediating role of psychological contract. *Springer Plus*, 5:1527, 1-16.

Basmah, A. Q., and Rahatullah, M.K. (2013). Financial synergy in mergers and acquisitions in Saudi Arabia. *Finance-Challenges of the Future*, 15/2013, 181-192.

Bauer, F., and Matzler, K. (2014). Antecedents of M&A success: the role of strategic complimentary, cultural fit and degree and speed of integration. *Strategic Management Journal,* 35, 269-291.

Belz, T., Robinson, L., Ruf, M., and Steffens, C. (2013). Tax Avoidance as a driver of mergers and acquisitions. *SSRN Electronic Journal*. 10.2139/ssrn.2371706.

Bengtsson, L., and Larsson, R. (2012). Researching mergers and acquisitions with the case study method: idiographic understanding of longitudinal integration processes. *Center for Strategic Innovation Studies Electronic, Working Paper Series Paper No. 2012/4, Blekinge Institute of Technology*.

Berkovitch, E., and Narayanan, M. (1993). Motives for takeovers: An empirical investigation. *Journal of Financial and Quantitative Analysis*, 28(3), 347-362

Bhagwan, V., Grobbelaar, S.S., and Bam, W.G. (2018). A systematic review of the due diligence stage of mergers and acquisitions: Towards a conceptual framework. *South African Journal of Industrial Engineering November,* 29(3), 217-234

Bhardwaj, A., and Bisht, K. (2016). Analysis of mergers and acquisitions in Oil and Gas sector in India and its impact on operating and financial performance*. Advance Research Journal of Multidisciplinary Discoveries,* 7(4), 22-28*.*

Bhattacharyya, S., and Nain, A. (2011). Horizontal acquisitions and buying power: A product market analysis. *Journal of Financial Economics*, 99 (1), 97-115.
Bigliardi, B. (2013). The effect of innovation on financial performance: A research study involving SMEs innovation. *Management, Policy and Practice* 15(2), 245–256. http://dx.doi.org/10.5172/impp.2013.15.2.245.
Bild, M., Guest, P., Cost, A., and Runsten, M. (2002). *Do takeovers create value? a residual income approach on U.K. data*. ESRC Centre for Business Research, University of Cambridge Working Paper No. 252
Billett, M. T., and Qian, Y. (2008). Are overconfident CEOs born or made? Evidence of self-attribution bias from frequent acquirers. *Management Science*,*54*(6), 1037-1051.
Birkinshaw, J., Bresman, H., and Hakanson, L. (2000). Managing the post-acquisition integration process: how the human integration and task integration processes interact to foster value creation. *Journal of Management Studies*, 37(3), 395-425.
Boateng, A., Qian, W., and Tianle, Y. (2008). Cross-border M&As by Chinese firms: An analysis of strategic motives and performance. *Thunderbird International Business Review*, 50(4), 259-270.
Borhan, H., Mohamed, R. N., and Azmi, N. (2014). The impact of financial ratios on the financial performance of a chemical company: the case of LyondellBasell Industries. *World Journal of Entrepreneurship, Management and Sustainable Development,* 10(2), 154-160.
Bortoluzzo, A.B., De Siqueira Garcia, M.P., Boehe, D.M., and Sheng, H.H. (2014). Performance in cross-border mergers and acquisitions: An empirical analysis of the Brazilian case. *Revista de Administração de Empresas*, 54(6), 659-671.
Bower, J. L. (2001). Not all M&As are alike-and that matters. *Harvard Business Review* 79(3), 92-101.
Bowman, E.H., Singh, H., Useem, M., and Bhadury, R. (1999). When does restructuring improve economic performance? *California Management Review*, 41(2), 34-54.
Bradley, N. (2013). *Marketing research: tools and techniques*. (3rd ed.). United Kingdom: Oxford University Press.
Bryman, A. and Bell, E. (2015). *Business Research Methods. (*3rd ed). Oxford university press

Burger, S. (2019). *Chemicals sector crucial for South Africa's industrialisation*. Online: **https://**www.engineeringnews.co.za/article/chemical-sector-crucial-to-industrialisation-sustainability-focus-can-accelerate-growth-2019-03-06/rep_id:4136 Accessed: 10 October 2020

Burns, A.C. and Bush, R.F. (2012). *Marketing research: using microsoft excel data analysis,* (3rd ed.). New Jersey: Pearson.

Calipha, R., Tarba, S., and Brock, D. (2010). Mergers and acquisitions: A review of phases, motives, and success factors. *Advances in Mergers and Acquisitions*, 9, 1-24.

Campa, J. M., and Hernando, I. (2006). M&A performance in the European financial industry. *Journal of Banking& Finance,* 30(12), 3367–3392.

Cannella, A., and Hambrick, D. (1993). Effects of executive departures on the performance of acquired firms. *Strategic Management Journal:* 14, 137.

Cartwright, S., and Schoenberg, R. (2006). Thirty years of mergers and acquisitions research: recent advances and future opportunities. *British Journal of Management*, 17, S1-S5.

CHEManager. (2015). *Dow to merge Chlor-Alkali assets with Olin in $5 billion deal*. Available [Online]: https://www.chemanager-online.com/en/news-opinions/headlines/dow-merge-chlor-alkali-assets-olin-5-billion-deal [Accessed: 17 March 2018].

CHEManager. (2019). *Brenntag acquirers in South Africa and Taiwan*. [Online]: www.chemanager-online.com [Accessed: 10 November 2019].

Chemical Industry Education and Training Authority (CHIETA). (2018). *Sector skills plan for the Chemical industry*: Annual update 2019-2020.

Chen, W. (2018). *A dynamic model of mergers and acquisitions : Optimal payment methods.* Unpublished Doctoral Thesis. Sapporo: Hokkaido University

Chenhall, R. and Langfield-Smith, K. (2007). Multiple perspectives of performance measures. *European Management Journal*, 25 (4), 266-282.

Clark, P. (2013). Merger segmentation: An introduction. Adapted from Clark, P., and Mills, R. W. *Masterminding the deal: breakthroughs in M&A strategy and analysis*. London: Kogan Page.

Clarke, M., and Lovette, D. (2015). *How to conduct a successful acquisition search: A guide for strategic acquisition search*. [Online]:

www.thirdcoastca.com/pdfs/conducting_a_successful_acquisition_search.pdf [Accessed: 20 February 2019].

Clow, K.E., and James, K.E. (2014). Essentials of Marketing Research: Putting research into practice. United Kingdom: SAGE

Coispeau, O., and Luo, S. (2015). *Mergers and acquisitions and partnerships in China.* Singapore: World Scientific Publishing Company

Competition Commission of South Africa (CompCom SA) (n.d.). Merger and acquisition activity update. [Online]: http://www.compcom.co.za/merger-and-acquisition-activity-update [Accessed: 20 March 2017].

Cooper, D. R. and Schindler, P.A. (2014). *Business research methods*. 12th edition. New York: McGraw-Hill/Irwin.

Cording M., Christmann P., and Weigelt C. (2010). Measuring theoretically complex constructs: the case of acquisition performance, strategic organization, 8(1), 11-41.

Cox, R.A.K. (2006). Mergers and acquisitions: A review of the literature. *Corporate Ownership & Control*, 3(3), 55-59.

Creswell, J.W. (2014). *Research design: qualitative, quantitative, and mixed methods approaches.* 4th edition. International Student Edition. UK: SAGE Publications.

Creswell, J.W., Ebersohn, L., Eloff, I., Ferreira, R., Ivankova, N.V., Nieuwenhuis, J., Piertersen, J., Plano Clark, V.L. (2017). Ediotrs: Maree, K. *First steps in research*. 2nd edition. Pretoria: Van Schaik Publishers.

Cummins, J.D., and Xie, X. (2009). Market values and efficiency in US insurer acquisitions and divestitures. *Managerial Finance*, 35(2),128-155.

Daddikar, P., and Shaikh, A.R.H. (2014). Impact of mergers and acquisitions on surviving firm's financial performance: A study of Jet Airways Ltd. *Pacific Business Review International,* 6(8), 45-51

Datta, D., and Grant, J. (1990). Relationship between type of acquisition, the autonomy given to the acquired firm, and acquisition success: an empirical analysis. *Journal of Management*, 16(1), 29.

Davids, E. (2016). Market intelligence: Mergers and acquisitions in South Africa. *Law Business Research,* 3(8), 99-106

De Graaf, A., and Pienaar, A.J. (2013). Synergies in mergers and acquisitions: a critical review and synthesis of the leading valuation practices. *South African Journal of Accounting Research*, 27(1), 143-180.

Deloitte. (2017). *Global Chemical industry mergers and acquisitions outlook: in search of growth*. [Online] www.deloitte.com [Accessed: 10 March 2019]

Deloitte. (2018). *Global Chemical industry mergers and acquisitions outlook in search of growth.* [Online]: www.deloitte.com [Accessed: 10 March 2019].

Deo, M. (2012). Testing hubris hypothesis of mergers and acquisitions: Evidence from India. *Business & Management Quarterly Review*, 3(2), 48-58

De Oliveira Pamplona, E., and Rotela, P. (2013). Analysis of mergers and acquisitions in Brazilian companies. *African Journal of Business Management*, 7(26), 2621-2633

DePamphilis, D. (2010). *Mergers, acquisitions, and other restructuring activities*. Burlington: Academic Press Advanced Finance Series.

