



UNIVERSITY OF TM
KWAZULU-NATAL
INYUVESI
YAKWAZULU-NATALI

School of Management, IT and Governance
Discipline of Marketing and Supply Chain Management
Westville Campus

**The Utilization of Key Performance
Indicator Appraisal for
Logistics Outsourcing:
A Case of Defy Appliances**

A Research Dissertation presented to the
School of Management, IT and Governance
of the University of KwaZulu-Natal

in fulfilment of the requirements for
the Degree of Master of Commerce
in Supply Chain Management

by

Yatheal Jeebodh (212503074)

Supervisor:

Mrs. Jayrushi Ramasamy-Gurayah

Declaration

I, **Yatheal Jeebodh (212503074)**, declare that:

- The research presented, except where otherwise indicated, is my original contribution.
- This research has not been submitted for any degree or examination at any other university.
- This research does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.
- This research does not contain other persons' writing, unless specifically acknowledged as being sourced from other researchers. Where other written sources have been quoted, then:
 - I. their words have been re-written but the general information attributed to them has been referenced:
 - II. where their exact words have been used, their writing has been placed inside quotation marks, and referenced.
- This research does not contain text, graphics or tables copied and pasted from the internet, unless specifically acknowledged, and the source being detailed in the research and in the references section.

Signature: _____

Date: November 2017

Acknowledgements

Firstly, my heartfelt gratitude goes out to the College of Law and Management Studies of the University of KwaZulu-Natal, South Africa, for the opportunity and facility offered to me to complete this research.

I am also very much appreciative with regards to the employees at Defy Appliances who sacrificed the time out of their busy schedules to allow me to interview them. I am most grateful to Mr Burak Ozcep who gave me his permission to initiate this research and who actively encouraged me to complete this research.

I would like to extend a word of thank you to my supervisor, Mrs Gurayah, as her valuable input and sound advice enabled the accomplishment of this research. This research would not have been possible without her guidance and support.

Additionally, I would like to thank my friends and family who continuously encouraged me to complete this research. Without their love, care and sacrifice, I would not have been able to complete this research.

Lastly, I am most grateful to my Lord, Sri Nrsimhadeva, and to Srila Prabhupada, their blessings and mercy provided me with the determination to endeavour with this research when the going got tough. I would be totally lost without their presence in my life.

List of Acronyms

3PL	:	Third Party Logistics
BSRs	:	Buyer-Supplier Relationships
CSF	:	Critical Success Factors
HR	:	Human Resources
IR	:	Industrial Relations
ISO	:	International Standards Organisation
IT	:	Information Technology
MRP	:	Material Requirements Planning
KPI	:	Key Performance Indicators
PM	:	Performance Measurement
PMS	:	Performance Measurement Systems
RBV	:	Resource Based View
RFID	:	Radio Frequency Identification
RFQ	:	Request for Quotation
SA	:	South Africa
SC	:	Supply Chain
SCM	:	Supply Chain Management
SLAs	:	Service Level Agreements
TA	:	Thematic Analysis
TCA	:	Transaction Cost Analysis
WMS	:	Warehouse Management System

Abstract

Background: Companies and customers around the world are embracing the trend of outsourcing their logistics requirements to outside logistics service providers. That being said, KPI appraisal can be regarded as an effective and reliable technique as to how a manufacturing company can measure the performance of its 3PL providers.

Purpose: This research determined what factors motivate companies in their decisions to outsource their logistics needs to external logistics service providers as well as understand the logistics outsourcing process used to select 3PL providers. Moreover, the purpose of this research understood how performance measurement adds value to Defy's operations and how KPI appraisal improves Defy's relationships with its 3PL providers. This research also discovered a distinct list of KPIs that can be used by Defy in its efforts to measure the performance of its transporters. Lastly, the aim of this research is to examine the risks of logistics outsourcing and the remedial strategies that can be utilized to combat these risks.

Methodology: This research is descriptive in nature and a case study approach was adopted. The empirical study included in-depth interviews with the executive and senior management of Defy whereby the use of open-ended questions were adopted to provide insight into the various facets of logistics outsourcing at Defy Appliances. A non-probability, purposive sampling method was used to select the participating company and its participants.

Findings: The findings of this research indicated that there are eleven motivating factors that drive logistics outsourcing. Defy can also utilize a logistics outsourcing process that comprises seven steps. Additionally, this research determined that there are ten KPIs that Defy's senior management can use to gauge the performance of its 3PL providers. Lastly, there are thirteen dangers that Defy can encounter in its efforts to outsource its logistics requirements, however, Defy has eleven remedial strategies to combat the dangers.

Contribution: The field of logistics outsourcing and KPI appraisal is dynamic. There is a dearth of research dealing with KPI appraisal as a tool for successful logistics outsourcing in the leading companies of South Africa's appliances industry. Therefore, it is envisaged that this research will play a momentous role in the field by offering fresh insights as well as contributing to the body of knowledge concerning logistics outsourcing and KPI appraisal.

Table of Contents

Declaration	i
Acknowledgements.....	ii
List of Acronyms	iii
Abstract	iv
List of Figures.....	xii
List of Tables	xiii
List of Appendices	xv
Chapter 1: Introduction.....	1
1.1 Setting the Scene	1
1.2 Problem Statement.....	3
1.3 Aim of the Study.....	3
1.4 Research Objectives.....	4
1.5 Research Questions.....	4
1.6 Significance of the Study	4
1.7 Background of the Research	5
1.8 Background of the Company.....	5
1.9 Limitations of the Study.....	6
1.10 Theoretical Framework Adopted for this Study	6
1.10.1 Resource-Based View.....	7
1.10.2 Transaction Cost Analysis	7
1.11 Format of the Study	8
1.12 Conclusion.....	8
Chapter 2: Literature Review.....	10
2.1 Introduction	10
2.2 Supply Chain Management	11
2.3 The Concept of Outsourcing	12
2.4 The Concept of Logistics	14
2.5 Third-Party Logistics Providers	15

2.6 The Relationship between 3PL and Outsourcing	16
2.7 The Influencing Factors that drive a Company to Resort to Outsourcing	17
2.8 The Drivers of Logistics Outsourcing	18
2.9 The Top Five Factors that Compel a Company to Resort to Logistics Outsourcing	19
2.9.1 Financial Incentive	19
2.9.2 Focus on Core Competencies.....	19
2.9.3 Improved Productivity	19
2.9.4 Technology Advancements.....	20
2.9.5 Access to expertise	20
2.10 Auxiliary Factors that Motivate Companies to Resort to Logistics Outsourcing	20
2.11 When to Implement Outsourcing.....	21
2.12 The Critical Areas for a Successful Outsourcing Programme	22
2.13 How can the Outsourcing of Logistics be Implemented Successfully?.....	23
2.14 The Logistics Outsourcing Process.....	23
2.14.1 Identify the Need for Logistics Outsourcing	24
2.14.2 Search for Feasible Alternatives	25
2.14.3 Evaluate Alternatives and Select Proper Outsourcing Provider	25
2.14.4 Implement Cooperation	25
2.14.5 Execute Cooperate Evaluation	26
2.15 How to Implement Outsourcing – the Outsourcing Life Cycle	26
2.16 Selection of 3PL Provider	28
2.17 Ensuring that Logistics Outsourcing is Undertaken Successfully.....	29
2.18 Theoretical Implications.....	31
2.18.1 Resource Based View	31
2.18.2 Transaction Cost Analysis	32
2.18.3 Why both RBV and TCA is Needed	33
2.19 The Advantages and Disadvantages of Outsourcing	33
2.19.1 Advantages of Outsourcing:	33
2.19.2 Disadvantages of Outsourcing:	34
2.20 Performance Measurement.....	36
2.21 Performance Measurement Systems.....	37
2.21.1 Strategic Functions of Performance Measurement Systems.....	38
2.21.2 The Characteristics of Performance Measurement Systems.....	39

2.22 Key Performance Indicators	40
2.23 Value Creation	42
2.24 Utility	43
2.24.1 Place Utility	44
2.24.2 Time Utility.....	44
2.25 Core Business	45
2.26 Set Future Directions	46
2.27 Buyer-Supplier Relationships.....	46
2.28 Contract Management.....	47
2.28.1 The Fundamentals of Contract Management	47
2.28.2 Elements of Successful Contract Management.....	48
2.28.3 Breach of Contract.....	48
2.28.4 Contract Management Process.....	49
2.29 Continuous Improvement	51
2.30 Benchmarking.....	51
2.30.1 Benchmarking Classifications.....	52
2.30.2 The Characteristics of Benchmarking	52
2.31 Basics on Key Performance Indicators	55
2.31.1 Types of Key Performance Indicators	55
2.31.2 Which Type of KPI is Best?	56
2.32 Design Process for Key Performance Indicators.....	57
2.32.1 Setting the Right KPIs	58
2.32.2 The Development of KPIs	58
2.32.3 Essential Design Principles of KPI Development.....	59
2.33 The Characteristics/Types of KPIs	60
2.34 The Utilization of KPI Monitoring	62
2.34.1 The Underlying Importance of KPI Appraisal.....	63
2.34.2 Functions of Key Performance Indicators	63
2.35 The Purpose of KPI Appraisal and PM.....	65
2.36 Monitoring KPI Status	66
2.37 Selection Criteria of 3PL.....	67
2.38 Outsourcing Costs.....	69
2.39 The Concept of Risk	70

2.40 Logistics Outsourcing Risks.....	71
2.40.1 Contract Risks	71
2.40.2 Management Risk.....	71
2.40.3 Information Risk	72
2.40.4 Market Risk.....	72
2.40.5 Financial Risk	72
2.41 Auxiliary Logistics Outsourcing Risks	73
2.42 The Concept of Risk Management	73
2.43 The Risk Management Process	74
2.44 Risk Management Strategies	74
2.44.1 Identifying the Core Competence of Enterprise	74
2.44.2 “Win-win” Principle.....	75
2.44.3 Choosing the Right Outsourcing Partner.....	75
2.44.4 Strengthening the Contract Management	75
2.44.5 Establishing Performance Evaluation System	76
2.45 Risk Perspective from the RBV and TCA	76
Chapter 3: Research Methodology	78
3.1 Introduction	78
3.2 The Research Design	78
3.2.1 Causal-comparative Research.....	78
3.2.2 Correlation Research	79
3.2.3 Explanatory Research.....	79
3.2.4 Descriptive Research.....	79
3.2.5 Exploratory Research	79
3.3 The Research Philosophy.....	80
3.3.1 Phenomenology (Qualitative)	80
3.3.2 Positivist (Quantitative).....	81
3.4 Combined Research Strategies	81
3.5 Adopted Methodology for this Study	82
3.6 Target Population	82
3.7 Sampling	83
3.7.1 Probability Sampling	83
3.7.2 Non-probability Sampling	83

3.8 The Research Instrument.....	84
3.8.1 Structured Interviews.....	85
3.8.2 Unstructured Interviews	85
3.8.3 Semi-structured Interviews	85
3.9 Pre-Testing of the Interview.....	85
3.10 Administration of the Interviews	86
3.10.1 Advantages of Conducting Face-to-face Interviews	86
3.10.2 Disadvantages of Conducting Face-to-face Interviews	87
3.11 Data Collection.....	88
3.12 Data Analysis.....	88
3.12.1 Data Reduction.....	88
3.12.2 Data Display.....	88
3.12.3 Drawing Conclusions	89
3.13 Validity and Reliability.....	89
3.13.1 Validity	90
3.13.2 Reliability.....	90
3.14 Elimination of Bias	92
3.15 Ethical Considerations	92
3.15.1 Ensuring Participants have been given Informed Consent	92
3.15.2 Ensuring no Harm Comes to Participants	92
3.15.3 Ensuring that Permission is Obtained.....	92
3.15.4 Ensuring Confidentiality and Anonymity.....	93
3.16 Conclusion.....	93
Chapter 4: Analysis, Presentation and Discussion of the Findings	94
4.1 Introduction	94
4.2 Revisiting the Research Objectives and Questions	95
4.3 The Organizational Structure of Defy	97
4.4 Justifying why Defy was Selected.....	99
4.5 Interviews with Defy’s Employees.....	99
4.6 Analysis of Data: Theme 1 – The Concept of Logistics Outsourcing.....	100
4.6.1 Outsourcing.....	100
4.6.2 Difference between the Make-or-buy Decision	101
4.6.3 The Motivating Factors of Logistics Outsourcing	102

4.6.4 Advantages and Disadvantages of Outsourcing.....	107
4.6.5 Procedures of Logistics Outsourcing	110
4.6.6 Auxiliary Points to Consider When Selecting 3PL Providers	113
4.7 Analysis of Data: Theme 2 – Performance Measurement and KPI appraisal.....	114
4.7.1 Performance Measurement	114
4.7.2 KPI Appraisal.....	115
4.7.3 Adding Value to Defy’s Operations	117
4.7.4 Improving Buyer-supplier Relationships.....	120
4.8 Analysis of Data: Theme 3: Logistics KPIs for Defy’s 3PL providers	123
4.8.1 Logistics KPIs to be used by Defy	123
4.8.2 Participant’s Perspective of the Most Important KPIs	128
4.9 Analysis of Data: Theme 4: Outsourcing Risks and Remedial Strategies	130
4.9.1 Dangers of Defy Outsourcing its Logistics Needs	130
4.9.2 Remedial Strategies to Combat such Dangers	135
4.10 Staying True to the Principles of Research Design	140
4.11 Upholding the Theoretical Framework	141
4.11.1 Resourced Based View of Defy	142
4.11.2 Transaction Cost Analysis of Defy	142
4.12 Summary	143
Chapter 5: Conclusion and Recommendations.....	144
5.1 Introduction	144
5.2 A Final Conclusion of the Study’s Research Objectives and Questions	144
5.2.1 The Achievement of Objective 1	145
5.2.2 The Achievement of Objective 2	147
5.2.3 The Achievement of Objective 3	148
5.2.4 The Achievement of Objective 4	149
5.3 Recommendations.....	151
5.3.1 Recommendations Pertaining to Research Objective 1.....	151
5.3.2 Recommendations Pertaining To Research Objective 2	153
5.3.3 Recommendations Pertaining to Research Objective 3.....	154
5.3.4 Recommendations Pertaining to Research Objective 4.....	157
5.4 Limitations of the Study.....	159
5.5 Areas for Future Research.....	160

5.6 Contribution of the Research Study.....	161
5.7 Concluding Remarks.....	161
List of References	163

List of Figures

Table	Title	Page
2.1	The Logistics Outsourcing Process	24
2.2	The Outsourcing Life-cycle	26
2.3	The Different Types of Performance Measures	54
2.4	The Organizational Indicators Maturity Model	56
2.5	KPI Target Ranges	66
4.1	The Thematic Map	96
4.2	Defy's Supply Chain Hierarchy	97
4.3	Defy's National Distribution Hierarchy	98

List of Tables

Table	Title	Page
2.1	The Critical Success Factors Required for Successful Logistics Outsourcing	30
2.2	The Advantages of Outsourcing	34
2.3	The Disadvantages of Outsourcing	35
2.4	The Strategic functions of performance measurement systems	39
2.5	The Contract Management Process	50
2.6	The Characteristics of Benchmarking	53
2.7	The Six Common Forms of KPIs	57
2.8	The Process of KPI Development	59
2.9	The Five Main Characteristics of KPIs	60
2.10	Supplementary Characteristics of KPIs	61
2.11	The Underlying Importance of KPI Appraisal	63
2.12	The Fundamental Requirements that KPIs need to Satisfy	64
2.13	The Performance Attributes of Logistics Operations	67
2.14	Summary of Logistics KPIs	68
2.15	The Three Types of Outsourcing Costs	69
2.16	The Hidden Costs of Outsourcing	70
2.17	The Two Types of Risk in BSRs	71
2.18	Additional Logistics Outsourcing Risks	73
2.19	The Risk Management Process	74
3.1	Aspects of Qualitative Research	81
3.2	Aspects of Quantitative Research	81
3.3	Types of Probability Sampling	83
3.4	Types of Non-Probability Sampling	83
3.5	The Five Types of Validity in Qualitative Research	90
4.1	The Advantages and Disadvantages of Outsourcing	107
4.2	Advantages of outsourcing as per the interviews conducted	108
4.3	Disadvantages of outsourcing as per the interviews conducted	109

4.4	Summary Analysis of the Answers from Empirical Field Research	140
5.1	Reflecting on the Main Research Questions and Objectives	145
5.2	The Factors that Motivate Defy in its Logistics Outsourcing Initiatives	146
5.3	The Logistics Outsourcing Process	146
5.4	PM as a Means to Add Value to Defy's operations	147
5.5	KPI Appraisal as a Means to Improve the BSR	147
5.6	The Specific Set of KPIs to be used by Defy for 3PL Provider PM	148
5.7	Defy's Employees' Perspective of the Most Important KPIs	149
5.8	The Dangers of Logistics Outsourcing	150
5.9	The Remedial Strategies to Combat the Dangers of Logistics Outsourcing	151

List of Appendices

Table	Title	Page
A	Interview Guide	173
B	Informed Consent Document	176
C	Ethical Clearance Document	178
D	Gatekeeper's Consent Form	179
E	Turn-It-In Report	180

Chapter 1: Introduction

1.1 Setting the Scene

Companies have to face the fact that not paying attention to their costs as well as their performance will not allow them to compete in the market (Kherbach and Mocan, 2016:406). The needs of clients are demanding and are more challenging than ever before with the use of logistics tools and Supply Chain Management (SCM) being regarded as among the best ways to improve business (Kherbach and Mocan, 2016:406). An indispensable part of SCM is reliable, high-quality logistics services and as SCM grows more intricate; the gap between what companies desire to achieve and what can be done in-house grows larger, with the justification for outsourcing to Third Party Logistics (3PL) Providers strengthening (Aktas, Agaran, Ulengin and Onsel, 2011:833).