DePamphilis, D. (2014). *Mergers, acquisitions, and other restructuring activities: An integrated approach to process, tools, cases, and solutions.* Burlington: MA: Academic Press, Elsevier

Derashri, P. D. (2016). *A comparative study of financial performance before and after mergers and acquisitions of the selected Indian companies*.

De Villiers, C., Bezuidenhout, H., Grater, S. and Kleynhans, E.P.J. (20190. Determinants of cross-border mergers and acquisitions in the freight and logistics industry of South Africa. *Acta Commercii* 19(1), a725. https://doi.org/10.4102/ac.v19i1.725

Devos, E., Kadapakkam, P-R., and Krishnamurthy, S. (2009). How do mergers create value? A comparison of taxes, market power, and efficiency improvements as explanations for synergies. *The Review of Financial Studies*, 22(3),1179-1211.

Di Guardo, C., Harrigan, K.R., and Marku, E. (2015). Quantity at expense of quality? Measuring the effects of technological M&A on innovation and firm performance. *SSRN Electron Journal*.

Dlamini, S. (2017). Brenntag edges into the South African market merging four companies. [Online]. https://www.iol.co.za/business-report/companies [Accessed: 10 August 2019].

Dore, R. (2000). *Stock market capitalism: Welfare capitalism. Japan and Germany versus Anglo-Saxons*. New York: Oxford University Press.

Doukas, J., and Travlos, N. G. (2007). The effect of corporate multinationalism on shareholders' wealth: Evidence from international acquisitions. *The Journal of Finance*, *43*(5), 1161-1175.

Dow. (2017). DowDuPont merger successfully completed. [Online]: https://www.dow.com/en-us/news/press-releases/dowdupont-merger-successfully-completed.[Accessed: 10 September 2018].
Duchin, R., and Schmidt, B. (2013). Riding the merger wave: Uncertainty, reduced monitoring and bad acquisitions. *Journal of Financial Economics*, 107, 69-88.
Duggal, N. (2015). Post-merger performance of acquiring firms: A case study on Indian pharmaceutical industry. *International Journal of Research in Management and Business Studies*, 2(3), 24-28,
Ebimobowei, A., and Sophia, J.M. (2011). Mergers and acquisitions in the Nigerian banking industry: An explorative investigation. *The Social Sciences,* 6 (3), 213-220.
Eckbo, B.E. (1983). Horizontal mergers, collusion, and stockholder wealth. *Journal of Financial Economics*, 11(1), 241-273.
Efron, S. and Ravid, R. (2013). *Action research in education: a practical guide.* New York: The Guilford Press.
Etikan, I., Musa, S.A., and Alkassim, R.S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics,* 5(1),1-4.
Eun, C. S., and Resnick, B.G. (2007). *International Financial Management* (4th ed.). New York: McGraw-Hill Irwin.
Fang,T., Fridh,C., and Schultzberg,S. (2004). Why did the Telia–Telenor merger fail? *International Business Review*, 13(5), 573-594.
Fatima, T., and Shehzad, A. (2014). An analysis of impact of merger and acquisition of financial performance of banks: a case of Pakistan. *Journal of Poverty, Investment and Development*, 5, 29-36.
Fee, C.E., and Thomas, S. (2004). Sources of gains in horizontal takeovers: Evidence from customer, supplier, and rival Firms. *Journal of Financial Economics*, 74 (3), 423-460.
Fich, E., Starks, L., and Yore, A. (2008). CEO deal-making activities, CEO compensation, and firm value. Working paper, Drexel University and University of Texas-Austin.
Field, A. (2018). *Discovering statistics using IBM SPSS Statistics*.5th Ed. Los Angeles: SAGE.

Fiorentino, R., and Garzella, S. (2014). The synergy valuation models: towards the real value of mergers and acquisitions. *International Research Journal of Finance and Economics*, 124, 71-82.

Firer, C. (2012). *Fundamentals of corporate finance*. 1st ed. London: McGraw-Hill Higher Education.

Fouché, H. (2012). *Measuring value added: The case of the South African banking sector*. Unpublished Master's Dissertation. Potchefstroom: North-West University

Garmaise, L., Mark, J., and Moskowitz, T.J. (2006). Bank mergers and crime: The real and social effects of credit market competition. *The Journal of Finance,* LXI(2), 495-538.

Gattoufi, S., Al-Muharrami, S., and Al-Kiyumi, A. (2009). The impact of mergers and acquisitions on the efficiency of GCC banks. *Banks and Bank Systems*, 4(4), 94-101.

Gaughan, P. A. (2011) *Mergers, acquisitions, and corporate restructurings*. John Wiley and Sons.

George, D., and Mallery, P. (2016). *IBM SPSS Statistics 26 Step by Step: A Simple Guide and Reference*. 16th edition. Boston: Pearson

Ghosh, S., and Dutta, S. (2016). Mergers and acquisitions: A comparative review of literature. *Industrija*, 44(1),187-208.

Gill, J., Johnson, P., and Clark, M. (2010). *Research methods for managers*. SAGE Publications.

Gkountakou, E.I. (2017. *Hostile takeovers: An overview based on the U.S legislation and the directive 2004/25/EC on takeover bids*. Unpublished Master's Thesis. Thessaloniki, Greece: International Hellenic University.

Glaister, K.W., and Ahammad, M.F. (2010). Motives for cross border mergers and acquisitions: Perspective of UK firms. *Social Science Research Network:* [Online]: http://papers.ssrn.com/abstract=1549812 [Accessed: 1 October 2019].

Goel, A., and Thakor, A. (2010). Do envious CEOs cause merger waves? *Review of Financial Studies*, 23, 487-517.

Goergen, M., and Renneboog, L. (2004). Shareholder wealth effects of European domestic and cross-border takeover bids. *European Financial Management,* 10 (1), 9-45.

Gold, S., Seuring, S., and Beske, P. (2010). Sustainable supply chain management and inter-organizational resources: A literature review. *Corporate Social Responsibility and Environmental Management, 17*, 230-245.

Golubov, A., Petmezas, D., Travlos, N.G. (2012). *Empirical mergers and acquisitions research: A review of methods, evidence and managerial implications. This chapter will appear in Handbook of Research Methods and Applications in Empirical Finance* edited by Bell, A., Brooks, C., and Prokopczuk, M. to be published by Edward Elgar.

Gorard, S. (2015). *Research Design: Creating robust approaches for the social sciences.* London: SAGE Publications Ltd.

Gorard, S. (2015). *Research design, as independent of methods.* Thousand Oaks: SAGE Publications, Inc.

Gort, M. (1969). An economic disturbance theory of mergers. *Quarterly Journal of Economics*, 83, 623-642.

Gorton, G., Kahl, M., and Rosen, R. J. (2009). Eat or be eaten: A theory of mergers and firm size. *Journal of Finance*, 64, 1291-1344.

Graebner, M.E., Heimeriks, K.H., Huy, Q. N., and Vaara, E. (2014). The process of post-merger integration: A review and agenda for future research. *Academy of Management Annals*. ANNALS-2014-0078.R4:1-82.

Grigorieva, S., and Petrunina, T. (2013). *The performance of mergers and acquisitions in emerging capital markets: new evidence*. Working paper. National Research University Higher School of Economics.

Grill, P., and Bresser, R.K. F. (2011). Resource-based theory and mergers & acquisitions success, Diskussionsbeiträge, No. 2011/26, Freie Universität Berlin, Fachbereich Wirtschaftswissenschaft, Berlin.

Guest, P., Bild, M., and Runsten, M. (2010). The effect of takeovers on the fundamental value of acquirers. *Accounting and Business Research*, 40(4), 333-352.

Guilding, C. (2014). *Accounting essential for hospitality managers*. 3rd ed. United Kingdom: Routledge

Gumede, P. (2009). The short run impact of acquisitions o shareholder value during the economic downturn for acquiring JSE listed companies. Unpublished Masters' Dissertation. Pretoria: University of Pretoria.

Gupta, B., and Banerjee, P. (2017). Impact of merger and acquisitions on financial performance: Evidence from selected companies in India. *International Journal of*

Commerce and Management Research, IMS Business School Presents Doctoral Colloquium- 2017, 14-19.
Gupta, P.K. (2012). Mergers and Acquisitions (M&A): the strategic concepts for the nuptials of corporate sector. *Innovative Journal of Business and Management*, 2012, 60-68.
Guzey, Y., and Tasseven, O. (2012). Business cycle modelling: the case of mergers and acquisitions. *African Journal of Business Management,* 6(27):8010-8017.
Haeruddin, M.I.M. (2017). Mergers and acquisitions: quo vadis? *Management*, 7(2), 84-88.
Hair, F. H., Black, W. C., Babin, B. J., and Anderson, R. E. (2014). *Multivariate data analysis,* 7th edn. Pearson-Prentice Hall.
Halfar, D.B. (2011). The effect of mergers and acquisitions on long-run financial performance of acquiring companies. Unpublished Masters' Dissertation. Pretoria: University of Pretoria
Hamza, T., Sghaier, A., and Thraya, M.F. (2016). How do takeovers create synergies? Evidence from France. *Studies in Business and Economics*, 11(1), 54-72.
Hankir, Y., Rauch, C., and Umber, M. P. (2011). Bank M&A: A market power story? *Journal of Banking & Finance*, *35*(9), 2341-2354.
Harford, J. (2005), What drives merger waves? *Journal of Financial Economics*, 77, 529-560.
Harrison, J. S., & Wicks, A. C. (2013). Stakeholder theory, value, and firm performance. *Business Ethics Quarterly, 23*(1), 97-124.
Harvey, S.K. (2015). **T**he role of mergers and acquisitions in firm performance: a Ghanaian case study. *Journal of Applied Business and Economics*, 17(1),66-77.
Hassan, I. (2013*). Impact of business evaluation process on mergers and acquisitions outcome*. Unpublished Doctoral Thesis. London: King's College London
Hellgren, B., Lowstedt, J., and Werr, A. (2011). The reproduction of efficiency theory: the construction of the AstraZeneca merger in the public discourse. *International Journal of Business and Management*, 6(5),16-27.
Henseler, J. (2017). Bridging design and behavioral research with variance-based structural equation modelling. *Journal of Advertising, 46*(1), 178 -192.
Hill, C.W.L., Schilling, M.A., and Jones, G.R. (2017). *Strategic Management Theory.* 12th edition. USA: Cengage Learning

Hitt, M.A., Ireland, R.D. and Hoskisson, R.E. (2015). *Strategic management: competitiveness and globalization: concepts and cases*. USA: Cengage Learning.
Holderness, C.G., and Sheehan, D.P. (1985). Raiders or saviors? The evidence on six controversial investors. *Journal of Financial Economics*, 14(4), 555-555.
Houwers, R. (2016). M&A failure factors. Unpublished Master’s thesis: University of Twente.
Howell, K. E. (2013). *An introduction to the philosophy of methodology*. London: SAGE Publications Ltd.
Howes, M. (2018). Linking paradigms and practice: Key issues in the appraisal, monitoring and evaluation of British NGO projects. *Journal of International Development.* 4 (4), 375-396. Find this one
Howson, P. (2016). *Commercial due diligence: The key to understanding value in an acquisition*. London: CRC Press.
Huang, H-H., Chan, M-L., Huang, I-H., and Wu, K-H. (2014). Operating performance following acquisitions: evidence from Taiwan’s IT industry. *Asia-Pacific Journal of Financial Studies,* 43, 739-766.
Huang, Z., and Ye, X. (2018). Analysis of merger & acquisitions motivation and post-performance of internet corporations in China - A case study of Youku merger with Tudou. Asian B&R Conference on International Business Cooperation (ISBCD 2018). *Advances in Economics, Business and Management Research*, 58,132-137
Huh, K. S. (2015). The performance of acquired firms in the steel industry: Do financial institutions cause bubbles? *The Quarterly Review of Economics and Finance.* 58 (2), 142-153.
Huyghebaert, N., and Luypaert, M. (2010). Antecedents of growth through mergers and acquisitions: Empirical results from Belgium. *Journal of Business Research*, 63(4):392-403.
Huyghebaert, N., and Luypaert, M. (2013). Sources of synergy realization in mergers and acquisitions: empirical evidence from non-serial acquirers in Europe. *International Journal of Financial Research Vol*, 4 (2), 49-67.
Ianenkova, I.G., and Solesvik, M.Z. (2016). Mergers and acquisitions in Ukraine and worldwide: Analysisi of recent trends. *Forum Scientiae Oeconomia*, 4 (2016), 439-52.
Inoti, G.G., Onyuma, S.O., and Muiru, M.W. (2014). Impact of acquisitions on the financial performance of the acquiring companies in Kenya: a case study of listed

acquiring firms at the Nairobi securities exchange. *Journal of Finance and Accounting,* 2(5),108-115.
Ireland, D. R., Hoskisson, R. E., and Hitt, M. A. (2013). The management of strategy: Concepts and cases (10th Inter). Cengage Learning.
IrfanShakoor, M., Nawaz, M., Zulqarnain A. M., and Khan, W. A. (2014). Do mergers and acquisitions vacillate the banks performance? evidence from Pakistan banking sector. *Research Journal of Finance and Accounting, 5,* 123-137.
Iroanya, R.O., and Njingolo, B. (2017). Mergers and acquisitions (M&A) of municipal owned entities (MOEs) in South Africa: The case of Johannesburg City Parks and Zoo. *The 2nd Annual International Conference on Public Administration and Development Alternatives* 26 - 28 July 2017, Tlotlo Hotel, Gaborone, Botswana.
Ismail, A. (2005). M&As motives: Evidence from the European financial services industry. *Investment Management and Financial Innovations*, 2(4), 137-150.
Izquierdo, I., Olea, J., and José Abad, F. (2014). Exploratory factor analysis in validation studies: Uses and recommendations. *Psicothema*, 26(3), 395-400.
Jabeen, S.R., Alekam, J.M.E., Aldaoud, K.A.M., Mat, N.K.N., Zureigat, B.N.I., Nahi, A.K., Hassan, A.M.F.J. (2013). Antecedents of Firm's performance. Empirical evidence from Yemeni. *American Journal of Economics,* 3(1), 18-22.
Jain, S., Dubev, S., and Jain, S. (2016). Designing and validation of questionnaire. *International Dental and Medical Journal of Advanced Research,* 2,1-3.
Jenner, F. (2019). Analyzing 15 years of past data might be the key factor to find the next wave of M&A consolidation in the chemical sector. [Online]: https://www.ey.com/en_us/advanced-manufacturing/where-the-next-wave-of-consolidation-in-the-chemicals-sector-could-occur [Accessed: 1 October 2020]
Jensen, M.C. (2005). Agency costs of overvalued equity. *Financial Management*. 34(1), 5-1.
Jensen, M. C., and Meckling, W. H. (1986). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
Joash, G.O., and Njangiru, M.J. (2015). The effect of mergers and acquisitions on financial performance of banks (a survey of commercial banks in Kenya). *International Journal of Innovative Research and Development,* 4(8), 101-113.
Johannesburg Stock Exchange (JSE). (2019). *Market Regulation*. [Online]: https://www.jse.co.za/services/market-regulation [Accessed: 10 April 2019].

Johnstone, P.L. 2004. Mixed methods, mixed methodology. Health services research in practice. *Qualitative Health Research*, 14(2), 254-271.

Jonker, J., and Pennink, B.W. (20100. *The essence of research methodology: A concise guide for Master and PhD students in management science*. London: Springer

Joshi, A., Kale, S., Chandel, S., and Pal, D. K. (2015). Likert scale: Explored and explained. *British Journal of Applied Science & Technology*, 7(4), 396-403.

Jovanovic, B., and Rousseau, P. (2002). *Mergers as reallocation*. NBER Working Paper #9279.

Junge, L.H.M. (2014). Operating synergy types and their impact on post-merger performance. Unpublished Master's Thesis. Netherlands: Tilburg University.

Kala, J. (2017). *Merger waves and their effect on acquirer value creation*. Unpublished Master's Thesis. Lappeenranta University of Technology.

Kandžija, V., Filipović, D., and Kandžija, T. (2014). Impact of industry structure on success of mergers and acquisitions. *Technical Gazette,* 21(1), 17-25.

Kangueehi, N.C. (2015). *Mergers and acquisitions as a strategy for business growth: A comparative overview*. Unpublished Masters Dissertation. Cape Town: University of the Western Cape.

Kaplan, S.N. (2006). *Mergers and acquisitions: a financial economics perspective*. Prepared for the Antitrust Modernization Commission Economist's Roundtable on Merger Enforcement on January 19. 2006. University of Chicago Graduate School of Business.

Kapoor, R., and Lim, K. (2007). The impact of acquisitions on the productivity of inventors at semiconductor firms: a synthesis of knowledge-based and incentive-based perspectives. *Academy Management Journal*, 50(5):1133-1155.

Kar, R.N., and Soni, A. (2008). Mergers and acquisitions in India: A strategic impact analysis for the corporate enterprises in the post liberalization period. *IGIDR Working Paper Series,* WP -2008-31.

Kareem, A. O., Akinola, G.O., and Oke, E. A. (2014). Effect of mergers and acquisitions on employee development: The Nigerian banking industry experience. *Fountain Journal of Management and Social Sciences, 3*(2), 47-56.

Katsioloudes, M.I., and Hadjidakis, S. (2007). *International business: a global perspective.* Amsterdam: Butterworth-Heinemann.

Kazi, T.B., and Indermun, V. (2013). The impact of globalisation, mergers, acquisitions, reengineering and downsizing, on individuals and organisations in South Africa. *Interdisciplinary Journal of Contemporary Research in Business*, 5(6), 681-698.

Khan, H-U-Z., Halabi, A.K., and Khan, R. (2011). *Non-financial performance measures-organizational performance relationship in the Bangladeshi firms: The moderator role of environmental uncertainty and corporate culture*. Dhaka: Bangladesh.