That being said, a topic that has been synonymous with transportation and logistics is the issue of outsourcing, a practice that is implemented across South Africa (SA) especially in the manufacturing industry. Defy Appliances – the company under investigation in this research utilizes a vast majority of transporters to satisfy their logistics needs. The topic of outsourcing is discussed briefly over the following paragraphs.

According to Tayauova (2012:189), outsourcing consists of two words – “out” and “sourcing”; which refer to the act of reassigning work, accountabilities and decision rights to an external provider. Companies must outsource activities because there are others who can do perform such activities faster, cheaper and better. Outsourcing can also be demarcated as the transfer of responsibility and risk for executing an activity or service to someone else (Tayauova, 2012:189). To conclude, outsourcing is the procedure of entrusting operations or responsibilities to an external provider, who can do it faster, cheaper and better.

Outsourcing remains a noteworthy management concern and theme of academic investigation due to it impacting manufacturing and service technologies (Reeves Jr, Caliskan and Ozcan 2010:459). Management activities such as sub-contracting in addition to the outsourcing of business functions such as Human Resources (HR) and customer call centres have all been outsourced for a long time (Reeves Jr *et al.*, 2010:459).

The undertaking of utilizing external sources from a logistics realm are referred to as 3PL services (Erturgut, 2012:4222).

Logistics outsourcing is defined as when manufacturing companies allocate their logistics function to a professional logistics company so as to consolidate its resources, decrease its management expenditure and augment its fundamental competitiveness through the agreement signed by the two parties (Li-jun 2012:1269). Logistics outsourcing or third-party logistics is observed as employing outside companies to execute some or all logistics tasks, including: Distribution, transportation, inventory management, warehousing, order processing and material handling, that have all been customarily done by the outsourcing company (Ho, He, Lee and Emrouznejad, 2012:10841). Examples in this regard have been cited above. These logistics tasks can be considered as non-value-added activities and are not a distinctive constituent of the overall finished good (Ho *et al.*, 2012:10841). It is for this reason that companies prefer to outsource such activities to external companies or 3PLs, and concentrate on value-added activities to cultivate a sustainable competitive advantage. Logistics outsourcing is a strategic, enduring, mutually rewarding and valuable commission and contract implementation way of doing business (Li-jun, 2012:1269).

However, in order to properly and effectively measure the performance of suppliers executing the logistics functions on behalf of the principal company, there have to be certain performance measurements in place.

Performance is defined as the level of success reached by an enterprise within a specific period, or the quantitative and qualitative expression of the extent of success reached by a person, group or institution performing an activity (Akdoğan and Durak 2016:577). According to another definition, it is the determination of how many of the objectives were realized with the evaluation and measurement of performance having to include not only the amount of work performed, but the quality of the work performed as well (Akdoğan and Durak 2016:577). The difference between the point desired to be attained and the point actually attained reveals the performance of the company.

1.2 Problem Statement

When a manufacturing company decides to outsource their transportation and distribution functions to a 3PL provider, these functions have to be examined conscientiously so as to ensure that the selected 3PL provider is performing these functions at a desirable and exceptional level. The principal company has to employ the tenets of performance measurement to assess their selected 3PL provider by means of monitoring specific key performance indicators (KPIs) which will permit both the principal company and the 3PL provider in understanding precisely what areas of logistics need to be improved. By gauging the performance of their selected 3PL provider by means of carefully selected KPIs, it will permit the principal company in making the correct decision with regards to renewing the contract of the current 3PL provider or to find an alternate vendor who can outperform the current 3PL provider.

1.3 Aim of the Study

In this study, what KPIs can be utilized to determine the effective performance of a 3PL provider who has been outsourced to execute the logistics requirements on behalf of the principal manufacturing company, namely Defy Appliances is highlighted.

Given the critical importance that 3PL suppliers play within the logistics function of a company, there has to be a system whereby the principal company can track, monitor and evaluate the performance of its selected supplier. With that being said, this study established the importance of performance measurement and KPI monitoring and evaluation within a manufacturing company who has outsourced their logistics functions. The use of KPI monitoring to gauge the performance of the outsourcing of the transportation and distribution functions within the Supply Chain (SC) is of the utmost performance to help the principal company keep costs under control as well as to keep customer satisfaction levels high. If the 3PL provider is not performing according to the expected service levels, then the necessary actions need to be taken in order to rectify the situation or the principal company will risk severely damaging its reputation, especially those aspects related to outsourced function; namely the transportation and distribution functions.

1.4 Research Objectives

The research objectives were to:

1. Acquire a comprehensive understanding of the underlying themes of outsourcing from a SCM perspective.
2. Understand the fundamental principles of performance measurement and to recognize the importance of KPIs in assessing the performance of 3PL providers.
3. Recognize what KPIs can be used by manufacturing companies to assess the performance of their 3PL provider who performs the principal company's transportation and distribution functions.
4. Examine the potential risks and dangers that are associated with the outsourcing of logistics functions within the SC of manufacturing companies.

1.5 Research Questions

The research questions were:

1. What are the influencing factors that motivate or drive a company to resort to outsourcing and how can the outsourcing of logistics be implemented successfully?
2. How does key performance indicator appraisal improve the buyer-supplier relationship and how does performance measurement add value to the principal company?
3. What KPIs can be utilized by the principal company to assess whether their selected 3PL provider is performing their responsibilities to a level deemed appropriate by the principal company?
4. What are the risks that accompany logistics outsourcing and what remedial actions can be taken to eradicate such risks?

1.6 Significance of the Study

Bloem and Bean (2015:1), state that in a make-or-buy decision-making setting, multitudes of companies have renounced pivotal business functions to external suppliers, mistakenly identifying these functions to be non-critical. The authors, Bloem and Bean (2015:1), postulate that outsourcing logistics activities is a managerial verdict that is frequently made without appropriate examination, appraisal and analysis, and repeatedly comes about from companies looking for a fast and easy way to decrease expenditure given the harsh economic climate.

3PLs have a globally mounting prominence as they allow for the provision of fast paced and diverse services to companies from different sectors so as to motivate these companies to slash costs, to concentrate on their core differentiating functions and, therefore, to permit these companies to attain higher levels of performance. Thus, there is a need to control performance and performance measurement systems, specifically key performance indicator appraisal play, definitely, a crucial role in monitoring and enhancing performance (Domingues, Reis and Macario, 2015:11). Herein rests the significance of this research. The significance of this research is that allowed Defy Appliances to identify which areas of their outsourced logistics functions can be improved by communicating this to their 3PL provider.

1.7 Background of the Research

The significance of transportation activities and its impacts on the logistics of companies is hinged upon the facets of outsourcing and the hiring of operators to achieve transportation requirements (Kherbach and Mocan, 2016;406).

A multitude of top-notch commercial companies have decreased inventories substantially and depend now on real-time information, combined with fast transportation, to satisfy the requirements of their customers with significant savings in costs with regards to warehousing, acquisition, packaging and transportation having all been realized due to outsourcing (Erturgut, 2012:4222).

Within this research, the fundamental principles of outsourcing as well as performance measurement will be looked at from a logistics perspective. That being said; the foremost underlying theme of this research deals with the outsourcing of a company's transportation function to an appropriate supplier and how such a supplier's performance can be measured through the use of KPI appraisal.

1.8 Background of the Company

In Southern Africa, Defy Appliances is the leading distributor and manufacturer of domestic appliances with a trackable history dating back for over a century (Defy, 2016:1). Defy has its headquarters in Jacobs, Durban, but it operates three production facilities as described below:

- Jacobs – free-standing stoves, built-in ovens and hobs, tumble dryers and console air conditioners are all manufactured here.
- Ladysmith – electric chest freezers and electric refrigerators are all manufactured here.
- East London – electric refrigerators are manufactured here.

All these three production facilities have been accredited in terms of the International Standards Organization quality rating (ISO 9001-2009) (Defy, 2017:1). In addition to the abovementioned products, cooker-hoods, gas stoves washing machines dishwashers and microwave ovens are also assembled.

In Southern Africa, Defy has the strongest brand positioning concerning domestic appliances due to its consistent product quality and meaningful product innovation signified by its slogan - 'Believe in Better'.

Defy has approximately 3000 employees and is a member of the Arcelik Group, a Turkish multinational conglomerate (Defy, 2017:1). Arçelik A.Ş. offers goods and services throughout the globe with its 30 000 employees, 15 production facilities in China, Turkey, Russia, Romania and SA. It owns 10 brands which include: Blomberg, Beko, ElektraBregenz, Flavel, Dawlance, Leisure, Arctic, Grundig, Defy and Altus offering goods and services in excess of 130 countries (Defy, 2017:1).

1.9 Limitations of the Study

This study is limited to a handful of employees of Defy Appliances and as such, the results of this research will be hinged upon the insight garnered by these individuals. That being said, the results of this study cannot be generalized to the different companies involved in the appliances industry of SA.

1.10 Theoretical Framework Adopted for this Study

The following section discusses the theoretical framework adopted for this research.

Outsourcing entails diverse undertakings and each undertaking can be designated by several frameworks embedded in several theoretical methodologies (Tayauova, 2012:189). Based upon an extensive and thorough scrutiny of different theoretical frameworks, the Resource-Based View and Transaction Cost Analysis are both utilized for this particular study. This is because

the vast majority of authors who have conducted research relating to logistics outsourcing have explicitly made use of both the Resource-Based View and Transaction Cost Analysis theories as their theoretical framework.

1.10.1 Resource-Based View

The Resource-Based View (RBV) in outsourcing stems from the proposal that a company that does not possess valuable, rare, inimitable and organized resources and capabilities, will look to an outside supplier to combat that dearth (Li-jun 2012:1269). The most noticeable adoption of the RBV in outsourcing is the planning stage for defining the decision making framework and in the vendor selection stage for choosing a suitable vendor (Tayauova, 2012:189). Companies will provide for their shortcomings in competencies and resources in an affordable way in order to preserve a unique product as well as its competitive advantage.

Transaction Cost Analysis is discussed briefly below.

1.10.2 Transaction Cost Analysis

It is very important to examine the matter of integration and uncertainty in outsourcing relationships. Outsourcing is a powerful vehicle to decrease expenditure, to evade risks and enhance the attractiveness of core attributes by apportioning part of a product's function to outside providers (Yang and Zhao, 2016:212). Additionally, Transaction Cost Analysis (TCA) was created to enable an exploration of the comparative costs of planning, adapting as well as inspecting task achievement (Tayauova, 2012:189). In TCA, the unit of analysis is a transaction, which happens when a product or service is transmitted through a technologically separate interface and decision-makers have to carefully consider manufacturing and the transaction costs accompanied with completing a transaction within their company – insourcing, versus the manufacturing and transaction costs accompanied with executing the transaction in the market – outsourcing (Tayauova, 2012:189). Companies can select whether to purchase from the market or to make in house, the choice is hinged upon relative costs, pooled from the costs of manufacturing and the transaction.

1.11 Format of the Study

The outline for this study is described below:

- Chapter 1- Introduction: This chapter entails an outline of the research. The background of the study and the problem statement were also provided. The research objectives and research questions are stated in relation to the problem statement. Moreover, the aim and significance of the study have been formulated in order to give a deeper understanding of the study. The limitations of the study are contained in this chapter as well.
- Chapter 2- Literature Review: This chapter largely concentrated on outsourcing. Each research objective will be thoroughly examined bearing in mind the problem statement and aim of the study. Moreover, the literature related to outsourcing and logistics will be discussed in lieu of the theoretical framework. Lastly, this chapter principally made use of peer-reviewed journal articles.
- Chapter 3- Research Methodology: Here, the research methodology and its underlying design is discussed. The target population, the sample size and the sampling technique were all examined. Furthermore; ethical considerations, validity and reliability as well as the elimination of bias were discussed.
- Chapter 4- Discussion: the penultimate chapter in this dissertation encompassed a critical discussion of the objectives of the research as well as answering the research questions. This chapter will present the findings of actual empirical investigation to be carried out.
- Chapter 5- Conclusion and Recommendations: The last chapter tied up the research in its entirety and recommendations will be provided. Also, recommendations for future research will be contained within this chapter.

1.12 Conclusion

Outsourcing is of the utmost importance to companies because if this activity is not given due consideration and the proper attention that it deserves, then there can be disastrous consequences. This statement is supported by Tayauova (2012:194) who affirms that outsourcing has become one of the most widely used contemporary business practices, however, there are certain advantages and disadvantages associated with it bringing both benefits and risks to the principal company.

With regard to monitoring and evaluating the selected 3PL provider, there are certain KPIs that will be utilized to aid a company in understanding if its logistics and distribution functions are being performed with a high degree of quality or if there are any signs of poor performance on the part of 3PL provider. There are also risks associated with the outsourcing of logistics which have to be avoided as these risks can be quite disastrous for the outsourcer.

The next chapter reviews the literature regarding KPI appraisal and logistics outsourcing.

Chapter 2: Literature Review

This chapter presents literature that is relevant to the title and objectives of this research. The format of this chapter is as follows: First, the concept of logistics will be fully discussed, thereafter, the motivating factors or logistics outsourcing as well as the logistics outsourcing process is examined. Afterwards, PM and KPI appraisal is discussed at length. Lastly, the dangers of logistics outsourcing are analysed in addition to the remedial strategies to combat the dangers of logistics outsourcing.

2.1 Introduction

In today's complicated international business environment – with its quickly evolving technologies, developing world markets, and vastly comprehensive SCs – all place progressively serious decision-making anxieties on logistics professionals (Bloem and Bean, 2015:1). Furthermore, the present hyper-competitive environment, categorized by continuous transformation, market volatility, and the burden to cut costs and cycle intervals, together with the trend of globalization, has provided additional stimulus to the progression of outsourcing (Erturgut, 2012:4223).

In a make-or-buy decision-making background, too many companies have surrendered their core business tasks to external suppliers (Bloem and Bean, 2015:1). Logistics plays a significant part in a company's competitiveness as many top-notch profit-making companies have slashed inventories considerably and now depend on instantaneous information, in conjunction with fast transportation, to satisfy their customers' demands (Erturgut, 2012:4223).

The increasing intricacy of industrial manufacturing and the requirement for sophisticated efficiency, superior flexibility, improved product quality and less cost have all altered the aspect of manufacturing practices (Katarikar and Pawar, 2014:45). In the present competitive economic environment, customers do not just desire; but rather, demand manufacturers to make available high quality goods in a timely fashion at reasonable prices and to satiate this demand, manufacturers have to plan the required and adequate capacity (Katarikar and Pawar, 2014:45). Occasionally, the accessible capacity is insufficient to manufacture all the products, so choices have to be made with some functions being outsourced.

This fierce and competitive environment of the current manufacturing industry companies is quite dynamic with many companies all targeting to acquire a segment of the global market and to take advantage of outsourcing efficiencies as well as the swift response capability of production processes in response to fluctuating market conditions (Hrusecká, Macurová, Juricková and Kozáková, 2015:50). These market fluctuations create increasing intricacy with regards to production processes with the whole SC becoming progressively sophisticated because for many companies, the gap is widening between what they would like to achieve and what they can actually do in-house (Hrusecká *et al.*, 2015:50). Therefore, the practice of outsourcing is on the rise.

In line with the upsurge in industry competition in the manufacturing sector in addition to end-customer demand for improved service quality, scores of companies are embracing the strategy of 'co-operating to compete' in the interests of reducing costs and make the most of service quality; and hence performance (Cheng and Tongzon, 2014:42). Among the various types of strategic collaboration, logistics outsourcing, the provision of logistics services through third-party logistics service providers, is part of an enduring tendency toward outsourcing logistics undertakings by manufacturers, retailers and distributors alike (Cheng and Tongzon, 2014:42).

The next paragraph gives a brief description of SCM before the two concepts of Outsourcing and Logistics can be explained.

2.2 Supply Chain Management

SCM is the management of a network of businesses and organizations to deliver goods and services in relation to customer requirements with regards to cost, value and time. A SC incorporates all undertakings in satisfying customer requests and demands with these undertaking being associated with the movement and transformation of goods from the raw materials phase, through to the end user, along with the associated flows concerning information and resources (Hila and Dumitrascu, 2014:328). The good and services travel through a succession of businesses as they move from the original source of raw materials through the final consumer (Hila and Dumitrascu, 2014:328). SCM epitomizes the planning and administration of all functions involved in the establishing of the sources and purchasing of products, their conversion plus the management of logistics activities (Council of Supply Chain Management, 2017:1). Moreover, it comprises the co-ordination and collaboration between

commercial partners, as suppliers of goods, intermediate channels, service providers and customers in order to assimilate and realize a proficient management of supply and demand (Council of Supply Chain Management, 2017:1).

Companies focus on their core functions and on their strengths, so that sundry SC activities are outsourced to various institutions that are more specialized in such activities (Hila and Dumitrascu, 2014:328). An important feature of SCM is unswerving, first-class logistics facilities and as SCM develops more and becomes more specialized and the gap between what companies want to achieve and what they can perform in-house widens, the justification for outsourcing to third-party logistics providers (3PLs) is further vindicated (Aktas *et al.*, 2011:833). Therefore, there is presently a tendency among industrial manufacturing companies to outsource those functions and activities that are outside their core business offering (Aktas *et al.*, 2011:833).

The outsourcing of operations all through the SC is a shared undertaking in the logistics sector with the purpose and function of SC outsourcing assists in identifying opportunities for enhancing the performance as well as prospects of optimizing the storage, transport and distribution competencies of the principal company engaged in outsourcing their logistics functions (Gil and McNeil, 2015:111). This type of outsourcing influences the total performance of the SC (Gil and McNeil, 2015:113).

That being said; the next two sections provide an explanation of both outsourcing as well as logistics. These two concepts have to be first understood within the context of SCM before the notion of 3PL can be described.

2.3 The Concept of Outsourcing

Outsourcing is made up of two words – “out” and “sourcing”; sourcing represents the activity of transferring responsibilities, work and decision rights to somebody else as companies outsource activities due to their being external parties who can perform it faster, cheaper and better (Tayauova, 2012:189). Another definition of outsourcing is the allotment of risk and responsibility for executing a task or service to an external individual or institution” (Tayauova, 2012:189). Briefly, outsourcing can be defined as the process of delegating tasks or operations to external parties, who can do it quicker, more cost effectively and with enhanced quality.

It comprises the purchasing of physical and service inputs from external companies either through termination of a function that was performed in-house previously or the abstention from a function that is well within the capability of the company (Reeves Jr *et al.*, 2010:459). Outsourcing remains to be a noteworthy management concern and subject of research in the academic because field because it impacts upon both manufacturing and service technologies (Reeves Jr *et al.*, 2010:459). Outsourcing is an activity that is highly effective in modern business, because multitudes of companies aim to employ all the inventions of science, methods and technological achievements to issue competitive and qualified merchandises in order to please demanding consumers (Tayauova, 2012:188). This situation has benefits for both parties involved, because each party can focus its resources on the improvement of its core competencies and prospective directions of activity which will lead to a crucial decrease in expenditure with regards to creating the end product as each party solely works on what it can do best without applying supplementary effort or having to learn new activity types (Tayauova, 2012:188).

When companies outsource their business functions, a buy decision is made, in contrast to a make decision when the function is performed in-house (Bloem and Bean, 2015:2). Logistics functions that are prevalently outsourced comprise of primary logistics, the secondary distribution of goods, warehousing, logistics planning and reverse logistics (Bloem and Bean, 2015:2).

Companies usually outsource their logistics needs to peripheral service providers so as to enhance the efficiency of their core activities (Yang and Zhao, 2016:211). How to manage their relationship with their service provider is crucial to the success of the outsourcing agreement (Yang and Zhao, 2016:211). Integration, an innovative tactic in inter-firm partnerships is as an effective means of collaboration in ensuring that the outsourcing relationship is successful (Yang and Zhao, 2016:211).

Owing to the globalization of production and manufacturing, distribution companies have recently adopted the logistics management view to direct their business operations (Gürcan, Yazıcı, Beyca, Arslan and Eldemir, 2016:227). Logistics, the central aspect of the SC, has significant importance on the proficiency and the cost of the whole SC (Gürcan *et al.*, 2016:227). The concept of logistics is discussed next.

2.4 The Concept of Logistics

Logistics is defined as planning, implementing and controlling the actual movement of materials and finished goods from the origin point to the end point of consumption to satisfy customer`s need whilst making a profit (Council of Supply Chain Management, 2017:1). The term logistics originated from the Greek word Logistikos and the Latin word Logisticus which refers to the science of calculating and computing (Neeraja, Mehta and Chandani, 2014:666). During the Second World War it gained prominence in military operations with regards to the transportation of medicine, equipment, men, and food through border-ways and nowadays; logistics has developed a larger connotation and is utilized in the business of moving raw materials from suppliers to manufacturers and ultimately the end products to final consumer (Neeraja *et al.*, 2014:666).

Logistics is a dynamic activity that permits the association between production and consumption (Domingues, Reis and Macario, 2015:663). It is a multifaceted operation which can be measured from various perceptions with a major objective of guaranteeing the efficacy as well as effectiveness of all the events from the point of origin to the point of consumption while ensuring that the customers` required quality, comprising information reliability and responsiveness to the customers` requirements are all met (Domingues *et al.*, 2015:663).

Moreover, logistics plays a vital role in integrating the SC of industries because with the globalization of markets, logistics has become a major aspect whereby industries can slash costs and enhance their customer service quality (Akman and Baynal, 2014:1). At the present time, multitudes of companies are in the practice of outsourcing their logistics operations to what they refer to as 3PL providers so to introduce goods and service novelties speedily to their markets (Akman and Baynal, 2014:1). Therefore; there is an increasing trend that manufacturing companies outsource their logistics activities to meet their increasing need for logistics services (Akman and Baynal, 2014:1). This trend has amplified the importance of the concept of 3PL providers and in the present economic climate, countless companies resort to such providers who are qualified in completing partial or their total logistic needs in an economically viable manner. Now that both the concepts of outsourcing and logistics have been discussed; the notion of 3PL is explained.

2.5 Third-Party Logistics Providers

Third Party Logistics is 3PL for short and it was unknown in the United States before 1990 (Yang, 2014:17). The appearance of 3PL is owing to the fact that the manufacturing industry is increasingly becoming more competitive, which creates huge pressure for companies to continuously search for methods to design new items, manufacture them and to distribute them to end customers in a resourceful and efficient technique (Yang, 2014:17). In order to constantly decrease costs, companies have started to outsource logistical functions to 3PLs which is now fast becoming an extensive practice in industries around the world (Akman and Baynal, 2014:1). 3PLs possess the scope, scale, resources and valuable experience in, transportation, distribution and warehousing, thereby offering facilities and services more competently than what companies can do in-house at affordable rates (Yang, 2014:17).

Thus, Logistics outsourcing is defined as when manufacturing institutions entrust its logistics operations to 3PL providers with the intention of reducing management expenditure, enhancing its core competitiveness and centralizing its resources, through the contract agreed upon by both parties (Li-jun 2012:1269).

The activity of employing external sources in the logistics domain is referred to as 3PL services who have to work synergistically with the companies to which offer external source service in order to meet the marketing strategy of customers (Ertugut, 2012:4222). Thus, 3PL providers make available widespread logistics services to the companies using external sources to facilitate the transfer of goods from one station to the next (Akman and Baynal, 2014:3). The latest academic work regarding the outsourcing of logistics reveals that customs brokerage, IT and warehousing could all impact managerial as well as the strategic facets of SCs (Akman and Baynal, 2014:3). According to Ertugut (2012:4222), logistics is a prevalent function that is regularly outsourced with adept 3PLs assuming part, or all, of the storage material and movements. Those logistics functions which can be considered to be non-value-added activities are usually outsourced as they are critical to the smooth running of the manufacturing entity, but; not a distinctive ingredient of the overall product (Ho *et al.*, 2012:10841). It is for this reason that companies have an inclination to outsource those functions to the external companies thereby focusing exclusively on the value-added activities in order to develop a sustainable competitive advantage (Ho *et al.*, 2012:10841).

The implementation of logistics outsourcing has forced companies to concentrate on their core functions and to simultaneously outsource their distribution and transport activities (Gürcan *et al.*, 2016:227). Outsourcing affords a certain power that is unavailable within a company's internal subdivisions; this power can have several dimensions: access to expensive and capital, process expertise, economies of scale (Gürcan *et al.*, 2016:227). By outsourcing distribution and transport, companies can save on capital investment which in turn will decrease financial risks.

The unprecedented advancement of 3PL providers in the last thirty years concurs with the unparalleled globalization of SCs and when companies engage in international commercial transactions, they regularly work together with 3PL providers in external markets so as to lessen the risks of having to invest in logistics assets (Shi, Zhang, Arthanari, Liu and Cheng, 2016:189). Due to the lack of local knowledge, they are more probable to rely on 3PL providers to surmount SC operational difficulties (Shi *et al.*, 2016:189). The next section describes the relationship and connection that exists between 3PL and outsourcing.

2.6 The Relationship between 3PL and Outsourcing

Akman and Baynal (2014:3) defines 3PL as the relationships between interfaces in the SC of the principal company and the 3PL provider, where logistics services are offered in either short or long-term relationships, with the intention of efficiency and effectiveness. Logistics services comprises of both physical and non-physical services which serve three functions; storage and management of inventories; movement of inventory from the supplier through the distribution channel till delivery; and lastly, the realization of the place and time utilities defined in the organization's marketplace strategy (Gupta and Dhillon, 2016:113).

3PL companies make available an assortment of logistics orientated activities, such as: warehousing, distribution, freight consolidation plus transportation and outsourcing these activities permits companies to cut costs and to concentrate on their core competencies allowing them to create a competitive advantage over rivals (Domingues *et al.*, 2015:663). Nonetheless, selecting the right 3PL to partner with is an extremely difficult decision (Domingues *et al.*, 2015:663).

3PL coupled together with SC complexity and the growing demands from customers have all resulted in the popularity of logistics outsourcing (Gupta and Dhillon, 2016:113). This is because it is essential for companies to develop and to penetrate into fresh markets and this can

only be accomplished with the assistance of the 3PL provider who they team up with (Gupta and Dhillon, 2016:113). Shortened delivery periods, globalization and the relentless need to satisfy customers have all contributed to the trend of outsourcing logistics functions to 3PL providers who assume the undertakings of operational planning, storing and controlling different types of raw materials and finished goods and service as well as the information flow from the beginning to the end of the SC (Gürcan *et al.*, 2016:227).

Thus, many companies find it more advantageous and cost-effective to resort to 3PL providers for their logistics functions, either partially or in totality (Gürcan *et al.*, 2016:227). A logistics strategy has three focal purposes: reduction in costs, reduction of capital investments as well as improvement in service offerings (Gürcan *et al.*, 2016:227).

Ultimately, the objective of the 3PL provider is to achieve or realize the functions that the principal company does not want to undertake in a cost effective manner (Yang, 2014:17). That is why 3PL is a for-hire logistics service available to both the buyers and sellers of raw materials, goods in process and finished products (Yang, 2014:17).

Now that the concepts of outsourcing and logistics have both been explained and described within the confines of SCM and 3PL as per the above paragraphs; the next section of the literature review will discuss the influencing factors that drive or motivate a company to resort to outsourcing.

2.7 The Influencing Factors that drive a Company to Resort to Outsourcing

Assuming that a company has deliberated an aspect, for example, technology insufficiencies or capacity constraints, it may be unable to produce every unit of product that the market demands (Katarikar and Pawar, 2014:45). The best action to take in such a circumstance is to concentrate on the most profitable products for the company and to utilize available technology and capacity to manufacture these products (Stojanović, 2012:525). As such, manufacturers encounter the challenge of planning available capacity for manufacturing several products all at once and owing to the fierce competition in the industry and easily accessible new technological applications; the manufacturer must produce either a variation of standard or custom-made products to satisfy the requests of its customers (Katarikar and Pawar, 2014:45). Such variation in production adds complication to a manufacturer's SC as some products may share mutual manufacturing processes or utilize common components (Katarikar and Pawar, 2014:45).

The outsourcing decision is subjective to the nature of the company working with the manufacturing industry and the direction of the corporate structure but regardless; the cost factor has been dominant and simply cannot be overlooked (Wan, Wang, Lin and Dong, 2015:80). There are four strategic reasons to outsource: to improved overall business performance, improved control of payment, scalable staffing and superior cash flow (Iqbal and Dad, 2013:92).

Companies contemplating outsourcing evaluate the cost element very seriously and if the savings in operational costs is realizable through outsourcing then the available resources can be reinvested to acquire and maintain a competitive advantage (Wan *et al.*, 2015:80). Conversely, companies at the present are opting to outsource isolating the cost factor in order to focus on core competencies (Akman and Baynal, 2014:4).

2.8 The Drivers of Logistics Outsourcing

According to Bloem and Bean (2015:2) there are several occasions that warrant buy decisions; these are: where inferior in-house information technology (IT) competencies exist, when logistics activities do not constitute a primary function, when it is critical to nurture market relationships in order to grow customer footprint and market share and lastly, when a considerable cost-saving is present and no distinctive risk is foreseen. It is very much possible that a company will engage in outsourcing if there is evidence of an immediate decrease in costs or marginal cost-benefit in entering the agreement (Bloem and Bean, 2015:2).

Consulting to the logistics literature, there are abundant reasons why institutions decide to undertake their own logistics activities in-house, or decide to outsource such activities. The two most repeatedly cited reasons for outsourcing logistics functions are cost reduction and service improvements (Rajesh, Ganesh and Pugazhendhi, 2013:40).

In addition to cost and service, there are plentiful other reasons that prompt institutions to resort to outsourcing their logistics needs to 3PL providers. These reasons take into account the opportunity where a company can: Upgrade its IT aptitudes, focus on its core competencies in an exclusive fashion, quickly respond to changes in the regulatory environment, leverage SCM, improve its productivity, respond to globalisation, grow rapidly or to gain access to their 3PL provider's expertise and know-how (Rajesh *et al.*, 2013:40). In addition to the abovementioned reasons, when a company possesses limited resources to apply to logistics activities, and when a

company encounters challenges of operating in a just-in-time environment – these are also reasons to consider logistics outsourcing (Rajesh *et al.*, 2013:40).

With that being said, the five foremost factors that compel a manufacturing company will be discussed next.

2.9 The Top Five Factors that Compel a Company to Resort to Logistics Outsourcing

The top five factors will now be explained over the ensuing pages.

2.9.1 Financial Incentive

Companies usually have a restricted investment budget as the funds have to be used for investing and furthering its core functions which are persistent decisions which then leaves non-core functions to be outsourced to external parties (Ngonela, Mwaniki and Namusonge, 2014:47). Cost reduction and economies of scale are amongst the most alluded reasons to consider outsourcing (Iqbal and Dad, 2013:96).

2.9.2 Focus on Core Competencies

If companies want to compete in the current markets which are insanely competitive, then it is imperative to focus on their core competencies and to implement outsourcing as a strategic answer to enhance the quality of their service offerings and to slash costs of non-core processes (Liu, Huo, Liu and Zhou, 2015:42). A major driving force of outsourcing is that it permits the principal company to concentrate on their core processes and competencies; however, if these are poorly defined then outsourcing will have a detrimental influence on the principal company's overall performance

2.9.3 Improved Productivity

Another driver or motivating factor of outsourcing is an improvement of productivity due to the levels of speciality knowledge and expertise of the 3PL provider (Ngonela *et al.*, 2014:49). As mentioned earlier the principal company usually engages in outsourcing to enhance customer service, efficacy, cost reduction, economies of scale and lastly, access to expert knowledge offered by the 3PL provider. Thus, a 3PL provider with the necessary logistics infrastructure as well as expertise executes regular activities that normally would have been executed in-house (Akman and Baynal, 2014:1). The 3PL accepts the responsibility to advance productivity in

order to assure the contracting or principal company that the benefits of outsourcing are superior to the benefits of in-house logistics management (Ngonela et al., 2014:49).

2.9.4 Technology Advancements

With the rapid progress in technology as well as swiftly changing business situations both necessitate companies to implement new technology so as to keep abreast of their competitors (Iqbal and Dad, 2013:97). By outsourcing logistics requirements to external suppliers, the principal company can gain access to the technological innovation of their transportation supplier without having to fork out large sums of capital to invest in the latest technological know-how. Additionally, these technological innovations can be executed in-house at a later stage after the IT department of the principal company has improved itself in accordance with the mandatory levels of knowledge and skills (Iqbal and Dad, 2013:97).

2.9.5 Access to expertise

3PLs offer expertise that manufacturers and distributors and can take advantage of, permitting its customers to attain effective SC solutions with minimal total costs (Rajesh *et al.*, 2013:38). Outsourcing offers a distinctive power that is unavailable inside a company's internal departments and this power can have various aspects and dimensions: access to expensive technology, economies of scale, process expertise and access to capital (Gürcan et al., 2016:227). The next section will explain several factors that also motivate a company to outsource their logistics functions that fall outside the top five which have been explained above.

2.10 Auxiliary Factors that Motivate Companies to Resort to Logistics Outsourcing

The logistics outsourcing literature also mentions particular kinds of instances that can 'trigger' a company to become attracted to the prospective of outsourcing logistics functions. Such instances as: changes in executive management, changes in logistics management, corporate restructuring, market and product line expansions, corporate cost/headcount programmes, increasing customer demands, mergers and acquisitions, customer use of just in-time, new market penetration, instituting a quality improvement programme, labour costs/problems and Chief Executive Officer (CEO) directives to scrutinize the feasibility of outsourcing have all been regarded as reasons why companies begin to consider outsourcing as an alternative (Rajesh

et al., 2013:38). Thus, outsourcing is a frequent mechanism of coping that companies utilize to deal with change.