Kiessling, T., and Harvey, M. (2006). The human resource management issues during an acquisition: the target firm’s top management team and key managers. *International Journal of Human Resource Management*, 17 (7), 1307-1320.

Kim, H-D., Lee, B-S., Lee, S.W., Park, K., and Jambal, K. (2015). The effect of corporate governance on post reverse merger survival. *Asia-Pacific Journal of Financial Studies,* 44, 811-848

Kim, J.Y., and Finkelstein, S. (2009). The effects of strategic and market complementarity on acquisition performance: Evidence from the U.S. commercial banking industry, 1989-2001. *Strategic Management Journal,* 30: 617-646.

Knoll, S. (2008). *Cross business synergies: A typology of cross-business synergies and a mid-range theory of continuous growth synergy realization.* 1st ed. Frankfurt: Springer.

Kothari, C.R. (2011). *Research methods: methods and techniques.* 2nd ed. New Delhi: New Age International (P) Limited Publishers.

Koi-Akrofi, G. Y. (2014). Motives for telecom mergers and acquisitions. *International Journal of Innovation and Applied Studies*, 9(4), 1809-1817.

Kotler, P., and Keller, K.L. (2012). *Marketing Management: Global Edition*. 14th ed. England: Pearson Education Limited.

Krishnakumar, D., and Sethi, M. (2012). Methodologies used to determine mergers and acquisitions' performance. *Academy of Accounting and Financial Studies Journal*, 16(3), 75-92.

Krug, J.A., and Aguile, R.V. (2005). Top management team turnover in mergers and acquisitions. *Advances in Mergers and Acquisitions*, 4,123-151

Kuchey, A.A., and Jan, A. (2017). Connecting financial performance of firms with merger and acquisitions through review of literature: *A global perspective. International Journal of Trend in Scientific Research and Development*, 1(5),899-911.

Kumara, M. N.V., and Satyanarayana, M. (2013). Comparative study of pre and post corporate integration through mergers and acquisition. *International Journal of Business and Management Invention,* 2(3),31-38.

Ladkani, R.M., and Banerjee, A. (2018). Emerging market bidder returns and the choice of payment method in mergers and acquisitions: Evidence from India. *Journal of Emerging Market Finance,* 17(3),386-411.

Lai, K.Y., Ling, T.P., Eng, T.K., Cheng, L.S., and Ting, L.F. (2015). Financial performance of Malaysia local banks: During periods of pre-merger and post-merger. *Journal of Economics, Business and Management,* 3(9), 826-831.

Lakstutienea, A., Stankeviciene, J., Norvaisiene, R., and Narbutiene, J. (2015). The impact of acquisitions on corporate Performance Results during the period of economic slowdown: case of Lithuania. *20th International Scientific Conference Economics and Management Procedia - Social and Behavioral Sciences*, 213 (2015), 455 - 460.

Lasher, M.K., Nizam, I., and Hassan, Z. (2015). Maximizing growth value through mergers and acquisitions. *International Journal Accounting, Business and Management*, 3(2),1-17.

Lasserre, P. (2018). *Global strategic management*. 4th Ed. UK: Palgrave.

Leedy, P.D., and Ormrod, J.E. (2014). Practical research: Pearson new international edition. United Kingdom: Pearson

Leepsa, N.M., and Mishra, C.S. (2014). An examination of success of mergers and acquisitions in manufacturing sector in India using index score. *Annual Symposium on Management and Social Sciences.* August 29 – 31, 2014.

Leepsa, N.M., and Mishra, C.S. (2016). Theory and practice of mergers and acquisitions: Empirical evidence from Indian cases. *IIMS Journal of Management Science,* 7(2),179-194.

Leung, H., Tse, J., and Westerholm, P.J. (2018). CEO traders and corporate acquisitions. *Journal of Corporate Finance*, 54(2018): 107-127

Lev, B. 2001. *Intangibles: Management, measurement, and reporting*. Washington, DC: Brookings Institution.

Levi, M., Li, K., and Zhang, F. (2014). Director gender and mergers and acquisitions. *Journal of Corporate Finance*, 28 (2014), 185-200.

Lie, E. and Liu, Y. (2018). Corporate cash holdings and acquisitions. *Financial Management* , Spring 2018: 159-173.

Liu, J., and Fang, W. (2016). Factors affecting the M and A payment options. *2nd International Conference on Humanities and Social Science Research (ICHSSR 2016)*, 547-550.

Liu, Z., and Wang, Y. (2017). Effect of earnings management on economic value added: G20 and African countries study. *South African Journal of Economic and Management Sciences, 20*(1), 9 pages. doi: **https://doi.org/10.4102/sajems.v20i1.1247**

Liu, N., Wang, L., and Zhang, M. (2013). Corporate ownership, political connections and M&A: Empirical evidence from China. *Asian Economic* Papers, 12. 41-57.

Lubatkin, M. (1986). Mergers and the performance of the acquiring firm. *Academy of Management Review*, 8(2), 218-225.

Madisa, N. (2015). *Valuation of target companies in mergers and acquisitions: The case of Aspen pharmacare and Adcock Ingram*. Unpublished Masters Dissertation. Johannesburg: University of the Witwatersrand

Madura, J., Vasconcellos, G.M., and Kish, R.J. (1991). A valuation model for international acquisitions. *Management Decision*, 29(4)

Mahesh R., and Prasad, D. (2012). Post-merger and acquisition financial performance analysis: a case study of select Indian airline companies. *International Journal of Engineering and Management Sciences.* 3(3), 362-369.

Maisashvili, A., Bryant, H., Raulston, J.M., Knapek, G., Outlaw, J., and James Richard, J. (2016). Seed prices proposed mergers and acquisitions among biotech firms. *Agriculture and Applied Economics Association*, 31(4), 1-11.

Majozi, T. and Veldhuizen, P. 2015. The Chemical industry in South Africa. *American Institute of Chemical Engineers,* 46-51.

Makaew, T. (2012). *Waves of international mergers and acquisitions*. [Online]: http://ssrn.com/abstract=1786989 [Accessed: 3 October 2020).

Makhele, A.T. 2013. *The measurement of post-acquisition performance in RSA using economic value added (EVA).* Masters dissertation. Wits Business School.

Malgharni, A.M., Soomasundaram, N.R., and Multaiyah, S. (2010). Non-financial performance for firm's evaluation. *European Journal of Economics, Finance and Administrative Sciences,* 23(1),123-138.

Malik, M.F., Anuar, M.A., Khan, S. and Khan, F. 2014. Mergers and acquisitions: a conceptual review. *International Journal of Accounting and Financial Reporting*, 4(2),520-533.

Mallikarjunappa, T., and Nayak, P. (2013). A study of wealth effects of takeover announcements in India on target company shareholders. *Vikalpa*, 38(3), 23-49.

Malmendier, U., and Tate, G. (2015). Behavioral CEOs: The role of managerial overconfidence. *Journal of Economic Perspectives*, 29(4):37-60.

Mandiriza, T., Sithebe, T., and Viljoen, M. (2016). *An ex-post review of the Walmart / Massmart merger. Working paper CC2-16/03*. [Online]: http://www.compcom.co.za/wp-content/uploads/2016/11/CC201603-Mandiriza-T-Sithebe-T-and-Viljoen-M-2016-An-expost-evaluation-of-the-Walmart-Massmart-merger.pdf. [Accessed: 10 January 2019].

Maranan, S.E., Reyes, S.M.D., Amar, A.G., Balaguer, C.D., and Medina, S.A.F. (2019). Financial synergy on mergers and acquisition of commercial banks, *International Journal of Advanced Research and Publications*, 3(4), 10-14.

Maree, K., Creswell, J. W., Ebersohn, L., Eloff, I., Ferreira, R., Ivankova, N.V., Jansen, J. D., Niewenhuis, J., Pietersen, V. L. and Plano Clark, V. L. (2016). *First steps in research*. 2nd edition. Pretoria: Van Schaik.

Marks, M. L., and Mirvis, P. H. (2011). Merge ahead: a research agenda to increase merger and acquisition success. *Journal of Business and Psychology*, *26*(2),161-168.

Maroof, Z., Shah, S.M.A., and Ahmad, B. (2017). Does vertical integration strategy for merger and acquisitions a fruitful decision? An evidence from Pakistani merger market. *Academy of Accounting and Financial Studies Journal*, 21 (2), 1-31.

Martynova, M., and Renneboog, L. (2008). A century of corporate takeovers: what have we learned and where do we stand? Journal of Banking and Finance, 32(10), 2148-2177.

Media update. (2012). *Kansai Plascon Africa aligns the organisation to meet needs of its customers.* [Online]: https://www.mediaupdate.co.za/marketing/50687/kansai-plascon-africa-aligns-the-organisation-to-meet-needs-of-its-customers [Accessed: 12 January 2019].

Meixell, M. J., and Luoma, P. (2015). Stakeholder pressure in sustainable supply chain management: A systematic review. *International Journal of Physical Distribution & Logistics Management, 45*(1/2), 69-89.

Mellahi, K., Frynas, J.G., and Finlay, P. (2005). *Global strategic management*. New York: Oxford University Press.