Moreover, additional factors that compel a company to resort to logistics outsourcing include the need to reduce the number of vehicles, excess inventories and warehouses along with increasing business operations and dealing with the costs of labour (Rajesh *et al.*, 2013:38). The abovementioned driving forces behind the outsourcing decision reduce fixed and working capital investments which then facilitate companies focusing on their core business activities (Rajesh *et al.*, 2013:38).

2.11 When to Implement Outsourcing

Hila and Dumitrascu (2014:334) states that the outsourcing decision is crucial with several scenarios assisting in making the decision to outsource. These scenarios are mentioned below as put forward by (Hila and Dumitrascu, 2014:334).

- When a company requires help with a specific function. Outsourcing can be utilized as a short-term solution which would be cheaper as well as being easily sustainable.
- When company expansion is required so as to satisfy the growing demands of customers and to deliver an incessant number of goods timeously, however, there is a dearth of resources or infrastructure to radically upgrade, thus outsourcing becomes an extremely encouraging solution.
- When a new process has to be started immediately in-house within a short timeframe.
- When a skill scarcity exists in a certain field, such as logistics, it would be difficult to acquire the right professionals quickly and taking into account their huge salary packages would only emphasize the need for logistics outsourcing more strongly. By transferring the job or assignment to the experienced and knowledgeable professionals of a 3PL provider, who would command lower salaries, would result in great savings for the principal company both in terms of quality and costs.
- When projects are being incompetently and unproductively executed internally for any reason, then outsourcing would be appropriate as it would safeguard the company against such financial and operational risks.

That being said, the rivalry in the realm of technology has advanced significantly and it is extremely challenging for companies to remain competitive when the competition has superior prices (Iqbal and Dad, 2013:92). The resolution to outsource is not merely cost reduction, but the fundamental objective, according to Iqbal and Dad (2013:92) is to acquire and sustain competitive advantage. Better prices and superior quality is presently what customers demand, and now, these customers an abundant of choices than compared to the past.

There are certain areas that one needs to take heed of when considering outsourcing, these areas are discussed next.

2.12 The Critical Areas for a Successful Outsourcing Programme

Hila and Dumitrascu (2014:331) affirms that there are five critical areas that have to be given due diligence as these five areas are imperative to the success of an outsourcing initiative. These areas are listed below and briefly described thereafter:

- Understanding the objectives and goals of the company
- Familiarisation of the company's strategic vision and plan
- The proper selection of the outsourcing vendor
- Highly controlled and accurate contract monitoring
- Establishing respectable relationships with the outsourcing vendor

In order for outsourcing to be successful, management has to ensure that the selected 3PL provider and their performance contributes to the overall objectives of the company and that the company's long-term vision can be achieved and facilitated by utilizing such a 3PL provider. By selecting the most appropriate 3PL provider; costs can be minimized, profitability can be improved and customer satisfaction can also be enriched – this will further the company's goals and objectives as a 3PL provider is selected with these intentions in mind. In order for this to transpire, the selected vendor has to be managed properly which entails contract monitoring, the process of observing whether the 3PL provider is fulfilling their obligations as per the stipulations agreed upon in the contract with the principal company. The selected vendor's performance will also be scrutinized against KPIs that the principal company will establish. Ultimately, the principal company will want to create and maintain a mutual and health relationship with their logistics provider so that both parties can profit and a formidable partnership can be performed.

2.13 How can the Outsourcing of Logistics be Implemented Successfully?

To give an alternate definition of outsourcing; it is the process of implementing and managing a contractual relationship with an outside supplier for the exchange of knowledge and services that once were provided in-house by the contracting or principal company (Vaxevanou and Konstantopoulos, 2015:568).

The fundamental question at hand now is how to divide this process into discrete phases with the intention of understanding its arrangement and to appreciate its subsequent value (Vaxevanou and Konstantopoulos, 2015:568). That being said, the next part of this literature review will examine the logistics outsourcing process.

2.14 The Logistics Outsourcing Process

The logistics outsourcing process was initially inaugurated by Sink and Langley in 1997, and to adapt to the current market environment, it has been reformulated by Wan *et al.*, (2015:80) – it is depicted in the below figure and is the next topic of discussion in this literature review.

The logistics outsourcing process mainly includes the following five phases and is described in figure 2.1 on the following page.

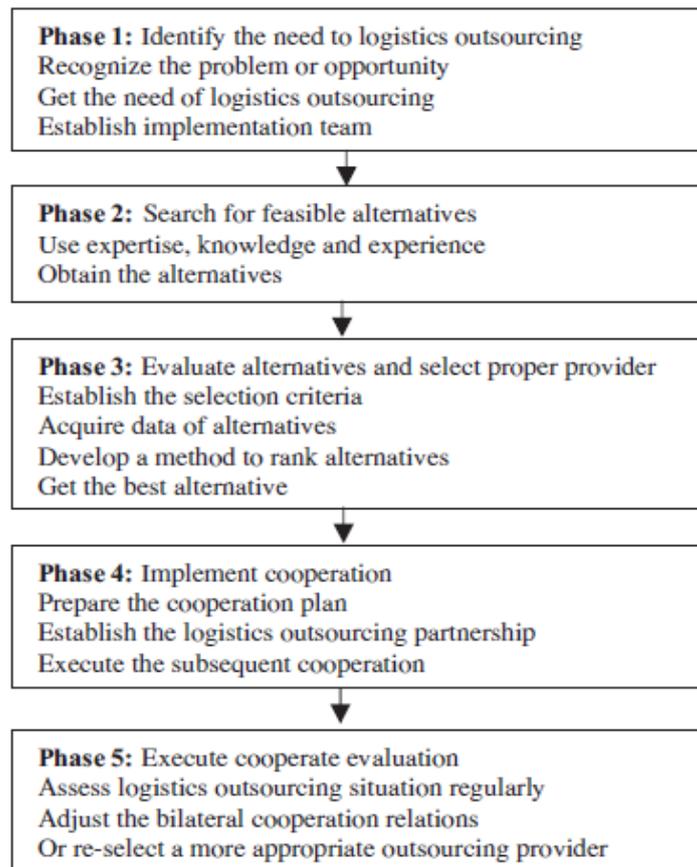


Figure 2.1: The Logistics Outsourcing Process
Source: Wan *et al.*, 2015:81

Figure 2.1 is explained in greater detail over the ensuing paragraphs.

2.14.1 Identify the Need for Logistics Outsourcing

The logistics outsourcing process starts with the recognition that outsourcing is a practical management possibility that can be used to solve problems or to fast-track the ability of companies to swiftly act upon opportunities in the market as companies have to firstly analyse their internal and external situations, identify the need of logistics outsourcing and to simultaneously establish an implementation team (Wan *et al.*, 2015:81). This implementation team is structured in such a way whereby it is supported by knowledgeable experts ranging from different professionals within the company’s subdivisions; such as investment, legal management, IT, logistics, customer service and marketing (Wan *et al.*, 2015:81). The questions that need to be answered by the implementation team in this phase are: “How?”, “If?” and “What?” questions (Vaxevanou and Konstantopoulos, 2015:569).

2.14.2 Search for Feasible Alternatives

The first assignment of the implementation team is to validate the feasibility of logistics outsourcing; this must comprise an analysis of the make-or-buy decision that comprises all pertinent costs (Wan *et al.*, 2015:81). The members of the team must evaluate the benefits and costs by employing their experience, knowledge and expertise. Those 3PL providers that are able to perform the contracting company's logistics requirements will become the prospective alternatives which have to be examined further and then compared to the alternatives (Wan *et al.*, 2015:81). This is a vital phase as one of the prospective logistics vendors will be selected and will become a strategic partner for a substantial amount of time, during which the two entities (the principal company and the 3PL logistics provider) will have to support and cooperate with each other in both bad and good times (Vaxevanou and Konstantopoulos, 2015:569).

2.14.3 Evaluate Alternatives and Select Proper Outsourcing Provider

The appraisals of the prospective alternatives are grounded on establishing selection criteria; such as capacity, delivery capability, cost and quality as the implementation team will provide a detailed examination of the shortlisted vendors in relation to the chosen criteria (Wan *et al.*, 2015:81). It is an exceptionally difficult decision to select the most appropriate 3PL logistics provider on the foundation of the detailed examination as provided by the implementation team bearing in mind that the selection of the 3PL logistics provider is the foremost aspect for the success of logistics outsourcing (Wan *et al.*, 2015:81).

2.14.4 Implement Cooperation

Once the appropriate vendor has been selected, the principal company must inaugurate the logistics outsourcing partnership (Wan *et al.*, 2015:81). This comes into effect because as soon as selection procedure concluded and the most suitable vendor is chosen and the contracts are all signed, then all the agreed-upon operations as well as the dynamics in the previous three phases come into play (Vaxevanou and Konstantopoulos, 2015:569). To implement co-operation is to assure that the functional transition from the previous situation to the scheduled operations is smooth and hindrance-free.

2.14.5 Execute Cooperate Evaluation

By regularly evaluating the logistics outsourcing state of affairs, problems can be revealed and solved promptly (Wan *et al.*, 2015:81). The contracting company can re-select a more suitable logistics outsourcing provider if the current service provider is not up to the proper standard (Wan *et al.*, 2015:81).

Now that the five phases of the logistics outsourcing process have been described, the outsourcing life cycle can be analysed.

2.15 How to Implement Outsourcing – the Outsourcing Life Cycle

Outsourcing has to be executed by utilizing a process-driven tactic because the phases in the process must be strictly adhered to so as to guarantee that the contracting company is systematic and meticulous in managing its outsourcing relationship (Hila and Dumitrascu, 2014:333). Since the phases of the outsourcing process barely change between projects or over time; the one factor that does change is the effectiveness and efficiency of the process itself (Hila and Dumitrascu, 2014:333).

The outsourcing life-cycle is depicted below.

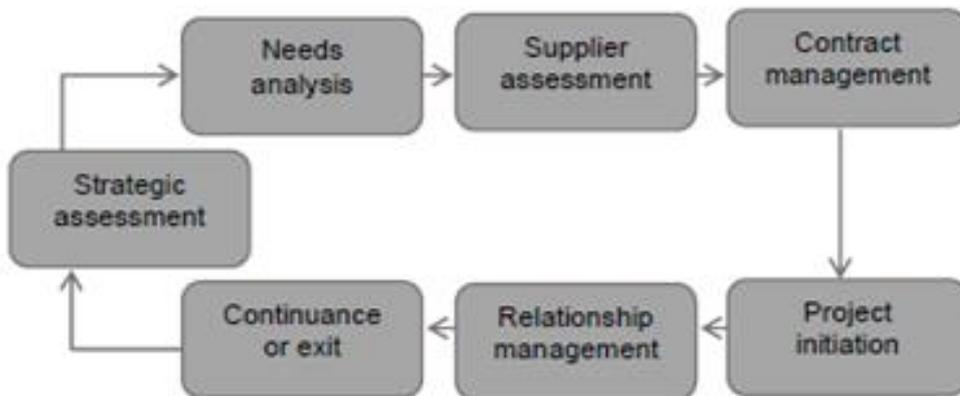


Figure 2.2: The Outsourcing Life-cycle
Source: Hila and Dumitrascu, 2014:333

The outsourcing life cycle is made up of the following stages which are presented in figure 2.2 above. This framework must be used systematically as it will ensure that outsourcing is undertaken in an effective and efficient manner which will be both beneficial to the 3PL provider as well as the principal company. Figure 2.2 is concisely looked at below.

Essentially, the principal company first has to consider its mission and its long-term goals and what it needs to do in order to reach its goals, goals that will be translated into objectives that will be then distributed to each department within the company to accomplish. Regarding the SCM department, they will be responsible for selecting an appropriate 3PL provider after conducting a needs analysis and after reviewing the different proposals put forward by different vendors. After the supplier assessment phase of the outsourcing life cycle (which will include negotiation) the best possible vendor will be selected with the contract then being signed between the two parties with all its different clauses. Once this has been completed, the contract will become effective and the selected vendor will go about undertaking its tasks and responsibilities as per the agreement with the principal company. This will be closely monitored by the principal company who will manage the relationship and will offer all their assistance in order to ensure that the relationship between the two parties can be furthered. If this cannot be achieved, the principal company will have to go out again to the market and tender their requirements in order to select a better 3PL provider if they are unable to continue with their current 3PL provider. Thus, the outsourcing life cycle will start again.

Moreover, (Srabotic and Ruzzier, 2012:207) has proposed the implementation of 'The Seven Steps to Successful Outsourcing' Methodology, which, is critical to successful outsourcing (Planning initiatives, exploring strategic implications, analyzing cost/performance, selecting providers, negotiating terms, transitioning resources and managing relationships).

The same author, (Srabotic and Ruzzier, 2012:209) again gives a methodology to implement logistics outsourcing, these five steps of the logistics outsourcing process are (Making the decision, evaluating the operations and developing criteria and objective, making the list and sending letters, consideration and selection and lastly, beginning the new partnership). The number of outsourcing steps is not as important as their method (Srabotic and Ruzzier, 2012:209). Essentially, the outsourcing life cycle is more or less the same regardless of the number of steps in the process or what these steps are called. Any outsourcing life cycle will follow a methodology similar to the one presented in figure 2.2 above or at the very best, will not stray far away from it. The next part of the literature review will look at the selection of a 3PL provider.

2.16 Selection of 3PL Provider

The decision to utilize a 3PL company depends on an assortment of factors that vary from company to company. This decision will be determined by the company's future objectives, plans, expansion initiatives, product lines and acquisition. As soon as the decision is confirmed to outsource then a company will begin looking for the best 3PL provider that will meet its entire logistics requirements at the most affordable price. When selecting a 3PL provider, the Request for Quotation (RFQ) should be explicit and detailed because the selected vendor must fulfil all the logistics requirements and this can only be guaranteed if every requirement is communicated to the prospective vendors. The RFQ must include: the scope of the contract, including facilities, departments, locations, number of deliveries, information on volumes involved, number of items, warehouse sizes and most importantly; the level of performance required. After the bids have been received from the prospective 3PL vendors, an assessment would occur internally whereby a multi-discipline implementation team will scrutinize each bid against a pre-defined set of criteria. These criteria will include pivotal questions such as: Does the 3PL have the technology required to perform the tasks required? Does the company have the required warehouse space, dock capacity and warehouse personnel? Does the 3PL provide the services required? Does the 3PL have the flexibility to respond to changes? Are the 3PL's geographical locations suitable to cover the network? Is the 3PL financially sound? Are the 3PL's environmental policies compatible? Is the 3PL a good cultural fit? Are the customer references acceptable? Are the costs of the services detailed enough for comparison to other bids?

The appraisal and selection of 3PL vendor is a vital phase in the logistics outsourcing process because the selected vendor will assist the principal company to decrease capital investments in equipment IT, facilities, manpower, improve on-time delivery, reduce the transportation cost increase the flexibility of adapting to changes in the market, reduce inventory and to improve inventory turnover rate (Ho *et al.*, 2012:10841). Selecting the right 3PL vendor has much more implications than skimming through a succession of price lists as the decision hinges upon a multitude of factors both quantitative and qualitative.

As mentioned previously, selecting the most suitable 3PL provider is the most important factor in ensuring that logistics outsourcing is successful – this point is reiterated again by (Peng, 2012:595).

Within business; logistics outsourcing is arguably one of the quickest areas of growth experiencing development at breakneck speed with the amount of logistics vendors and outsourcing companies dramatically increasing with intensified competition (Srabotic and Ruzzier, 2012:206). Both, logistics providers and outsourcing companies, encounter abundant difficulties in their outsourcing endeavours. That being said; it is imperative to understand the success factors in order for outsourcing companies to take full advantage of their outsourcing initiatives. How to go about implementing logistics successfully forms the basis of the next discussion in this literature review.

2.17 Ensuring that Logistics Outsourcing is Undertaken Successfully

Successful and positive logistics outsourcing does not merely concern itself with financial and business goals. Outsourcing could noticeably influence the competitiveness of a company over time as it necessitates comprehensive managing of the outsourcing relationship and this demands due diligence because without understanding the different perceptions and insights of those involved in the outsourcing process; then evaluating the success of outsourcing becomes almost impossible (Srabotic and Ruzzier, 2012:206). Therefore, there needs to be certain factors that warrant this due diligence whereby logistics can be implemented successfully; for the purpose of this study – these factors will be termed critical success factors (CSF) and will be discussed next.

There are several CSF for ensuring success in logistics outsourcing. These factors are listed below in Table 2.1.

Table 2.1: The Critical Success Factors Required for Successful Logistics Outsourcing

1.	Top management support and commitment
2.	The correct people on the outsourcing team
3.	Clear objectives
4.	Fully defined scope
5.	Established financial baseline
6.	Rational process
7.	The right logistics vendor selection
8.	An agreed contract and definition of outsourced activities
9.	Acceptance of responsibilities
10.	Managing the transition phase
11.	Maintaining competitive pressure
12.	Transparent and honest information flow
13.	Respect and support to individuals
14.	Personal development opportunities for any staff who transfer
15.	Improved service levels
16.	Commercial viability for both parties

Source: Srabotic and Ruzzier, 2012:208

From Table 2.1 above, there are 16 listed CSF that Srabotic and Ruzzier (2012:208) consider important for successful logistics outsourcing. Most of these have been described in the work leading up to this section, however, a few will be selected and discussed. The last factor in Table 2.1 above seems particularly important as for logistics outsourcing to be fruitful, both parties must be able to make a profit because fundamentally, both the 3PL provider as well as the principal company are for-profit companies with their underlying goal to increase their bottom line. In Table 2.1 above, points 3 and 4 above entail the principal company explicitly informing their vendor what is expected of them and what they need to do, this in turn will then lend substance to points 8 and 9 as the contract will be created closely bearing this in mind. Additionally, points 13 and 14 are also quite significant because sometimes employees may have to switch over to the opposite party’s facility; such individuals have to be given an opportunity to advance their current position. Also, each and every individual involved in the outsourcing process from the higher rungs of management to the lower level employees have to be given the same respect with support being available to everyone who needs it.

The next section examines the theoretical implications that underpin this study.

2.18 Theoretical Implications

Most of the academic work related to outsourcing largely involves two approaches: Resource-Based View (RBV) and Transaction Cost Analysis (TCT) (Tayauova, 2012:189) and (Wachira, Brookes and Haines, 2016:337).

2.18.1 Resource Based View

In 1984, the publication of Wernerfelt's RBV inaugurated the birth of the theory which states that an institution is the collection of different resources (Li-jun 2012:1269). Having said that, each institution possesses their specific resources, namely – heterogeneity and this heterogeneity governs the competitiveness of each institution (Li-jun 2012:1269).

Consequently, from the perspective of outsourcing, institutions must possess those assets that assist in value creation and are the basis for establishing a competitive advantage, and procure those assets that do not. Additionally, valuable assets are usually institution-specific, that is, the intrinsic value of assets is due to the distinctive association with the institution itself which cannot be simply reproduced by an opposing institution (Reeves Jr *et al.*, 2010:460). Lastly, the RBV also affirms that such value is usually amassed after some time. As a result, those assets that are valuable are, naturally rare and cannot be merely transferred (Reeves Jr *et al.*, 2010:459).

The RBV with regards to outsourcing suggests that institutions that lack rare, inimitable, valuable and organized capabilities and resources will pursue an outside vendor in an attempt to surmount that shortcoming or weakness (Tayauova, 2012:189). The RBV is most prominently utilized in the preparation phase of outsourcing in order to define the decision-making framework and also in the vendor selection phase in order to select the most suitable logistics vendor (Tayauova, 2012:189). Thus, companies will account for their shortcomings with regards to their resources and capabilities by looking to external logistics providers in the most cost-effective manner.

Now that the RBV has been properly defined, the next question that one needs to ponder is what activities a company should outsource. Based on the RBV, institutions have to focus their internal resources on their core competencies where definite and exacting advantages over their rivals exist and which provide unique value to their customers and additionally; activities where no critical strategic need exists should be outsourced (Neves, Hamacher and Scavarda,

2014:690). From this perspective, the justification for outsourcing is strengthened because it will maximise value by gaining access to external resources. Moreover, RBV is particularly adept when analysing outsourcing because institutions fundamentally implement outsourcing initiatives as a procedure for acquiring access to other companies' valuable resources as they lack these resources in-house (Wachira *et al.*, 2016:338). Customarily, RBV proposes that admittance resource information and expert manpower is an essential driving force behind outsourcing this is how outsourcing enhances operational efficiency by cutting expenses as this is usually cheaper to acquire through an external company than compared to developing in-house (Wachira *et al.*, 2016:338).

Transaction cost analysis is discussed next.

2.18.2 Transaction Cost Analysis

The TCA theory was established via the outstanding contributions of Coase and Williamson who state that when institutions purchase a service or product, they incur expenses; some of which include provider searching, price searching, negotiating and contracting; all of which are labelled as transaction costs (Neves *et al.*, 2014:687).

The TCA is widely renowned for its utilization in the “make” or “buy” decision with scholars applying TCA as an apparatus to evaluate the services offerings of 3PL providers (Shi *et al.*, 2016:191).

Decision-makers must carefully evaluate the production and transaction costs accompanying the execution of a transaction within their institution – insourcing, compared the production and transaction costs accompanying the execution of a transaction in the market – outsourcing (Tayauova, 2012:189). Institutions can either decide whether buying from the external market is more feasible than developing in house; this decision hinges upon the relative costs, which is a combination of production and transaction costs as explained in the previous sentence (Tayauova, 2012:189)

TCA is practically at the core of all deliberations concerning the ‘make or buy’ decision with this theory garnering solid empirical support from many academic scholars within the field of logistics outsourcing as the TCA reasons that the customer or buyer will select the 3PL provider who offers the highest efficacy with regards to adapting, planning and monitoring costs (Rajesh *et al.*, 2013:43). Additionally, TCA states that that in transaction situations where there is

unpredictable performance– which generally exists within the 3PL business – buyers or customers will try to safeguard themselves by minimizing the uncertainty in such transactions (Rajesh et al., 2013:43).

2.18.3 Why both RBV and TCA is Needed

As stated earlier, the two foremost theories in respect of the outsourcing decision is the RBV and TCA which have been examined in the preceding paragraphs (Reeves Jr *et al.*, 2010:460).

It is advisable to employ several theoretical viewpoints to study logistics outsourcing and many academic scholars are in agreement to this as they suggest that it is more appropriate to assume both the RBV and TCA when evaluating the make or buy decision in a logistics setting (Shi *et al.*, 2016:191).

Decisions to outsource activities must focus on economic aspects, while assimilating the TCA concept as the approaches to logistics outsourcing directed by TCA and RBV perfectly complement one another (Neves *et al.*, 2014:695). This is because TCA is a short-term tactic based exclusively on costs; whereas RBV supplements logistics outsourcing with a long-term outlook by including strategic importance (Neves *et al.*, 2014:695).

Sections and 2.19 and 2.20 below will look at the advantages and disadvantages of outsourcing

2.19 The Advantages and Disadvantages of Outsourcing

The advantages of outsourcing will be discussed first and then the disadvantages afterwards.

2.19.1 Advantages of Outsourcing:

The most significant advantages of outsourcing are focus on core activities, cost savings, access to experience, improving performance and flexibility (Tayauova, 2012:190). These five factors are explained in more detail in Table 2.2 on the next page.

Table 2.2: The Advantages of Outsourcing

1	First, many researchers agree on the fact that by handing over noncore activities to a trusted third party, a company can concentrate on activities central to its value proposition and increase its competitive positioning.
2	Second, outsourcing in general is held toward one of the main goals as cost savings. The special necessity arises when a certain resource, either human or equipment resources, is not needed full time, or the efforts to obtain the resource cannot be justified.
3	Third, by outsourcing companies have the possibility to access to highly qualified personnel, who may not be available to the client organization and fully exploit the suppliers' investments, innovations, and specialist capabilities.
4	Fourth, an important reason for outsourcing consideration is achievement of an improvement in performance that the outsourcer company might offer due to economies of scale. Large scale can provide a variety of functions and opportunities which will help to save the best available worker, who might not want to work in a less stimulating consumer environment. Additionally, with service providers the level of operational experience is expected to be higher, because of the greater concentration of staff on tasks as compared to internal operations.
5	Fifth, flexibility is the key reason for outsourcing for many companies. Outsourcers' contracts and the jobs of their employees depend on the degree of flexibility to reflect changing business environments.

Source: Tayauova, 2012:190

Table 2.2 is self-explanatory with the advantages of outsourcing being explained. These advantages are what a company hopes to achieve when they engage in outsourcing and are also what motivates them to consider outsourcing.

It is also important for a company to take cognizance of the disadvantages of outsourcing. Table 2.3 analyses these disadvantages of outsourcing; this is achieved on the next page.

2.19.2 Disadvantages of Outsourcing:

The most prominent disadvantages of outsourcing relate to the loss of managerial control over outsourced operations, threat to security and confidentiality, quality problems, hidden costs and reallocation of existing teams (Tayauova, 2012:190). These 5 factors are explained in more detail in Table 2.3 on page 35.

Table 2.3: The Disadvantages of Outsourcing

1	First, the disadvantage related to the loss of control over the outsourced operations stems from the reason that managing external resources requires special skills which is a combination of the skills of people and process management, contract management, and power negotiation.
2	Second, almost every outsourcing contract has terms of security and confidentiality spelled out, but the execution and audit are always difficult. In financial services, requirements keep information known to investment bankers away from traders, brokers, and other individuals who might attempt to use such insider information improperly.
3	Third, one reason to outsource is the expectation of receiving better service from the outsourcer than from internal staff. Outsourcer has to be chosen in that particular way to ensure that there is no bad influence on the quality of goods and services produced. Otherwise, company may lose its position on the market.
4	Fourth, company will sign a contract with the outsourcing company that will cover the details of the service that they will be providing. Anything not covered in the contract will be the basis for the company to pay additional charges.
5	Fifth, the outsourcing is often related to the firing in employees' minds. It is also a problem for the organization's top management team to decide how to reallocate the existing employees. Often after outsourcing a part of the original team moves from outsourcing party to the outsourced one, which in turn causes major changes.

Source: Tayauova, 2012:190

Similar to the advantages of outsourcing, the disadvantages of outsourcing as per Table 2.3 are also self-explanatory. When companies seek to engage in outsourcing, these disadvantages should be avoided by all means or minimized as much as possible. They are negative and the less a company is exposed to it, the better.

The main objective of a company is to be successful, which can be attained with a suitable strategy (Konsta and Plomaritou, 2012:142). That being said, companies establish strategies so as to meet objectives and in turn; they create and monitor processes as this will culminate in the realization of their strategies through meeting their objectives with the fundamentals of success being reflected in the close following of processes (Konsta and Plomaritou, 2012:142). A business process can be defined as a collection of activities that are executed so as to accomplish mutual purposes in accordance with company objectives which have to be clear-cut because these business processes validate the accomplishment of objectives and aims.

Globalisation, intense competition and customers who now have more demanding necessities make the realization of success tremendously difficult which forces executives and managers to focus more intensely on exactly how to better utilize their limited resources to accomplish objectives as put forward by their companies (Tarasewicz, 2016:1434). To appropriately utilize these limited resources, to meet their objectives and to make the right management decisions

concerning the company's SC; advanced measurement tools are required (Tarasewicz, 2016:1434).

That being said; how exactly does a company perform adequately? Are the correct processes in place capable of achieving the company's objectives? Does the company perform according to the required levels? All of these questions explain why companies engage performance indicators in order to control, measure and improve (Konsta and Plomaritou, 2012:142). To put it simply, companies first have to understand where they are and then decide where they would like to go as the most successful companies are those that create channels that distribute their goods or services to their customers in a superior process than their opposition (Konsta and Plomaritou, 2012:142).

However, still, the question remains, how is success measured - enter the notion of Performance Measurement (PM), this is explained in the subsequent paragraphs.

2.20 Performance Measurement

If a company is unsure of its current position, how will that company know what to do in order to advance itself?

The concept of PM is relatively new and emerged in the past twenty years as a rational answer to the following questions: "How are companies performing?", "What is not measured cannot be managed" and lastly "If it cannot be measured, it cannot be improved" (Konsta and Plomaritou, 2012:142).

The word performance is broadly adopted in each and every area of management and according to (Pinheiro, 2011:2) performance:

- Is measured by an expression or number that permits communication
- Accomplish whatever it is assigned to with an exact intent to generate value
- Is the result of an action that either the value created or the content measured
- Is the capability to realize or enhance the design of an outcome, for example, customer satisfaction can be considered as a measure for potential sales
- Involves the comparison of a result, either externally or internally, with some reference standard

- Is a result that often surprises its users
- Is a demonstration that comprises both operational and results actions

Thus, performance is defined as the level of success attained by a company within a particular period, or the qualitative and quantitative expression of the degree of success attained by an individual, group or establishment performing an activity (Akdoğan and Durak 2016:577). Moreover, according to another definition, performance is the determination of the company's objectives that were actually realized with the evaluation of these objectives not only including the quantity of work performed, but the quality of the work performed as well (Akdoğan and Durak 2016:577). In order to discuss performance evaluation, then the company's intentions as well as the goals to be accomplished must firstly be specified with the difference between the point desired to be attained and the actual point attained revealing the company's performance (Akdoğan and Durak 2016:577). Thus, a system needs to be implemented which will enable its users to gauge their performance; this is discussed in the proceeding paragraphs.

2.21 Performance Measurement Systems

Performance Measurement Systems (PMS) are utilized as the choicest information systems in order to gather, display and communicate performance information to investors and shareholders (Pidun and Felden, 2013:3426). Predominantly, PMS are adopted to gauge the health of a company via appropriate indicators and perspectives and act as a gatherer and transporter of information (Pidun and Felden, 2013:3426). In order to enhance the competitiveness and performance of business undertakings; the right information is required at the right time for the right stakeholder.

Since SCM has a central bearing on every operation of a company, therefore, its PM then becomes a fundamental aspect of the entire company as PM not only assists in measuring efficiency and effectiveness of existing processes, but, also assists in equating alternate processes as SCPM helps to greater understand (and improve) the all-inclusive performance of the company (Srivastava, Srivastava and Rai, 2013:1000). In the constantly fluctuating business environment it is compulsory for companies to closely monitor its SC performance the utilization of frameworks and metrics deemed apt for that particular company (Srivastava *et al.*, 2013:1000).

PM is a key element in effective SCM with (Tarasewicz, 2016:1434) reiterating the questions put forward at the beginning of this section; “What is not measured cannot be managed” and lastly “If it cannot be measured, it cannot be improved”. Recently, SCPM has garnered significant attention and this is due to an effective SC being able to understand the entire company’s operating system, which then influences the behaviour of its employees and affords valuable information regarding the company’s current situation to business partners and stakeholders associated with the company (Tarasewicz, 2016:1434).

That being said (Pineiro, 2011:3) states that:

- PM can be defined as the practice of quantifying the effectiveness and efficiency of action.
- PMS refers to the set of indicators or metrics utilized to quantify the effectiveness and efficiency of an action.

2.21.1 Strategic Functions of Performance Measurement Systems

The author, Pineiro (2011:3) has provided the strategic functions of PMS, these are contained in the table on the next page:

Table 2.4: The Strategic functions of performance measurement systems

Evaluate	Performance measurement of current undertakings provides vital, if not critical, information on current program status and how much progress is being made towards the end goal. Thus, performance measurement of a company is a way to make an assessment and comparison with other companies.
Control	Processes can only be measured from the time a company is able to define their performance standards. Performance measurement is utilized for the recognition of problems, whereby identification occurs when a certain indicator reveals a deviation from the established pattern.
View	Measurements are utilized to establish the initial diagnosis before implementing interventions for enhancing company processes. These measurements aim to identify strengths and weaknesses or dysfunctions, from which priorities are given to the implementation of improvement actions.
Motivate	Measures can be used in a very effective manner by motivating and involving people for continuous improvement, giving people feedback on their individual performance
Promote	Performance measures can be utilized to validate success, substantiate additional resources, and earn customer, stakeholder and staff loyalty by revealing results and win recognition inside and outside the company.
Celebrate	Celebration is important because it promotes, motivates, recruits and helps to improve performance because it encourages individuals to improve further in the next month, quarter or year. Celebration improves performance as it centres attention on the individual and thus promotes competence.
Learn	Performance measures contain information that can be utilized to not only evaluate, but also to learn. Indeed, learning is more than evaluation. The purpose of evaluation is to determine what is working and what is not.
Improve	When companies decide to act within the process they should set targets through indicators, for example, using benchmarks as a reference. In this instance, measurement is used to confirm the impact of improvement actions on the process performance.

Source: Pinheiro, 2011:3

Now that the strategic functions of PMS have been described in Table 2.4 above, the characteristics of PMS will be explained – this forms the discussion of the next part in the literature review.

2.21.2 The Characteristics of Performance Measurement Systems

Konsta and Plomaritou (2012:143) have provided some of the characteristics of PMS; these are outlined below.

- They are directly connected to overall business strategy and the company's CSF
- They combine non-financial as well as financial measures
- They utilize different measurements for various areas of the company
- They are adjusted over time to reflect changes in operation and strategy
- They are easy and simple to use

- They offer quick feedback to managers and operators
- They are intended to teach rather than to monitor and control
- They utilize benchmarking to set target characteristics of performance measurement systems found in world class companies

Studies in manufacturing relating to PMS often denote: customer service, delivery, quality, process, dependability, speed, cost, flexibility time and resource utilization (Konsta and Plomaritou, 2012:143). The company adopting PMS must choose which measures are required.

Different metrics and measurement systems are both utilized with PMS (Akdoğan and Durak 2016:578). In the most recent research regarding PMS, much emphasis is given to the creation of PMS which consider both financial and non-financial indicators together (Akdoğan and Durak 2016:578). KPIs are both financial and non – financial that assists companies in testifying how successful their business functions are. Essential conditions for a competent and effective system for PM formulation are standardized processes with KPIs having to be customer oriented in terms of both marketing and logistics terms (Dumitrache, Kherbash and Mocan, 2016:216).

The issue of KPIs are discussed next.