Mensah, E., and Onumah, J. M. (2017). Mergers and acquisitions in the era of globalization: The Ghanaian experience. *Journal of Accounting and Finance*, 17(3), 96-114.

Mergermarket. (2014). *Deal driver Africa report* 2014. [Online]. http://mergermarketgroup.com/wp-content/uploads/2014/12/Deal-Drivers-Africa-2014-LR.pdf. [Accessed on 2 August 2019].

Miller, N. H., and Weinberg, M. C. (2016). The market power effects of a merger: evidence from the U.S. brewing industry*. Econometrica.* 85 (6), 1763-1791.

Mishra, P., and Jaiswal, N. (2017). Impact of mergers and acquisitions on firms' export competitiveness: Experience of Indian pharmaceutical industry. *South Asia Economic Journal*, 18(1),1–20.

Mjongwana, A., and Kamala, P.N. (2018). Non-financial performance measurement by small and medium sized enterprises operating in the hotel industry in the city of Cape Town. *African Journal of Hospitality, Tourism and Leisure*, 7(1), 1-26.

Mohapatra, J.K. (2014). Economic impact of mergers, its motives and consequences. A case of Indian aviation. *Pacific Business Review International*. 6(11),73-78

Moreno-García, E., Vargas-Hernández, J.G., García-Santillán, A., Santiago-Jiménez, L.M., and Hernández-Herrera, V.G. (2015). The merging process between firms and its influence in the economic value added: a comparative descriptive analysis. *Reports on Economics and Finance*, 1(1), 71- 88.

Motis, J. (2007). *Mergers and acquisitions motives.* Working Papers 0730, University of Crete, Department of Economics

Mugenda, M.O., and Mugenda, G.A. (2013). *Research methods. Nairobi*: Acts Press

Muhammad, H., Waqas, M., & Migliori, S. (2019). The impact of M&A on bank's financial performance: Evidence from emerging economy. *Corporate Ownership & Control*, 16(3), 52-63.

Mungule, C.M., and Van Vuuren, J.J. (2016). Validating a measurement scale for entrepreneurial actions for sustainable corporate entrepreneurship using confirmatory factor analysis. *Acta Commercii - Independent Research Journal in the Management*, 16(1),1684-1999.

Musharraf, M.A. (2003). *The role of human resource and cultural factors in the success or failure of merger & acquisition strategies: The case of Saudi Arabia*. Unpublished Doctoral Thesis. Sheffield: The University of Sheffield

Mwelase, N. (2015). *Comparative performance of BEE and non-BEE mergers and acquisitions in South Africa*. Unpublished Thesis. Johannesburg: University of the Witwatersrand.

Nalwaya, N., and Vyas, R. (2014). Merger and acquisition in the telecom industry: an analysis of financial performance of Vodafone Plc and Hutchison Essar. *Journal of Marketing and Communication,* 9(3), 67-73.

Nayak, J.K., and Singh, P. (2015). *Fundamentals of research methodology problems and prospects.* New Delhi: SSDN Publishers and Distributors.

Ndregjoni, Z., and Elmazi, L. (2012). The effects of relationship between information technology and firm innovation on firm performance: The case of Albania, *International Journal of Management Cases* 14(1), 235–246. http://dx.doi. org/10.5848/APBJ.2012.00023

Ndadza, T.E. (2014). *Beneficiaries of mergers & acquisitions in South Africa. Unpublished Masters Dissertation*. University of the Witwatersrand: Johannesburg.

Ndura, K.M. (2010). *Effects of mergers on financial performance of insurance companies in Kenya*. Unpublished Dissertation. Nairobi: University of Nairobi.

Nemoto, T., and Beglar, D. (2014). Developing Likert-scale questionnaires. In Sonda, N., and A. Krause (Eds.), *JALT2013 Conference Proceedings*. Tokyo: JALT

Nguyen, T.V. (2015). *Company valuation and pricing in merger and acquisition.* Bachelor's Thesis in International Business, Lahti University of Applied Sciences.

Nkiwane, P., and Chipeta, C. (2019). The performance of cross-border acquisitions targeting African firms. *Emerging Markets Review*, 39 (2019): 68-82.

Nouwen, T.J.A. (2012). *21st century M&A's and the post-merger performance of acquiring firms*. Unpublished Master's Thesis. Netherlands: Tilburg University.

Ntuli, M.G. (2017). An evaluation of bank acquisition using an accounting-based measure: a case of Amalgamated Bank of South Africa and Barclays Bank Plc. *Banks and Bank Systems*, 12(1-1), 160- 165.

Ogada, A., Achoki, G., and Njuguna, A. (2016). Effect of synergy on financial performance of merged financial institutions in Kenya. *International Journal of Economics and Finance*, 8 (9):199-207.

Oghuvwu, M., and Omoye, A.S. (2016). Mergers, acquisitions, and corporate performance: the balanced scorecard approach. *Accounting and Finance Research,* 5(4):63-75.

Ojha, S., Maheshwari, R., and Jain, S. (2013). Reverse mergers: the way forward. *Journal of Business and Management*, 10(3), 21-29*.*

Oliveira, D. (21 March 2014). *South African chemicals industry has growth potential.* Engineering news*.* [Online: http://www.engineeringnews.co.za/article/south-african-chemicals-industry-has-growth-potential-2014-03-21 [Accessed on: 10 May 2018].

Oloye, M.I., and Osuma, G. (2015). Impact of mergers and acquisition on the performance of Nigerian Banks: A case study of selected banks. *Pyrex Journal of Business and Finance Management Research*, 1(4), 23-40.

Olugbenga, A.A., and Olusola, O.L. (2014). Synergistic effect of recent mergers and acquisitions in Nigerian banking industry**.** *Developing Country Studies*, 4(8), 44-52.

Omah, I., Okolie, J.U., and Durowoju, S.T. (2013). Mergers and acquisitions: effects on shareholders' value evidence from Nigeria. *International Journal of Humanities and Social Science,* 3(6), 151-159.

Osae, W.K., Fauconnier, C.J., and Webber-Youngman, R.C.W. (2011). A value assessment of mergers and acquisitions in the South African mining industry–the Harmony ARM gold example. *The Journal of the Southern African Institute of Mining and Metallurgy,* 111, 857-869.

Pahuja, A., and Aggarwal, S. (2016). Impact of mergers and acquisitions on financial performance: evidence from Indian banking industry*. International Journal of Applied Finance and Accounting,* 1(2), 1-18.

Pallant, J. (2016). SPSS survival manual : a step by step guide to data analysis using IBM SPSS. 6th edition. New York: McGraw-Hill Education.

Pandey, P., and Pandey, M.M. (2015). *Research methodology: tools and techniques.* Romania: Bridge Center.

Papadakis, V. M. (2005). The role of broader context and the communication program in merger and acquisition implementation success. *Management Decision*, *43*.

Papadakis, V.M., and Thanos, I.C. (2010). Measuring the performance of acquisitions: an empirical investigation using multiple criteria. *British Journal of Management*, 21, 859–873.

Parimala, S., and Kalaiselvi, S. (2015). Impact of mergers and acquisitions: a theoretical framework. *Paripex-Indian Journal of Research*, 4(11), 85-89.

Parveen, N. (2014). *Merger and acquisition in India*. Unpublished Masters Dissertation. Berhampur University

Pathak, K. (2006). A study of the operating synergy gains to the acquiring and target firms in the Indian cement industry. *ICFAI Journal of Mergers and Acquisitions,* 3(4), 19-37.

Peng, M. W. (2006). *Global strategy*. United States: South-Western

Perry, J.S., and Herd, T.J. (2004). Mergers and acquisitions: reducing M&A risk through improved due diligence. *Strategy and Leadership*, 32(2), 12-19.

Pervana, M., Višića, J., and Barnjaka, K. (2015). The impact of M&A on company performance: Evidence from Croatia. 2nd global conference on Business, Economics, Management and Tourism, 30-31 October 2014, Prague, Czech Republic. *Procedia Economics and Finance*, 23 (2015), 1451-1456

Polyarus, A.V., Severgina, A.A. and Borzenkova, K.A. 2013. Synergetic effect of merger and acquisition of industrial organizations. *World Applied Sciences Journal,* 24(12), 1701-1706.

Poposki, K. (2007). Merger activity in insurance industry. *Facta Universitatis series Economic and Organization*, 4(2), 161-171.

Postma, J., and Roos, A-F. (2016). Why healthcare providers merge. *Health Economics, Policy and Law*. 11(2), 121-140.

Pouris, A. (1985). The economic disturbance theory and the merger activity in Britain-An empirical investigation. *South African Journal of Business Management*, 16(3), 103-108.

Pranathi, K., Noor, A., and Priyadarshini, B.I. (2016). Impact of merger and acquisition in mobile industry: A case study on Vodafone and Hutch. *International Journal of Innovative Research and Development*, 5(2), 65-70.

Pritchett, P. (n.d.). Making mergers work: A guide to managing mergers and acquisitions. United States of America:

Proctor, A.J. (2015). Conglomerate mergers: Lessons from vertical foreclosure. *World Competition,* 38 (4), 571-596.