2.22 Key Performance Indicators

KPIs make reference to key indicators for qualifying the effects of corporate strategy, which involves setting the key parameters of a company and analysing the company's strategic objectives into a tool of operational objectives (Yao and Li, 2014:86). KPIs are the foundation of PMS with the purpose of KPIs being to translate corporate strategy into internal activities and processes in order to unceasingly boost the core competitiveness of companies as well as to gain admittance to sustainable development (Yao and Li, 2014:86). KPIs assist in implementing the strategic goals of a company; increases per capita efficiency; effectively motivates employees as well as promotes and enhances the performance levels of both the company and its employees (Yao and Li, 2014:86).

The English Language Dictionary defines an indicator as “An instrument which provides information” and “A qualitative or quantitative variable or factor that provides a reliable and simple method to reflect changes connected to an intervention, to measure achievement and to help evaluate the performance of a company” (Dumitrache *et al.*, 2016:216).

A transportation indicator measures change across a period of time and in the transportation sector; workers take pride in their duty and stand by the maxim “If someone possesses an item, a truck probably brought it” with abundant companies stretching from huge multinationals to smaller family owned businesses, all of whom endeavour to understand and to enhance customer service by adopting KPIs; such as indicators relating to fleet usage, the frequency of trips, and those related to capacity and asset utilization (Dumitrache *et al.*, 2016:216).

KPIs in the business sphere are largely quantitative information as they illustrate the processes and structures of a company and are quite imperative for planning and controlling activities and at the same time creating transparency and supporting management decision makers (Badawy, El-Aziz, Idress, Hefny and Hossam, 2016:1). The same author Badawy *et al.*, (2016:1) states that many companies are using incorrect measures because only a few companies truly monitor their actual KPIs or know what KPIs really are.

Therefore, companies need to know exactly what KPIs to evaluate when assessing the performance of their 3PL provider and are required to examine their 3PL’s service delivery concerning efficiency and effectiveness and for this purpose, PMS have to be created and implemented (Meier, Lagemann, Morlock and Rathmann, 2013:99). By evaluating the performance of their 3PL provider, the principal company can discover possible improvements based on historical and existing data as the appropriate KPIs are required to compute and to comprehend the existing state of affairs, to become conscious of shortfalls where the 3PL provider is performing poorly, and finally, to appraise the effects of measures that are implemented for the improvement of the company (Meier *et al.*, 2013:99). KPIs are the foundation for evaluating and benchmarking the performance and processes of companies (Ali, Al-Sulaihi and Al-Gahtani, 2013:126). Such KPIs assist in controlling the services offered by the 3PL by enabling the comparison between planned and actual results (Meier *et al.*, 2013:99).

To reiterate the importance of KPIs; (Morales-Fusco, Saurí, Lekka and Karousos, 2016:376) suggests that KPIs have to be used to transcend the various complications of making comparative assessments when assessing the performance of a company’s logistics provider. Additionally, KPIs decrease the multifaceted nature of performance to a lesser amount of values which are then easier to monitor, control and improve the quality of the services delivered by the 3PL provider because to properly utilize KPIs involves comparing them (Morales-Fusco *et al.*, 2016:376). For example, if a single input produces a single output and if the input–output data is

known, then this information can be used to determine which 3PL is performing better simply by comparing the numbers; this is what is referred to as productivity -output per input.

The traditional KPIs used in the manufacturing sector usually focus on criteria relating to quality, time and cost. Further supplements added dimensions like delivery time, safety, and risk assessment (Schmidt, Thiede, Kornfeld and Herrmann, 2016:759). The KPIs that are used by a company have to be adjusted in tune with the company's structures and manufacturing situation in order for it to be effective as the successful application of KPIs hinge upon its continuous measurability (Schmidt *et al.*, 2016:759). Furthermore, the accuracy of data along with its timeous availability is also vital to compute indicators regularly. In order to equate current versus target positions, each KPI has to be explicit with regards to its expressiveness with each KPI or collection of KPIs being allocated to a particular person or department that is accountable for reporting to senior management (Schmidt *et al.*, 2016:759). Therefore, a comprehensive approach to categorize and to systematically develop KPIs is obligatory.

Thus, it has become vital to track, measure and manage the performance of SC processes via KPI appraisal (Stefanovic, 2014:1). Now that the concepts of PM, PMS as well as KPIs have all been explained as per the preceding sections, the next part of the literature review will discuss how PM creates value for the company engaged in outsourcing its logistics activities to 3PL providers.

2.23 Value Creation

3PL companies are constantly playing increasing roles in extended SCs converting them from basis movers of products to strategic, value-adding entities (Jayaram and Tan, 2010:263). Likewise, the range of services offered by 3PL companies have drastically increased in quantity by including value-adding functions such as reverse logistics and after-sales support (Jayaram and Tan, 2010:263).

3PL and 4PL providers play a fundamental role in facilitating SC integration and sometimes even managing entire SCs due to them having transformed their roles of storage facilities and distribution centres to channel assemblies by assuming the responsibility of simple repair works which then do not have to be returned back to manufacturers (Jayaram and Tan, 2010:263).

Previously, the only function that was outsourced was transportation but, currently, the whole cycle of logistics functions are now outsourced with the respective 3PL (or 4PL) providers fulfilling the strategic objectives of their customers (Rajesh, Pugazhendhi, Ganesh, Muralidharan and Sathiamoorthy, 2011:149). The utility of 3PL providers are increasing rapidly and with the swelling demand for new services; customers (the principal company) place ever-increasing expectations on their 3PL provider.

The value chain service contributions of 3PL providers comprise assisting their clients to improve process capability, conformance quality and cycle time (Rajesh *et al.*, 2011:151). With timely deliveries and first-class services offered by the 3PL provider, the users of such 3PL providers can improve performance in areas relating to less customer complaints, improved product availability rates, reduction in inventory levels and better order accuracy which will result in the improvement in conformance to quality (Rajesh *et al.*, 2011:151). The principal company's non-core business activities will be executed more efficiently by 3PL providers who are more specialized in these sorts of activities, while the principal company's core functions are adeptly executed out in-house leading to improvements in their cycle time and process capability.

That being said, the next few sections will discuss how KPIS and PMS add value to the principal company; this will be discussed in the context of place and time utility, the focusing of activities related to the principal company's core business and the setting of future directions for the principal company. All three issues will be discussed from section 2.24 all the way through to section 2.26.

2.24 Utility

The success of a 3PL provider is subject to how their clients perceive them in adding value to their own company specifically by ensuring that the correct product is in the correct place at the correct time (Rajesh *et al.*, 2011:151).

Companies not only target earnings but also profitability as well as not just merely winning but also retaining customers (Dumitrache *et al.*, 2016:211). For this to be accomplished, the performance of the selected logistics provider must be pleasing, making the product or service accessible at the right place at right time meeting the customer's expectation of quality

(Dumitrache *et al.*, 2016:216). This ultimately gives rise to place and time utility, which will be examined in the following paragraphs.

2.24.1 Place Utility

Place utility refers to the utility generated for the product by the virtue of its location because product attractiveness can be increased by changes in its physical location. Place utility gives attention to the desire of customers to have convenient access to items where they want them as well as the value customers place on where they purchase items. Having mentioned that, stores make it easier for customers to buy items compared to having to drive to a warehouse or factory where the items are stored or manufactured as customers usually find what they require in a place handily located near work or home. By making products available in a wide-ranging assortment of stores and locations is considered a value-adding activity in terms of place utility.

2.24.2 Time Utility

By making certain goods are available when customers want them corresponds to time utility as a customer's demand for goods depends upon the season, weather or everyday needs and wants. For instance, the demand for jackets is greater during the winter and the demand for, Easter or Christmas ornamentations are greater when the holidays approach. Addressing time utility comprises effective logistics planning with regards to manufacturing and delivery concerns.

From an organisational viewpoint, logistics guarantees that goods are transported to the right place, at the appropriate time in the right quantity in the desired condition. Thus, the challenge of logistics is to make available both place and time utility at affordable prices to ensure that customer value is realized. Looking at SA, the problems arising with place utility is a severe challenge due to SA's extensive transportation corridors. The country's industrial hub is located in Johannesburg, 580 kilometres away from Durban where the closest port is situated by road and 688 kilometres by rail. By travelling along the road there are additional tollgate costs that are incurred which always increase and travelling by rail, the distance increases by 20 percent as it strays from the road by passing through Newcastle, Ladysmith and Volksrust. These are some problems which add to increased logistics costs whilst decreasing the value added by both place and time utility. Logistics adds value by decreasing lead times and ensuring items are where they are meant to be. SA frequently has problems with delivering goods on time as the infrastructure causes delays through closed or damaged roads as well as strikes which usually

increase lead time as traffic congestion and indirect routes are time consuming. Furthermore, SA does not make use of rail transport which can improve lead time due to the inadequate and ineffective rail infrastructure (Tristan, 2015:1).

2.25 Core Business

Logistics creates value by accommodating a customer's delivery requests cost effectively (Rajesh *et al.*, 2011:154). The increase in prominence connected to the focusing on core competencies has unlocked plentiful opportunities for logistics providers (Rajesh *et al.*, 2011:154). A 3PL or 4 PL provider's value and value proposal, given the market it competes for, results from the simplicity with which customers can engage with the 3PL or 4PL provider firm (Rajesh *et al.*, 2011:154).

Also, the recent tendency of company's concentrating on core capabilities has strengthened the popularity of logistics outsourcing (Yeung, Zhou, Yeung and Cheng, 2012:741). Companies depend on external logistics specialists to deliver products to customers in order for them (the principal company) to focus on their own core business (Yeung *et al.*, 2012:741).

3PL providers have a huge number of qualified haulers under contract with the capacity to handle their customer's goods (Rajesh *et al.*, 2011:151). This allows their users to be free to focus on their core business which in this research study involves the manufacturing of domestic appliances. By means of outsourcing all their logistics functions, the principal company's employees can be put to better use and this will see a drastic growth in their core business (Rajesh *et al.*, 2011:154).

The outsourcer can develop competitive advantages by creating long-standing relationships with their logistics providers and in the logistics sector, logistics providers add value to their users by advancing operations efficiency and sharing information as well as resources. When the outsourcer or principal company effectively communicates with its 3PL provider, the 3PL provider can not only slash stock-out and inventory expenses, but also assist with better navigating the web of government regulations and obtain customs clearance to avoid wasteful delays especially in cross-border activities (Yeung *et al.*, 2012:741). Therefore, logistics outsourcing can award attractive payoffs and become a vital part of the principal company's corporate strategy.

2.26 Set Future Directions

SC KPIs are the main tools for evaluating and improving SC performance so as to acquire a competitive advantage (Ambe, 2014:277). KPIs and PMS support SCM goals and offer valuable information regarding future decisions because such KPIs and PMS assist in achieving breakthrough performance with regards to meeting end-customer requirements as well as assessing the SC's capabilities. KPIs are the criteria whereby the performances of goods, services and production processes are appraised and this has an extremely significant role as this contributes to the setting of objectives, gauging performance in addition to determining the future courses of action that the company has to undertake (Ambe, 2014:277)

PM is important for companies in order for them to realize their actual status and by proving a company's actual status will determine the company's future direction (Akdoğan and Durak 2016:577). With the assistance of the PM, the goals which are established can be determined accurately in relation to where the company actually is and where it would like to go. This assessment has to be done properly, because the results from PMS will be essential for the company's future decisions (Akdoğan and Durak 2016:577).

The next part of this literature review will examine buyer-supplier relationships.

2.27 Buyer-Supplier Relationships

Buyer-Supplier Relationships (BSR) denotes the profit-making dealings between institutions for the purchase and supply of goods and services (Waithaka and Waiganjo, 2015:137).

The relationship between a buyer and supplier can be multifarious, because each one (buyer and supplier) wants to take full advantage of its resources, cash investments, time with these factors having conflicting priorities which can strain the relationship (Fernandopulle, 2015:1). The buyer is the person or institution that procures items from suppliers, a manufacturer procuring raw materials or it could be a customer purchasing a finished product from a retailer (Fernandopulle, 2015:1)

Preserving amicable relations with suppliers is important because this will foster win-win situations over extended periods of time because a supplier who is treated with honesty, fairness and courtesy will deliver goods at reasonable prices, will offer great service and will be highly responsive to special requests and emergency situations (Waithaka and Waiganjo, 2015:137).

In the 3PL literature, alliance relationships refer to the formal or informal agreements between principal companies and 3PLs, created for the purpose of advancing mutual goals and to secure shared interests (Jayaram and Tan, 2010:263).

The next few pages of the literature review will discuss how KPIs improve the BSR between the principal company and its 3PL provider by looking at three different, yet closely connected aspects. These three aspects are: Contract management, continuous improvement and benchmarking. Each one is subsequently examined next.

2.28 Contract Management

The relationships that a company establishes and maintains with its supplier-base is of the utmost importance because when a company is a “customer of choice”; then this can assist with reducing costs, mitigating risk as well as and driving innovation (Lee, 2015:1). When companies are great customers they stand to receive flexible and non-bureaucratic support from their suppliers in times of severe calamities.

That begs the question - how do companies develop into a customer of choice; (Lee, 2015:1) suggests that the first place to look at is with the most fundamental element of all BSRs: contracts. The proficiency to examine and control the contracts lifecycle effectually makes the contracting process easier and when both parties are aware of their contractual commitments it guarantees transparency and inspires collaboration, innovation and trust (Lee, 2015:1). By displaying an effort to understand and to work together with their suppliers, buyers demonstrate from the onset signify their dedication and commitment to the relationship.

In view of that, a contract is defined as a legal and enforceable arrangement between two or more parties with it being either oral or written (Bonner, 2017:1). It is essentially a collection of promises as with party promising to do something for the other in exchange for a benefit. (Bonner, 2017:1).

The next two sections will briefly describe the fundamentals of contract management and then the elements of successful contract management.

2.28.1 The Fundamentals of Contract Management

When two companies desire to engage in business with one another, a contract stipulates the undertakings entered into by both companies and the terms that each company will have to meet

as part of their agreement (Goodrich, 2013:1). Contracts severely impact a company's profit because of the emphasis that it places on the income and expenditure of a company as when a contract is poorly defined; one company stands to lose significantly while conversely, the opposing company stands to gain very handsomely (Goodrich, 2013:1). Thus, proper contract management can eventually foster powerful BSRs which will grant access to increased profitability in the long-run, however, only when contract management is undertaken properly (Goodrich, 2013:1). Thus, the question that one needs to ask in response to this should be what constitutes the factors of successful contract management? This is dealt with in the next section.

2.28.2 Elements of Successful Contract Management

How do companies search for methods to deepen their relationships with their suppliers by means of contract management? Based on their research, Lee (2015:1) came up with a list of five core dimensions for quality BSRs: simplicity, integrity, reciprocity, clarity and connectivity. Regardless if a company is a buyer or supplier, both parties aspire to work with their counterpart who is easy to engage in business with, are clear about their expectations and fair and honest in their transactions (Lee, 2015:1).

When a contract management strategy is successfully implemented, organizations can expect to see: (Goodrich, 2013:1)

- The anticipated benefits and financial returns are being realized
- Co-operative suppliers who are responsive to their customer's requests
- There are hardly any contract surprises or disputes
- Service delivery is satisfactory to both the buyer and seller

The next part under contract management discusses the issue of when contracts are breached.

2.28.3 Breach of Contract

If one entity fails to satisfy their obligations as stipulated by the agreement, then that entity is in breach of contract (Bonner, 2017:1). For example, assume that a company has hired a contractor to construct a new warehouse. The company pays the contractor the entire price upfront before commencement and the contractor only finishes about half of the warehouse and then discontinues the work. The contractor constantly promises that they shall return and will

complete the job but never does. By failing to fulfil their promise or obligation, the contractor has breached the contract to erect the warehouse.

When one party is in breach of contract, the other party may suffer a financial loss. In the example cited above, the company paid for entire completion of the warehouse; but only received half that much.

The company now has several options for obtaining compensation. These are described below:

1. Sue for damages – the company is allowed to sue the contractor for damages. For example, they might sue for the cost of hiring a different contractor to complete the warehouse plus the costs the company may have incurred due to the delay.
2. Specific performance – the company can force the contractor to complete the warehouse as set down by the contract.

To avoid such an unfavourable circumstance, there has to be proper managing of the contract, this is described below:

2.28.4 Contract Management Process

The contract management process refers to the exchange of interactions between the purchaser and the seller that makes certain that both parties satisfy their corresponding obligations as stipulated by the contract (Goodrich, 2013:1). The goal of contract management is to satisfy the functional, operational and business objectives set out in the contract and to create a profitable relationship.

The process includes the following steps as outlined in Table 2.5 on the next page:

Table 2.5: The Contract Management Process

1. Initial requests.	The contract management process starts by recognizing the relevant documentation that will support the contract's purpose. For example, the RFQ.
2. Authoring contracts.	Drafting a contract by hand is very laborious, but via the utilization of automated contract management systems the process can become rather streamlined.
3. Negotiating the contract	Once the contract has been drafted with the supplier, it should be scrutinized so as to note any inconsistencies and to reduce negotiation time.
4. Approving the contract	The instance whereby the most bottlenecks occur is getting management approval and users can proactively combat this by forming approval workflows, comprising parallel confirmation to keep resolutions moving at a swift pace.
5. Execution of the contract	Executing the contract permits its users to control and decrease the signature process of various senior managers via e-Signatures.
6. Obligation management	This necessitates a vast deal of project management to guarantee that promises are being kept and that the value of the contract is not waning in its initial stages of growth.
7. Revisions and amendments	When any overlooked aspects are discovered, systems must be in place to amend the original contract. This will require the documentation mentioned in step 1.
8. Auditing and reporting	Contract management does not merely entail drafting a contract and then inserting it into the filing cabinet without another thought. Contract audits determine the compliance of both companies in terms of their agreements and reveal any shortcomings on both parties' side.
9. Renewal	Without proper contract management processes in place, companies can miss renewal opportunities and business revenue will suffer. The contract management process awards the purchaser the opportunity to continue with the current service provider (renew) or select a new vendor (go out on tender again).

Source: Goodrich, 2013:1

Table 2.5 above outlines the contract management process which is a step-by-step procedure for managing and controlling contracts. To summarize it, and with regards to logistics outsourcing, the principal company will receive several different proposals after tendering out their RFQ. They will shortlist the 5 best RFQs depending on the time available and will engage with these 5 vendors further. Negotiations will ensue in order to predominantly select the most competitively priced vendor and if there any misunderstandings, these can be verified before the contract is drawn up. As per point 4 in Table 2.5 above, it can be very time-consuming for management to approve the contract; this can be overcome by creating approval workflows whereby they are constantly updated. Once the first draft contract has been completed, it has to be carefully reviewed to see if anything has been overlooked or omitted. This is very important, because as previously mentioned in Table 2.3 point 4, if anything is not included in the contract, they can result in additional charges. The last 2 points in Table 2.5 state that the contract has to be monitored regularly so as to make an informed decision on whether to continue with the current service provider or to select a new vendor. Continuous improvement is looked at next.

2.29 Continuous Improvement

PM is at the heart of continuous improvement as the primary objective of performance evaluation being to assist executives and senior managers in developing the direction and goals of the company (Ali *et al.*, 2013:125).

By using PM and KPI appraisal to gauge the performance of their logistics provider, the principal company can constantly know whether their logistics functions are being executed adequately. For example, for the first quarter of the year (January – March) the average capacity utilization of trucks being loaded with the manufacturer's product is 80%, however, the second quarter of the year (April – June) reveals that the average capacity utilization is 60%. This indicates that their 3PL provider is not loading their delivery vehicles efficiently and that space is getting wasted per trip with the principal company still paying the same amount per trip. As a result, there can always be continuous improvement because the principal company can have access to this information monthly, weekly, daily or even per load to gauge the average capacity utilization. With this information, the principal company can address these issues with their 3PL provider or alter manufacturing processes such as relooking at the product packaging to see if there any adjustments that can be made to ensure that more products are loaded per trip.

The next step that continuous improvement leads to is that of benchmarking which can be adopted by a company to evaluate and compare its performance against results with industry leaders for the sake of ascertaining its strengths and weaknesses in performance from the industry's best, and then using these lessons to define best practices which will lead to superior performances when implemented (Ali *et al.*, 2013:125). As a general rule, benchmarking is the next step after continuous improvement to advance a company's effectiveness and efficiency with regards to its processes (Ali *et al.*, 2013:125). This is looked at in more detail in the subsequent sections.

2.30 Benchmarking

The word benchmarking was introduced into the business realm by the company Xerox, which defined it as the continuous process of assessing and equating products, services and practices in relation to the best competitors or those companies who are renowned as industry leaders (Pineiro, 2011:4). It is a renowned process with the aim of improving performance by learning from the best performers in the same class (Lakri and Dallery, 2014:4). The goal of

benchmarking is, hence, to motivate as well as to simplify organizational change and to enhance performance by means of learning from others (Pinheiro, 2011:4)

2.30.1 Benchmarking Classifications

Lakri and Dallery (2014:4) proposed five generations of benchmarking:

- Reverse Benchmarking – comparing products and service offerings,
- Competitive Benchmarking – comparing process with competitors,
- Process Benchmarking – comparing process with companies outside the related industry,
- Strategic Benchmarking – understanding and implementing successful strategies from external companies
- Global Benchmarking – comparisons according to geographies.

From the points above, a company has to decide what type of benchmarking is most relevant to them. For example, if a company wants to compare their processes to a similar company in another country, they may opt for global benchmarking. Similarly, perhaps the most often utilized form of benchmarking is competitive benchmarking whereby a company compares its processes with its competitors.

2.30.2 The Characteristics of Benchmarking

The definition of benchmarking includes some basic characteristics that should be noted (Pinheiro, 2011:4-5). These characteristics are explained in Table 2.6 which is presented on the next page.

Table 2.6: The Characteristics of Benchmarking

1. Systematic	Benchmarking is not a random method of collecting information; it is a structured, systematic piece by piece process aiming to evaluate the market working practices. The outputs of this process permit companies to compare their goods, services and procedures of working with companies who represent the best practices.
2. Continuous	Benchmarking is an improvement process that has to be continuous to be really effective. It cannot be developed once and then ignored, thinking that the activity is done. It has to be continuous, as the activities being gauged are frequently changing.
3. Evaluation	The instant objective of benchmarking is to evaluate processes and hence, inescapably, measurements are vital and constituent parts of benchmarking.
4. Products, Services and Processes	Benchmarking can be applied to goods and services, including the process to generate those products and service as well as the practices and techniques that constitute reaching the customer successfully.
5. Best Practices	Benchmarking focuses on activities branded as best practices, however, it must not be solely focused on competitors. It should be directed to those business activities or companies that are accepted as the best in the industry.
6. Improvement	Improving the company is the end goal of benchmarking. This process establishes commitment to the philosophy of continuous improvement, as it makes available information to make vital changes in organizational processes.

Source: Pinheiro, 2011:4-5

Table 2.6 above outline the characteristics of benchmarking which state that benchmarking has to conform to the 6 points as stated above.

Tarasewicz (2016:1441) affirms that benchmarking studies reveal the opportunity for companies to enhance existing accomplishments, and this should stimulate the interest of companies.

In order to measure the performance of companies and to apply benchmarking, one has to firstly establish appropriate KPIs as these KPIs are ever so vital in determining the all-inclusive success of the company (Ali *et al.*, 2013:126). This is because KPIs are compilations of data measures that are utilized to gauge the performance of a company because KPIs play a major role in supplying information with regards to the performance of projects, tasks and companies.

Consequently, each company makes a performance definition in accordance with its own objectives, strategies and specific KPIs are selected based on this (Akdoğan and Durak 2016:578). However, the practice of managers only selecting and making use of only one KPI for assessing performance is regarded as a huge mistake since there is no one KPI that can aptly specify logistics performance (Akdoğan and Durak 2016:580). Managers have to determine which set of KPIS to adopt and then measure the performance of their logistics provider accordingly.

The issue of KPIs in dealt with in great detail next.

Great corporate strategic plans involve a decent collection of KPIs that convert the company's strategy into operational actions that are manageable for teams (Baroudi, 2014:38). Ordinarily, business strategies fail to realize this objective if there are too many unaligned KPIs which can decrease the emphasis on objectives, making it rather problematic to communicate a reliable implementation plan to employees (Baroudi, 2014:38). As such, KPIs have to give teams' tangible links to the company's corporate objectives.

Furthermore, a huge list of KPIs that does not have distinct associations with the company's overall objectives is a sign of a more teething problem: lack of strategic focus (Baroudi, 2014:38). The chosen KPIs in any strategy must have distinct and strong links to the overall performance. Understanding the significance of various KPIs in driving business objectives are an obligatory condition for delivering decent, actionable information at operational levels where corporate strategy is instigated (Baroudi, 2014:38).

There are four types of performance measures: (Badawy *et al.*, 2016:1)

- Key Result Indicators: A company's accomplishments relative to the attainment of critical success factors.
- Result Indicators: Tells a company what it has achieved.
- Performance Indicators: Tells a company what their following course of action should be
- Key Performance Indicators: Tells a company what must be done to increase their performance.

The Different Types of Performance Measures is looked at next.

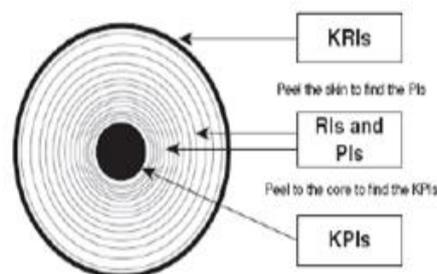


Figure 2.3: The Different Types of Performance Measures
Source: Badawy *et al.*, 2016:1

To describe the relationship amongst these four performance measures; it is quite apt to use an onion analogy as illustrated in Table 2.3. The outside skin refers to the general condition of the onion, the amount of water, nutrients and sun it has received and how it has been moved from

harvest to the supermarket shelf. The outside skin is the key result indicator. Conversely, as the layers are peeled off the onion, additional information can be discovered. These layers signify the numerous performance and result indicators, while the core embodies the KPIs. This is depicted below.

KPIs act as a collection of measurements concentrating on different aspects of performance deemed crucial for the success of the company (Badawy *et al.*, 2016:1). KPIs are rarely new to the company as these KPIs could probably have not been properly identified or were accumulating dust somewhere unfamiliar to the current senior management (Badawy *et al.*, 2016:1)

2.31 Basics on Key Performance Indicators

KPIs generally embody quantitative information, which exemplify processes and structures within companies (Meier *et al.*, 2013:100). Nowadays, KPIs are indispensable for controlling and planning purposes as they consolidate information, create transparency and in that way support management's decision-making (Meier *et al.*, 2013:100).

2.31.1 Types of Key Performance Indicators

Regarding KPIs in general, distinctiveness is made between absolute and relative numbers. Absolute numbers are not dependent on other indicators - they involve distinct numbers, sum, difference as well as averages and only by comparing them with other KPIs they acquire importance (Meier *et al.*, 2013:100). On the contrary, relative numbers connect information, such as, indicators, ratios that can be broken down into quotas, index as well as reference numbers (Meier *et al.*, 2013:100). Quotas are the ratios of a KPI in relation to the whole whereas reference numbers are the ratio of equal indicators with dissimilar content and lastly index numbers compare time series.

Most of the literature regarding KPIs gives more attention to financial KPIs than compared to non-financial (Meier *et al.*, 2013:100). Significant non-financial KPIs are quality, immaterial assets, time and productivity. Nonetheless, only when both financial and non-financial KPIs are considered is it possible for companies to acquire information about business issues.

2.31.2 Which Type of KPI is Best?

There are various types of KPIs, however, it is important to select only those KPIs that account for the extensiveness and which indicate the health of a company. For instance, when a doctor examines a new patient, that doctor will undertake a succession of measurements, such as height and weight, blood pressure, and from these, conclude the patient's health. KPIs are comparable or similar to these medical measurements - they are exceptionally effective indicators which determine the health and maturity of a company.

Figure 2.4 below depicts a range of key maturity indicators (Baroudi, 2014:40). To review; company's usually start from the left and move to the right on this diagram during their lifespan. What this means is that companies, in their premature stages, will solely focus on financial KPIs ,on the other hand, as they develop, they become aware of the need to expand out to also employ non-financial measures, such as customer and employee satisfaction.



Figure 2.4: The Organizational Indicators Maturity Model

Source: Baroudi, 2014:40

To explain Figure 2.4 above in greater detail, “lagging” versus “leading” makes reference to those companies on the left (lagging) that give exclusive attention to the profit generated at the end of each financial period. In contrast, mature companies, which are shown on the right of the diagram (leading), measure success as they progress along, by assessing factors such as the number of customers lost as well as the amount of projects completed successfully.

When setting KPIs, there are six common forms, as explained on the next page in Table 2.7 when discussing the different types of KPIs: (Baroudi, 2014:41)

Table 2.7: The Six Common Forms of KPIs

1. Absolute number	e.g., total profit. This is one sided. The advantage is that it is a very distinct target, but does not cater for specific contexts.
2. Index	e.g., an internationally used index, like the United Nations' Human Development Index. It is multidimensional, but it can cover underlying individual factors.
3. Percentage	e.g., the percentage of dissatisfied customers or workers. It is a good indicator of relative change but can be misunderstood.
4. Ranking	e.g., usually utilized to rank establishments such as universities or banks. The advantage is that it is easy to understand, but definitions can be vague or not consistent.
5. Rating	e.g., when customers rate a good or service. It is a valuable measure for nominal data, but is often misused or biased.
6. Ratio	e.g., cost versus revenue ratios. Ratio measures are typically used by people working in finance. They are good at explaining important relationships, but are sometimes difficult to comprehend.

Source: Baroudi, 2014:41

Table 2.7 above describe how KPIs can be presented. Depending on what needs to be shown, a company may decide to express their KPIs in a different manner, such as, for example, using a ratio to show the relationship between increased costs and late deliveries, or to express their KPIs as a percentage to show the number of items delivered to customers and the number of damages that occurred in transit.

The next section discusses the design process for KPIs.

2.32 Design Process for Key Performance Indicators

There is a vast array of possible KPIs for different business objectives and, for every objective; senior managers must carefully consider the following factors, which are outlined below, and put forward by (Baroudi, 2014:39).

- Topics that executives have to deliberate, e.g., productivity or profitability.
- KPIs that exist already and those that still have to be introduced.
- Improvement systems, e.g. better remuneration programs.
- Behavioural changes, e.g., more loyalty among workers.

Filtering and selecting the best KPIs is the first step as managers and their teams must list prospective KPIs and then select the most suitable from this shortlist. A half-day workshop, where managers and their teams co-operatively select which KPIs are most appropriate to each business objective, can assist the filtering and selection of KPIs. For example, a workshop may

perhaps initially generate fifty KPIs, which after immense discussion are filtered down to 15 KPIs which are then agreed upon. When examining the initial shortlist of KPIs, the ensuing considerations can be valuable: practicality, frequency, strategic bearing, and clarity of representation as well as ease of communication.

Selecting the most appropriate KPIs is a question of experience. However, there are sources of KPIs which people can take advantage of, such as competitors, benchmarking, SC websites, industry standards, historical information and staff workshops.

2.32.1 Setting the Right KPIs

For a company wanting to gauge the performance of their 3PL providers who perform their logistics functions, it is rather easy to come up with appropriate financial KPIs like the measure of overall cost incurred for outsourcing functions to the 3PL provider; however, defining KPIs are not so straightforward when applied to vaguer or more subjective areas of a business, such as employee development or customer satisfaction (Baroudi, 2014:38). In these occurrences, more creativity is required, for example, a good KPI for assessing employee development within a company might be the amount of annual training days undertaken by each employee. To make selecting KPIs more methodical, companies have to be very cautious when developing them. The development of KPIs is discussed next under section 2.28.2.

2.32.2 The Development of KPIs

The table on the next page offers a classic sequence for KPI development (Badawy, *et al.*, 2016:2).

Table 2.8: The Process of KPI Development

1.	Identify a situation, objective or problem that needs to be addressed, e.g., reduce the number of products that are damaged by the 3PL provider
2.	Develop a customized view of how results should look, e.g., target the number of products damaged by the 3PL provider in order to reduce it from 20% to 5%.
3.	Develop a process for how things need to be executed, e.g., reengineering an entire process or announcing quality affirmation reviews to reduce damages by the 3PL provider.
4.	Develop capacity KPIs only after effectiveness KPIs. This is because companies have to first define their benchmark, e.g., how many successful deliveries executed by the 3PL provider, before related efficiencies can be measured.
5.	Develop shareholder and financial KPIs before non-financial KPIs. These financial KPIs will reveal whether it is economically viable to continue to make use of the current 3PL provider.
6.	KPIs, like those related to profit targets and growth, will permit the realization of other strategic objectives. Thus, it is logical to establish these KPIs before any other ones.
7.	Product KPIs have to be developed first before input KPIs for each objective. It is not possible to start thinking about input KPIs before the product ones have been determined. For example, a manufacturing company needs to know their transportation requirements first, i.e., how many trucks to be loaded per month, before KPIs relating to measuring the efficiency related to those transportation requirements (capacity utilization).

Source: Badawy, *et al.*, 2016:2

Table 2.8 above gives a complete step-by-step methodology as to how KPIs can be developed. It starts with identifying a situation or objective and proceeds all the way through to point step seven which states that product KPIs have to be established first before input KPIs.

2.32.3 Essential Design Principles of KPI Development

Regarding the development of KPIs as explained above in the table; they have to follow specific design principles that are crucial for ensuring that they provide accurate appraisals of performance. There are three design principles as enunciated by (Yao and Li, 2014:86). These are:

- Goal-oriented – this means that KPIs are decided by a company’s strategic vision, positional objectives and departmental goals.
- Pay attention to the quality of work – the quality of work is a major core competitiveness of a company, but it is challenging to measure. Therefore, it is necessary to develop KPIs to manage the quality of work provided by a company’s 3PL provider.
- KPIs must have operability – KPIs must ensure operability. For each KPI, it must give a precise definition, as well as create solid channels for information collection. Simultaneously, KPIs should be easy to comprehend and be accepted by both parties.

Moreover, it is advisable for KPIS to follow the SMART Principles; these too are put forward by (Yao and Li, 2014:87).

- KPIs must be specific – this largely refers to the target achievement of the KPIs.
- KPIs must be measurable – this means that the KPI must be able to quantify the extent of the activity or function it is measuring so that the activity or function can be used for benchmarking purposes.
- KPIs must be achieved – KPIs must seek to accomplish what it was intended to accomplish.
- KPIs have to be realistic – this means that objective results can be proved and must be in line with the company’s objectives which in turn are aligned to the company’s strategic vision.
- KPIs must be a time limit – this will allow KPIs to concentrate on efficiency as KPIs will measure and track results and gauge them over a fixed period of time, for example, average truck capacity utilization must increase upon the previous week’s result.