Qaderi, I., and Bouzeid, A. (2017). *Drivers and performance factors of mergers and acquisitions - A case study at Deutsche post DHL.* Unpublished Masters Dissertation. Linköping, Sweden: Linköping University.

Queensly Jeyanthi, B.J., Kalaivan, C., and Sumathi, B. (2016). General impacts of merger and acquisition on companies. *International Journal of Engineering Technology, Management and Applied Sciences*, 4(2), 93-95

Rachappa, S., and Satyanarayana, S. V. (2007). *Mergers and market gains: A study of select companies*. in "merger and acquisition, Indian scenario" In Das B. And Padmanik A.K. (Eds.), New Delhi: Kanishka Publishers, Distributors, 156-162.

Rahman, M., and Lambkin, M. (2015). Creating or destroying value through mergers and acquisitions: A marketing perspective. *Industrial Marketing Management*, 46 (2015), 24-35.

Rani, N., Yadav, S.S., and Jain, P. K. (2015). Impact of mergers and acquisitions on shareholders' wealth in the short run: An event study approach. *The Journal for Decision Makers*, 40(3), 293-312.

Rashid, A., and Naeem, N. (2017). Effects of mergers on corporate performance: An empirical evaluation using OLS and the empirical Bayesian methods. *Borsa Istanbul Review*, 17-1 (2017), 10-24.

Rasiah, D., Ming, T., and Hamid, A. (2014). Mergers improve efficiency of Malaysian commercial banks. *International Journal of Economics and Finance*, 6(8), 289-300.

Rau, P.R., and Vermaelen, T. (1998). Glamour, value and the post-acquisition performance of acquiring firms. *Journal of Financial Economics*, 49, 101-105.

Raza, M. Y., Sultan, T., Latif, K., Rafiq, T., Khan, M.I., and Huda, S.U. (2015). The impact merger and acquisition on job satisfaction, job motivation and job security of employees working in financial organizations; an environmental study from Pakistani organizations. *Middle East Journal of Scientific Research*, 23(8), 1804-1812.

Reddy, C.P.K. (2014). A study on mergers and acquisitions in India. *International Journal of Trade and Global Business Perspectives*, 3(2), 960-968.

Reddy, K.S. (2015). Extant reviews on entry-mode/internationalization, mergers and acquisitions, and diversification: understanding theories and establishing interdisciplinary research, *Pacific Science Review*, doi: 10.1016/j.pscr.2015.04.003.

Reddy, Y.V., and Natekar, M. (2015). Pre-and post-acquisition performance of select Indian pharmaceutical companies. *Pragyaan Journal of Management*, 13(2), 47-57.

Renneboog, L., and Vansteenkiste, C. (2019). Failure and success in mergers and acquisitions. *Journal of Corporate Finance*, 58(C), 650-699.

Reus, T., and Lamont, B. (2009). The double-edged sword of cultural distance in international acquisitions. *Journal of International Business Studies*, 40(8), 1298-1316.

Rezaeian, M. (2014). How to design a questionnaire in the area of research: Introducing a ten-item checklist. *Middle East Journal of Business*, 9(1), 55.

Rhodes-Kropf, M., and Viswannathan, S. (2004). Market valuation and merger waves, *Journal of Finance*, 59, 2685-2718.

Richard, P.J., Devinney, T.M., Yip, G.S., and Johnson, G. (2009). Measuring organizational performance: Towards methodological best practice. *Journal of Management*, 35: 802-835.

Rizvi, Y. (2008). Picking the flowers; Acquisition strategy as a tool for survival and growth. *A case analysis of the acquisition of Gillette India Limited by Procter and Gamble*. 11th Strategic Management Forum,2008, IIT Kanpur.

Roberts, A., Wallace, W., and Moles, P. (2012). *Mergers and acquisitions.* Edinburgh Business School Heriot-Watt University. Edinburg, United Kingdom.

Rohra, N., and Chawla, K. (2015). Motives behind mergers and acquisitions: theory and critical review of literature. *International Journal of Economic and Business Review*, 3(4), 253-257

Rompotis, G. G. (2015). Mergers and acquisitions: Types, principles, historical information and empirical evidence from the Greek banking sector. The IEB International Journal of Finance, 2015(10), 32-65.

Rossi, M., Tarba, S.Y., and Raviv, A. (2013). Mergers and acquisitions in the high-tech industry: a literature review. *International Journal of Organizational Analysis*, 21(1), 66-82.

Rottig, D., Reus, T.H., and Tarba, S.Y. (2013). The impact of culture on mergers and acquisitions: A third of a century of research. *Advances in Mergers and Acquisitions,* 12, 135-172.

Rowley, J. (2014). Designing and using research questionnaires. *Management Research Review*, 37(3), 308-330.

Sabol, A., and Sverer, F. (2017). A review of the economic value-added literature and application. Special issue. *UTMS Journal of Economics*, 8 (1), 19-27.

Salama, H. (2015). *The effect of pre-and post-merger factors on the performance of mergers in Libyan government banks*. Unpublished Doctoral Thesis. Nottingham: Nottingham Trent University.

Sarala, R. (2008). *The impact of cultural factors on post-acquisition integration: domestic and foreign acquisitions of Finnish companies in 1993-2004*. Unpublished PhD Thesis. Finland: Swedish School of Economics and Business Administration.

Sarkar, P. (2017). Post-acquisition performance of acquiring firms in India – a review of literature. *International Journal of Engineering Sciences and Research Technology*, 6(7), 468-474.

Sathishkumar, T. (2013). *Study on the impact of merger and acquisitions on operating performance and shareholders' wealth in Indian manufacturing industry*. PhD Thesis submitted at the Pondicherry University.

Saunders, M., Lewis, P., and Thornhill, A. (2015). *Research methods for business students*. 5th edition. UK: Prentice Hall.

Savor, P., and Lu, Q. (2009). Do stock mergers create value for acquirers? *The Journal of Finance, 64* (3), 1061-1097.

Savovic, S. (2016). The post-acquisition performance of acquired companies: evidence from the republic of Serbia. *Economic Annals,* LXI, (209), 79-104.

Schoenberg, R. (2006). Measuring the performance of the corporate acquisitions: An empirical comparison of alternative metrics. *British Journal of Management*, 17, 361-370.

Schweser, K. (2012). *Financial reporting and analysis and corporate finance.* USA: Kaplan Schweser.

Sehleanu, M. (2015). Creating or destroying value through mergers and acquisitions? Annals of the University of Oradea. Economic Science Series, 24(1), 593-600.

Seidu, S. S. B. (2009). *The impact of mergers and acquisitions on the corporate financial performance of Guinness Ghana Breweries Limited.* Cape Coast: University of Cape Coast.

Sekaran, U., and Bougie, R. (2013). *Research methods for business: A skill building approach*. 6th edition. John Wiley & Sons LTD.

Seth, A., Song, K.P. and Pettit, R.R. (2002). Value creation and destruction in cross-border acquisitions: an empirical analysis of foreign acquisitions of US firms. *Strategic Management Journal*, 23 (10), 921-940.

Shah, B.A., and Khan, N. (2017). Impacts of mergers and acquisitions on acquirer banks' performance, *Australasian Accounting, Business and Finance Journal*, 11(3), 30-54.

Sharma, P., and Goswami, D.K. (2017). Managing mergers and acquisitions: An issue of strategy management. *International Journal of Management, IT and Engineering*, 7(5): 164-176.

Sharma, S., (2013). Measuring post-merger performance- A study of metal industry. *International Journal of Applied Research and Studies*, 2(8), 1-9.

Shefrin, H. (2007). Behavioral finance: Biases, mean–variance returns, and risk premiums. *CFA Institute Conference Proceedings Quarterly*, 24(2),4-12.

Shleifer, A., and Vishny, R. W. (2003). Stock market driven acquisitions. *Journal of Financial Economics*, 70, 295-311.

Shi, W.S., Sun, J., and Prescott, J.E. (2012). A temporal perspective of merger and acquisition and strategic alliance initiatives review and future direction. *Journal of Management*, 38(1), 164-209.

Shil, N.C. (2009). Performance measures: an application of economic value added. International *Journal of Business and Management,* 4(3), 169-177.

Shim, J.K. (2012*). Practical guide to mergers, acquisitions and divestments*. Global Professional Publishing

Siddaiah, T. (2011). *Financial services*. India: Dorling Kindersley.

Siegel, D.S., and Simons, K.L. (2008). Evaluating the effects of mergers and acquisitions on employees: evidence from matched employer-employee data.

Siegel, J., and Wang, Y. (2013). Cross-border reverse mergers causes and consequences. *Working paper, Harvard University and Boston University.*

Sikhwari, T. M. (2016). The Influence Of supplier information sharing and information quality on strategic partnerships and internal lean practices among SME's in South Africa. *Business & Social Sciences Journal, 1*(2), 68-85.

Sil, B.K. (2015). A comparative study of pre- and post-merger financial performances of selected pharmaceutical companies in India. *The IUP Journal of Business Strategy,* 12(2), 7-53.

Singh, H., and Montgomery, C.A. (1987). Corporate acquisition strategies and economic performance. *Strategic Management Journal*, 8(4): 377-386.

Small Enterprises Development Agency (SEDA). (2013). *Research study to identify needs, opportunities, and challenges of SME's in the chemicals and plastics and sector* [Online]. http://www.seda.org.za/Publications. [Accessed: 20 April 2019].

Smit, C.J.B., and Ward, M.J.D. (2007). The impact of large acquisitions on the share price and operating financial performance of acquiring companies listed on the JSE. *Investment Analyst Journal*, 65, 5-14.

Smith, R., and Pedace, R. (2011). The relative importance of IPO and M & A exits for venture capital fund financial performance, pp 1029–1065.

Sorheim, D., and Lerkerod, M. (2015). *Value creation through mergers and acquisitions in the Nordics: An empirical investigation of short-term value creation and its value drivers.* Master's Thesis. Denmark: Copenhagen Business School

South Africa, Companies Act No. 71 of 2008.

Srivastava, R., and Prakash, A. (2013). Value creation through cross-border mergers and acquisitions by the Indian pharmaceutical firms. *Journal of Strategy and Management*, 7(1), 49-63.

Stunda, R. (2104). The market impact of mergers and acquisitions on acquiring firms in the U.S. *Journal of Accounting and Taxation*, 6(2), 30-37.

Susan, M.B., Morton, S.M.B., Bandara, D.K., Robinson, and E.M., Carr, P.E.A. (2012). In the 21st Century, what is an acceptable response rate? *Australian and New Zealand Journal of Public Health.* 36(2): 106-108.

Tabachnick, B.G., and Fidell, L.S. (2014). *Using multivariate statistics*. 6th edition. Harlow: Pearson.

Taher, H., Adnène, S., and Firas, T.M. (2016). Ho do takeovers create synergies? Evidence from France. *Studies in Business and Economics*, 11(1), 54-72.

Taherdoost, H. (2017). Determining sample size: How to calculate survey sample size. *International Journal of Economics and Management Systems*, 2(2017), 237-239.

Taneja, M., and Saxena, N. (2014). Mergers and acquisitions with a reference to ethical, social and human resource. *IOSR Journal of Business and Management*, *16*(3), 69-72.

Taniguchi, K. (2016). *Reverse innovation between Japan and Africa: The case of Kansai Paint*. Unpublished Masters' Dissertation. Cape Town: University of Cape Town.

Tanriverdi, H. (2013). A study on pre and post-performance evaluation of merger and acquisition of top companies of BSE and NSE. *SIES Journal of Management*, 4-6.

The African Centre for Biodiversity. (2017). The BAYER-MONSANTO merger: Implications for South Africa's agricultural future and its smallholder farmers [Online]: www.acbio.org.za Accessed: 10 March 2019.

Toxvaerd, F. (2008). Strategic merger waves: A theory of musical chairs. *Journal of Economic Theory*, 140(1), 1-26.

Trautwein, F. (1990). Merger motives and merger prescriptions. *Strategic Management Journal*, 11(4), 283-29.

Tripathi, V., and Lamba, (A). (2015). What drives cross-border mergers and acquisitions? A study of Indian multinational enterprises. *Journal of Strategy and Management,* 8(4), 384-414.

Tripathy, S., and Prajapati, V. (2014). Mergers and acquisitions: Trends in Indian pharmaceutical industry. *Journal of Medical Marketing*, 14(4), 182-190.

Trowski, C. (2014). Acquisitions and bidder stock valuations: Empirical evidence from the French market. *Finance,* 35(1), 51-105.

Uhlenbruck, K., Hughes-Morgan, M., Hitt, M. A., Ferrier, W. J. and Brymer, R. (2017). Rivals' reactions to mergers and acquisitions. *Strategic Organization,* 15 (1), 40-66.

United Nations Conference on Trade and Development. (2017). Global investment trends and prospects: Current FDI trends. *United Nations Conference on Trade and Development*. [Online]: http://unctad.org/en/PublicationChapters/wir2018ch1_en.pdf [Accessed: 10 March 2019].

Vahid, N., Dehghanpour, M.R., and Nasirizadeh, H. (2013). Comparison between accounting profit and economic profit and its effect on optimal point of production. *European Online Journal of Natural and Social Sciences*; 2(3), 493-499.

Van de Ven, A. H. (2007). Engaged scholarship: A guide for organizational and social research. Oxford: Oxford University Press.

Van Zyl, L. E. (2014). *Research methodology for the economic and management sciences.* Essex: Pearson.

Vargas-Hernandez, J.H., Galindo, M., and Penelope, R. (2016). Mergers, acquisitions and strategic alliances in the film industry in Mexico. *International Journal of Advances in Management, Economics and Entrepreneurship,* 3(1), 33-39.

Viljoen, G. (2013). *The impact of cross border mergers and acquisition on the operating and short-term share price performance of acquiring companies listed on the Johannesburg Stock Exchange*. Masters research project. University of Pretoria.

Vretenar, N., Sokolic, D., and Mrak, M.K. (2017). Motives for mergers and acquisitions in small and medium-sized enterprises. *4th International Multidisciplinary Scientific Conference on Social Sciences and Arts SGEM 2017 Conference Proceedings*, 689-696

Wadhwa, K., and Syamala, S.R. (2015). An empirical examination of efficiency theory of mergers in emerging market India. *Theoretical Economics Letters*, 5, 757-774.

Wadongo, B., Odhuno, E., Kambona, O., and Othuon, L. (2010). Key performance indicators in the Kenyan hospitality industry: a managerial perspective. *Benchmarking: An international Journal*, 17(6):858-875.

Wang, D., and Moini, H. (2012). Performance assessment of mergers and acquisitions: Evidence from Denmark.

Wang, C., and Xie, F. (2009). Corporate governance transfer and synergistic gains from mergers and acquisitions. *Review of Financial Studies,* 22, 829-858.

Wanke, P., Maredza, A., and Gupta, R. (2017). Merger and acquisitions in South African banking: a network DEA model. *Research in International Business and Finance* 41, 362-376.

Water, L., and Water, I. (2016). The phenomenon of mergers and acquisition within the automotive industry. *Proceedings of North International Conference on Economics,* 1st Issue 2016*.*

Weber, Y. (2015). Education, reflection and development. *Procedia-Social and Behavioral Sciences*, *209*, 254-260.

Weber, Y., Tarba, S.H., and Oberg, C. (2014). A comprehensive guide to mergers and acquisitions: Managing the critical success factors across every stage of the M&A process. New Jersey: FT Press

Weber, Y., Tarba, S.Y., and Reichel, A. (2011). A model of the influence of culture on integration approaches and international mergers and acquisitions performance. International. *Studies of Management. and Org*, 41(3), 9-24.

Weitzel, U., and McCarthy, K. J. (2011). Theory and evidence on mergers and acquisitions by small and medium enterprises. *International Journal of Entrepreneurship and Innovation Management*, 14(2-3), 248-275.

Weston, J.F., (2001). *Takeovers, restructuring & corporate finance*. 3rd ed. UK: Prentice-Hall Inc.

Weston, J.F., Mitchel, M.L., Mulherin, J.H. and Salwan, P. (2010). *Takeovers, restructuring, and corporate governance*. 3rd ed. Delhi: Pearson Education.

Wiid, J., and Diggines, C. (2013). Marketing research. 2nd edition. Cape Town: Juta and Company Ltd.

Williams, B., Onsman, A., and Brown, T. (2010). Exploratory factor analysis: A five-step guide for novices**.** *Journal of Emergency Primary Health Care (JEPHC),* 8(3), 1-13.

Wilson, M.K., and Vencatachellum D. (2020). Stock market performance and cross-border mergers and acquisitions in South Africa: 1991 to 2014. *Studies in Economics and Finance*, 37(1), 28-49.

Wilson, M.K., and Vencatachellum D.J-M. (2016). Determinants pf cross-border mergers and acquisitions targeting Africa: 1991-2011. *Economic Research Southern Africa (ERSA) working paper 600.*

Wimberley, T., and Negash, M. (2004). The value creation effects of mergers and acquisitions: evidence from the JSE Securities Exchange South Africa. *Investment Analysts Journal,* 33(59), 31-40.

Widensky, C. (2014). The top 10 tips to successful practice acquisitions. *Journal of the New Jersey Dental Association*, 85(1), 26-28.

Wolfe, M., Stressman, S., and Manfredo, M. (2011). The acquisition of IBP by Tyson foods in 2001: Pre- and post-merger financial performance. *American Journal of Agricultural Economics*, *93*(2), 642-647.

Wolmarans, H., and Sartorius, K. (2009). Corporate social responsibility: The financial impact of black economic empowerment transactions in South Africa. *South African Journal of Engineering and Management Science*. 12(2), 180-193

World Finance (2014). *The call of corporate consolidation*. [Online]. https://www.worldfinance.com/news/the-call-of-corporate-consolidation Accessed: 12 November 2018.

Yadav, S. (2016). Performance evaluation of banking sector in India. *Sumedha Journal of Management, 5,* 67.

Yanan, E.M., Hamza, S.H., and Basit, A. (2016). Impact of merger and acquisitions on firm's financial performance: a study on United States of America. *International Journal of Accounting and Business Management,* 4(2), 159-169.

Yang. L., and Li, L. (2016). Using EVA calculation method to evaluate the synergy effect of internet company's merger value. *Appraisal Journal of China*, 2016 (5), 37-39.

Yeboah, J., and Asirifi, E.K. (2016). Mergers and acquisitions on operational cost efficiency of banks in Ghana: A case of Ecobank and Access bank. *International Journal of Business and Management*, 11(6), 241-251.

Yousef, I. (2016). *Mergers and acquisitions: implications for acquirers' shareholder wealth and risk.* Unpublished PhD Thesis. Coventry: Coventry University.

Yuliansyah, Y., and Razimi, M.S.A. (2015). Non-financial performance measures and managerial performance: The mediation role of innovation in an Indonesian stock exchange listed organization. *Problems and Perspectives in Management*, 13(4) 135-145.

Zaheer, A., Hernandez, E., and Banerjee, S. (2010). Prior alliances with targets and acquisition performance in knowledge-intensive industries. *Organization Science*. 21(5), 1072-1091.

Zaheer, A., Castaner, X., and Souder, D. (2013). Synergy sources, target autonomy, and integration in acquisitions. *Journal of Management*, *39*(3), 604-632.

Zhanga, W., Wanga, K., Lib, L., Chenc, Y., Wanga, X. (2018). The impact of firms' mergers and acquisitions on their performance in emerging economies. *Technological Forecasting and Social Change,* 135 (2018), 208–216.

Zollo, M., and Meier, D. 2008. What is M&A performance? *The Academy of Management Perspectives*, *22*(3), 55-77.

APPENDICES

APPENDIX 1: RESEARCH QUESTIONNAIRE

This research questionnaire on: ***The role of mergers and acquisition on the performance of companies within the chemical industry in South Africa, is*** part of my PhD research at the University of KwaZulu-Natal Graduate School of Business and Leadership and its purpose is for academic research use only. This questionnaire is strictly confidential and anonymous. Please do not include your personal details (your name or surname) or any contact details. Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequences. There will be no monetary gain from participating in this survey. Please attempt to answer all the questions as honestly as possible. There are no correct or wrong answers. Please answer all the questions to the best of your ability. The questionnaire will take between 10-15 minutes. ***Please mark only one answer per question***. Thank you for your time.

By clicking on the button below, you indicate your voluntary agreement to participate on this online survey.

SECTION A: Biographic information

The information below is used for statistical purposes, please place a mark next to the choice that is applicable to you.

1. Were you part of the merger process?

Yes	1
No	2

2. Gender

Female	1
Male	2

3. Position held

Managing Director	1
Chief Executive Officer	2
Chief Financial Officer	3
Chief Operations Officer	4
Director	5
Executive Manager	6
Manager	7
Other (please specify)	8

4. Number of years with the company:

0-5	1
6-10	2
11-15	3
16 and above	4

5. Highest qualification:

No formal qualification	1
Matric	2
Diploma	3
Degree	4
Honours Degree	5

Masters	6
PhD	7
Other	8

6. Age

Below 25	1
25-30	2
31-35	3
36-40	4
41-45	5
46-50	6
51-55	7
56 and above	8

7. Ethnicity

African	1
Asian	2
Coloured	3
Indian	4
White	5
Other	6
Prefer not to say	7

SECTION B

8. Please think about merger and acquisition and the synergy the company experienced after this process.

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
8.1	The company benefited from the economies of scale due to decreased average unit cost	1	2	3	4	5
8.2	The company benefited from the economies of scale due to reduction of redundancy in personnel.	1	2	3	4	5
8.3	The company benefited from the economies of scale due to reduction of redundancy in office space.	1	2	3	4	5
8.4	The company benefited from the economies of scale due to reduction of redundancy in accounting services.	1	2	3	4	5
8.5	The company benefited from the economies of scale due to reduction of redundancy in auditing services.	1	2	3	4	5
8.6	The company benefited from the economies of scale due to managerial efficiencies	1	2	3	4	5
8.7	The company benefited from the economies of scale due economies of scope	1	2	3	4	5
8.8	The company benefited from the economies of scale due research and development (innovation)	1	2	3	4	5
8.9	The company benefited from the economies of scale due to tax savings	1	2	3	4	5

8.10	The company benefited from the economies of scale due to market power	1	2	3	4	5

9. Please think about merger and acquisition and the financial performance of the company after this process.

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
9.1	The company benefited from increased profitability	1	2	3	4	5
9.2	The company benefited from increased liquidity	1	2	3	4	5
9.3	The company benefited from increased capital market	1	2	3	4	5
9.4	The company benefited from increased cash flow	1	2	3	4	5
9.5	The company benefited from increased sales growth	1	2	3	4	5

10. Please think about merger and acquisition and the non-financial performance of the company after this process.

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
10.1	The company benefited from increased market share	1	2	3	4	5
10.2	The company benefited from increased customers	1	2	3	4	5
10.3	The company benefited from increased control on pricing	1	2	3	4	5
10.4	The company benefited from increased buying power	1	2	3	4	5
10.5	The company benefited from increased penetration into new markets	1	2	3	4	5
10.6	The company benefited from increased penetration into new geographies	1	2	3	4	5

11. Please think about merger and acquisitions and the motive behind the decision of this process.

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
11.1	The motive was to gain financial synergies	1	2	3	4	5
11.2	The motive was to gain operational synergies	1	2	3	4	5
11.3	The motive was to gain managerial synergies	1	2	3	4	5
11.4	The motive was to facilitate wealth transfer from target to acquirer	1	2	3	4	5
11.5	The motive was to mmaximize managers' utility	1	2	3	4	5
11.6	The motive was due to influenced by organizational routine	1	2	3	4	5

11.7	The motive was to increase market power	1	2	3	4	5
11.8	The motive was to economic disturbances	1	2	3	4	5
11.9	The motive was based on knowledge of target's financial performance	1	2	3	4	5

12. Please think about the role of mergers and acquisitions and their role on the company

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
12.1	Mergers and acquisition increase the financial performance of the company	1	2	3	4	5
12.2	Mergers and acquisition increase the non-financial performance of the company	1	2	3	4	5
12.3	Mergers and acquisition increase synergy of a merged entity	1	2	3	4	5
12.4	Mergers and acquisition are done to achieve different objectives	1	2	3	4	5

APPENDIX 2 GATE KEEPER'S LETTER

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

Date 19 October 2017
University of Kwa Zulu Natal
Graduate School of Business and Leadership

Dear Dr Mncube

APPLICATION FOR GATEKEEPER'S APPROVAL

My name is Buntu Quwe, I am a student (**student #: 217071052**) at University of Kwa Zulu Natal (UKZN) doing Doctor of Business Administration. My study is to examine "**The Role of Mergers and Acquisitions on the Performance of Companies within the Chemical Industry in South Africa**". On this study, I am going to use the data published on the Competition Commission SA website of the approved mergers and acquisition within the Chemical industry in SA between 2006 and 2016. The Ethics committee at UKZN requires me to be granted a permission by Competition Commission SA to use the data base.

I am writing to you to request permission to fulfil the requirement by UKZN ethics committee in order for me to continue with the study. Once CompCom SA grants me the approval to use the data base, I will then request a consent to participate to the study to each of the companies on the data base. The results from the study will be kept strictly confidential and will be reported in a Thesis to be made available to all participants on request, upon completion of the study. My supervisor for the study at UKZN is Dr Njabulo Khumalo and his contact details are as below.

Graduate School of Business and Leadership: College of Law and Management
Westville Campus, J Block, Ground floor, Room 01a
University Road, Westville, 3630.
Durban, South Africa
Tel: +2731 260 8768
Email: khumalon6@ukzn.ac.za

Should you require any further information about the study, you are most welcome to contact myself or Dr Khumalo.

Yours sincerely
Buntu Quwe
Cell: [redacted]
Email: bakhe7716@gmail.com

Gate keeper's name : Dr L Mncube
Place and Date : Competition Commission SA 19-10-2017
Gate keeper's signature : [redacted]

APPENDIX 3: ETHICAL CLEARANCE CERTIFICATE

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

19 April 2018

Mr Buntu Quwe (217071052)
Graduate School of Business & Leadership
Westville Campus

Dear Mr Quwe,

Protocol reference number: HSS/0196/018D
Project Title: The role of Mergers and Acquisitions on the Performance of companies within the Chemical Sector in South Africa

Full Approval – Expedited Application

In response to your application received 08 March 2018, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

[redacted]

Professor Shenuka Singh (Chair)

/ms

cc Supervisor: Dr Njabulo Khumalo
cc. Academic Leader Research: Professor Muhammad Hoque
cc. School Administrator: Ms Zarina Bullyraj

Humanities & Social Sciences Research Ethics Committee
Professor Shenuka Singh (Chair)
Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Telephone: +27 (0) 31 260 3587/8350/4557 **Facsimile:** +27 (0) 31 260 4609 **Email:** ximbap@ukzn.ac.za / snymanm@ukzn.ac.za / mohunp@ukzn.ac.za
Website: www.ukzn.ac.za

1910 - 2010
100 YEARS OF ACADEMIC EXCELLENCE

Founding Campuses: Edgewood Howard College Medical School Pietermaritzburg Westville