2.33 The Characteristics/Types of KPIs

When companies examine the different KPIs available to them to gauge whether their logistics functions are being performed at an adequate level, there are various characteristics that must be considered when selecting these KPIs. These characteristics of KPIS are put forward by (Murray, 2016:1) and are explained in the table below:

Table 2.9: The Five Main Characteristics of KPIs

1. Easy To Understand	A good KPI is easily comprehended by all who examine it. It must be distinct as to what it is actually measuring and how it is derived.
2. Quantitative	An important characteristic for a SC performance metric is that it is expressed by a value that is objective, i.e. derived from real data and not subjective.
3. Measures what is Important	Certain KPIs only seem important, but when actually analysed, the relevance of the KPI is questionable. It is vital that KPIs upon which business decisions are made should measure data that is important.
4. Causes Correct Behaviour	Good KPIs permits its users to take correct actions. For example, if a KPI such as late deliveries reveals that customers are dissatisfied, then the principal company will take decisive action such as to impose penalties on their 3PL provider to motivate them to deliver products in a timely manner to customers.
5. Easy To Collect	Occasionally companies select intricate KPIs that are painstakingly long to collect eats away the productivity of employees. This is counterproductive and such KPIs should be avoided.

Source: Murray, 2016:1

Table 2.9 on the previous page contain the 5 major characteristics of KPIs which must be taken into consideration when management establish the KPIs that will be used to gauge their logistics providers. There are also additional characteristics of KPIs; these are summarized in Table 2.10 below.

Table 2.10: Supplementary Characteristics of KPIs

1. Sparse	Fewer KPIs are better than having an excessively large amount of KPIs.
2. Drillable	KPI users can drill down into the detail of the functions measured.
3. Simple	KPI users understand it and do not become confused.
4. Actionable	KPIs clearly indicate what action is needed next.
5. Owned	KPIs have an owner and are acted on by senior executives and senior management teams (e.g., CEO calls directors to query certain occurrences).
6. Referenced	The people who use the KPIs can view its origins, historical data and context.
7. Correlated	KPIs drive the desired goals of the company. They encourage appropriate action to ensure they have an optimistic impact on performance, whereas poorly selected KPIs may lead to dysfunctional behaviour.
8. Balanced	KPIs comprise both financial and nonfinancial measures.
9. Aligned	KPIs do not weaken or undermine the next one.
10. Validated	People cannot evade the KPIs.
11. Regulated	KPIs can be measured periodically (e.g., daily or weekly).
12. Distributed	KPIs tie accountability down to a team (e.g. Directors can call a manager who will then take the required action).

Source: Badawy, *et al.*, 2016:2

Over and above the 5 main characteristics of KPIs, there are also 12 additional characteristics that need to be taken into account when establishing KPIs. For example, it is better to have a smaller amount of KPIs than compared to having a long list of KPIs. Also, it is very important for KPIs to be actionable, meaning that actions and decisions are taken based on the insight that KPIs reveal.

Different methods are used to classify KPIs. For instance, Meier *et al.*, (2013:99) states that there are classifications by service aspects (process, potential and result), performance aspects (time, costs, quality, flexibility and customer satisfaction). Such classifications assist in defining KPIs that are well suited for control and analysis purposes (Meier *et al.*, 2013:99).

A KPI system is supposed to monitor a company's performance in the respective area of focus, in this study that area of focus pertains to the logistics functions outsourced by a manufacturing company to a 3PL provider (Schmidt *et al.*, 2016:760).

2.34 The Utilization of KPI Monitoring

A well-made strategic plan depends on creating targets that are intended to stretch and drive a company forward to meet its objectives (Baroudi, 2014:41).

Baroudi (2014:41) affirms that setting targets permits companies to:

- Ensure individuals emphasis more visibly when given quantifiable targets
- Inspire departments to concentrate on completing their plans
- Create associations between department and individual objectives
- Recognize areas where departments can improve
- Establish and communicate expected levels of performance
- Make certain of the success of a department's goals
- Motivate departments, as opposed to controlling or constraining them
- Communicate to departments the need for change

Targets have to be realistic so that managers feel enthusiastic about endeavouring to achieve them. Targets have to be reciprocally agreed upon between the company's executives and the manager answerable for hitting the target. When creating effective targets, senior management must reach a balance between setting the bar high enough to inspire greater performance, and at the same time being careful not to prompt risky behaviour by leaving loopholes where managers can play the system.

2.34.1 The Underlying Importance of KPI Appraisal

Table 2.11: The Importance of KPI Appraisal

1. Help to implement corporate strategy	As stated earlier, a company's objectives are derived from the company's corporate strategy. KPIs translate the company's corporate strategy into operational tasks that are assigned to teams to achieve.
2. Helps companies co-ordinate departments	By elucidating specific KPIs, it puts all departments of the company into both divisions of labour and co-operation, to proficiently ensure the realization of the company's strategic goals.
3. Enhance the company's ability to forecast	Suitable KPIs permit managers to forecast future performance. Financial KPIs can assist companies to assess their current state and provides an important foundation for the company to amend management decisions.
4. Improve the skill levels of managers	KPIs empower managers to understand corporate strategic goals, so as to take better actions in their areas of jurisdiction. KPIs allow for target evaluation, analysis and improvement, which help to enhance the knowledge and skill levels of managers.
5. Decomposition of the company's strategic goals	The company's strategic goals are long-term, guiding and is rich in contents. Therefore, KPIS are the real drivers behind a company attaining their goals; they are the real manifestation of the company's strategy for each job position and performance requirements for that position.

Source: Yao and Li, 2014:87

Table 2.11 above illustrate exactly how important KPI appraisal is. For example, KPI appraisal assists with implementing the corporate and strategic plans of a company and simultaneously breaks down the strategic goals of a company into workable objectives for the different departments within the company. Regarding the different departments that constitute the company, KPIs help to co-ordinate their activities so as to achieve similar objectives. The next section describes the functions of KPIs.

2.34.2 Functions of Key Performance Indicators

Meier *et al.*, (2013:100) states that given the current economic climate of the world, KPIs are a significant tool to control companies, because they separate important information from unimportant, make difficult subject matters straightforward and produce transparency. Meier *et al.*, (2013:100) stated that KPIs are also the foundation for scrutinizing and refining processes as well as benchmarking. Furthermore, KPIs achieve the following functions, as affirmed by (Meier *et al.*, 2013:100):

- Supports planning in different roles, e.g. budget optimization and strategy fulfilment
- Establishes goals and then controls its implementation and attainment
- Source of decision making for senior managers
- Incentive programs for both senior management and for team members

Moreover, KPIs need to fulfil some fundamental requirements; these are tabulated below in Table 2.12.

Table 2.12: The Fundamental Requirements that KPIs need to Satisfy

1. Goal congruence and operationalization	KPIs must reflect and operationalize all objectives of the company. KPIs have to quantitatively evaluate the degree to which the customers' needs and requirements have been fulfilled and at what costs or with which endeavours could this be achieved.
2. Measurability	KPIs must be clear-cut and quantitatively measurable without undue costs being attached to it. For this to happen, the required data must be obtainable or available without arduous efforts.
3. Precision and tamper-proofness	The calculations and end-results of KPIs cannot leave any place for manipulation or interpretation
4. Controllability	KPIs should bring about conscious decisions which can be controlled by the senior manager through qualified decisions.

Source: Meier *et al.*, 2013:102

Table 2.12 describe the most basic of requirements that KPIs have to fulfil. The SCM and logistics goals of the company need to be reflected by the KPIs set out to measure the performance of the logistics operations performed by the 3PL provider. The four points mentioned in Table 2.12 above state what KPIs are intended to achieve and justify why a company ought to gauge their logistics performance via the utilization of KPI monitoring.

The goal of SCPM is to help decision makers to better understand, plan, manage and control their performance (Stefanovic, 2014:14). As such, KPIs represent the root source for evaluating business and project success since their purpose is to permit the measurement of performance within companies as well as the industry, and to initiate benchmarking exercises (Konsta and Plomaritou, 2012:143). In addition to direct advantages, KPIs are utilized as a means of communication with stakeholders to educate them about constant improvement endeavours (Konsta and Plomaritou, 2012:143).

PM is vital to the eventual success of intricate business systems such as SCs with KPIs being employed to gauge SC performance throughout the company (Stefanovic, 2014:14). This is because KPIs are compilations of information that are used to quantify and assess performance and moreover, they specify a company's final mark in terms of both effectiveness and efficiency for a particular period (Konsta and Plomaritou, 2012:143).

In the ever-changing and unpredictable business environment where companies are challenging each other through their SCs, it is no simply no more acceptable to respond to problems after

they occur, but to foresee future performance and then to logically and perceptively endorse suitable corrective actions (Stefanovic, 2014:14).

2.35 The Purpose of KPI Appraisal and PM

The purpose of amassing data and calculating KPIs is to measure and gauge the performance of the company as well as to analyse the efficiency and effectiveness of measures that have been adopted to improve the planning and realization of processes within the company (Meir *et al.*, 2013:102).

(Kayakutlu and Buyukozkan, 2011:443) states that one of the purpose of KPIs is to reduce costs, while providing both the quality and the schedule to please customers is also considered to be a major objective of PM and KPI appraisal.

PM leads to healthier communication, superior decision-making, higher enthusiasm for employees and greater transparency. Contemporary managers understand that it is impossible to improve SCs without a comprehensive and accurate picture of the current situation – one that is provided by KPI appraisal (Tarasewicz, 2016:1434).

The goal of SCPM is business process optimization by the means of monitoring and analysing KPIs (Stefanovic, 2014:3). By evaluating and monitoring KPIs against predefined goals, companies can provide additional value to huge volumes of data collected over time as this type of analysis lets companies track their progress at different levels and to then take apt actions (Stefanovic, 2014:3).

From the viewpoint of clients of a 3PL provider (the principal company) the practice of using 3PL services is a strategic decision and therefore, it is compulsory to understand and quantify the influence it has on business performance (Rajesh *et al.*, 2011:151). Thus; the purpose of engaging in 3PL relations is rarely cost reduction alone, but, a mixture of service enhancements and proficient operations. That being said, KPIs cannot only consider the financial perspective in an isolated fashion.

The main purpose underlying KPI appraisal of outsourcing logistics requirements to 3PL providers is that companies are economic structures, and apart from for non-profit social organizations; their fundamental purpose is to realize higher profit and to continue their existence (Akdoğan and Durak, 2016:577).

Konsta and Plomaritou (2012:143) states that there are seven reasons why PM and KPI appraisal is adopted in the management world: more fierce competition, detailed improvement ingenuities; national and international quality accolades, the power of IT; shifting organizational roles; fluctuating external demands placed upon companies and the fluctuating nature of work. Other reasons regarding the purpose of KPI appraisal and PM are: sharpen focus on strategy and results, measure what matters and improve performance, improve communication, align strategy with what HR can do and to put in priority projects (Konsta and Plomaritou, 2012:143).

2.36 Monitoring KPI Status

As soon as KPIs and their particular targets have been established, it is imperative, over the following months, to monitor performance alongside the established KPIs (Baroudi, 2014:42). For this to occur, it is compulsory to have decent and carefully set target ranges for a company’s strategic plan to be prosperous (Baroudi, 2014:42).

Figure 2.5 below depicts some widely accepted target ranges that may well be utilized by any company (Baroudi, 2014:42).



Figure 2.5: KPI Target Ranges
 Source: Baroudi, 2014:42

Specifically when KPIs are expressed as a percentage, they can be categorized according to 3 different ranges as per Table 2.5. For example, a KPI such as capacity utilization which refers to the no of units loaded per movement in relation to the volume of the truck used, then an acceptable range could be between 75 -100 % and anything below that would be unacceptable. It all depends on what management want to deem as acceptable or unacceptable and then associate a range with what should be considered acceptable or unacceptable.

When a company wishes to examine the performance of its SC and logistics activities, there are numerous metrics that can be utilized with each SC performance metric offering a different angle of view of the SC (Murray, 2016:1). A vital decision for any company is to highlight which SC metrics are worthwhile and how they will be utilized as far too many companies employ SC KPIs that are not so difficult to compute but does not essentially provide an actual indication of how the SC is performing.

2.37 Selection Criteria of 3PL

Aguezoul (2014:70) ranks the following criteria - in order of importance - that companies can adopt to gauge whether their logistics and transportation functions are being performed at an acceptable level by their 3PL provider: on-time performance, service quality, decent communication, reliability, service speed, flexibility, customer support, easy to interact with, management quality, prompt notifications regarding disruptions, order cycle time, the enthusiasm to customize services, reputation, price, location, cost reduction, special expertise, reduced labor problems, technical capability, reduced asset commitment and global competencies.

Table 2.13: The Performance Attributes of Logistics Operations

Logistics operation	Performance attribute	Brief definition
Transportation	Fleet	Performance analysis of transportation activities.
	Distance travelled	Optimal fleet capacity representing the number of vehicles used in logistics
	Driver force	Optimum distance travelled by transportation fleet
	Loss of goods	Efficiency of the vehicle drivers
	Relocation rate	Minimum loss of goods during the delivery of the goods
Warehouse/ inventory management		Rate of change in the given address of delivery
		Performance analysis of warehouse management and inventory control activities
	Forecast reliability	How well the inventory amounts and security stocks are forecasted
	Receiving regularity	Regularity in the periodicity of receiving purchased material. These two will affect the inventory turnover rate
	Return rate	Product return rate over the quantity sold that will increase the inventory
Order/customer management	Distribution rate	Optimal product flow in one warehouse
	Layout flexibility	Tolerance limits in assigning multiple warehouses to multiple locations
		Order management activities and customer relations management related to orders
	Interest/order rate	Interest on order rate that will affect the prediction of order rates
	Order cycle consistency	Consistency in repeating orders in a periodic cycle
Demand coordination	Customer complaint rate	Number of customer complaint as a rate of received order amount
	Request Trends	The rate of match among the customer requests and the company future predictions
	Change in customer portfolio	Change in the customer portfolio profile that will force changes in requests
		Demand forecasting, updating modifications according to changes in activities
	Fulfil rate	Demand fulfilment rate which will satisfy the customer
Procure efficiency	Efficiency rate of procurement which influences demand fulfil rate	
Lead time effective	Weight of lead time in demand satisfaction which changes by industry	
Demand trends	Prediction robustness for future changes in demand	
Cost fluctuation rate	The rate of changes in demand fulfilment costs	

Source: Kayakutlu and Buyukozkan, 2011:444

Table 2.13 on the previous page presents several performance attributes in relation to the type of logistics operation. The information contained in Table 2.13 is very valuable for logistics and SCM professionals as it describes what performance attributes can be used to gauge the different aspects of their logistics operation. For example, if one wants to specifically look at the transportation aspect of logistics; then there are 5 different performance attributes that can be utilized to assist with measuring the performance of transportation with each performance attribute being described in the last column in Table 2.13 above. The same can be done with the other 3 logistics operations.

Furthermore, Aguezzoul (2014:71) suggests that the logistics services provided by 3PL provides must include devotion to emergency assistance, the ability to handle changes in the environment, flexibility in satisfying external needs, the ability to offer solutions to probable challenges, assisting corporation with regards to implementing cost savings, the aptitude to respond to the uncertain needs of operational situations, the aptitude to anticipate transportation problems, the skill to offer counter measures when unable to provide service and lastly; the aptitude to provide operational or service status reports.

Table 2.14: Summary of Logistics KPIs

Delivery
To deliver expedited shipments
To offer short delivery lead-time
To offer greater proportion of on time and accurate delivery
Quality
To provide higher customer satisfaction ratings
To enhance customer success (e.g., helping customers in value analysis, cost reductions, problem solving, etc.)
Lower customer complaints (percentage of total sales)
To deliver goods in an undamaged state
Flexibility
To accommodate special or non-routine requests
To handle unexpected events
To provide quicker response to customers
Cost
To operate with low overall operating cost as a percentage of sales
To improve the rate of utilization of facilities/equipment/manpower in providing the services
Innovation
Aggressiveness in increasing the value-added content of services
Aggressiveness in the reduction of order cycle time
To provide new and better services

Source: Liu and Lyons, 2011:554

Table 2.14 on the previous page offers some logistics KPIs that can be used to gauge the performance of 3PL providers. There are 5 broad criteria that are presented above with each one being broken down further to give further insight as to how exactly it can measure logistics performance.

To recap, outsourcing epitomizes the fundamental decision to discard the internalization of an activity (Hila and Dumitraşcu, 2014:334). Outsourcing creates value by supplementing internal resources with external ones because those internal resources are far too costly to develop in-house and this combination of internal and external resources creates value for the principal company (Tsai, Lai, Lloyd and Lin, 2012:179).

2.38 Outsourcing Costs

When implementing outsourcing, it is normal to expect that the costs of the outsourced activity would be lower than the costs incurred if a company had to develop internal capacity to perform the outsourced activity (Yang, 2014:17). To compare outsourcing effectiveness in relation to a company's current processes, it is compulsory to take into consideration all the relevant costs (Giertl, Potkany and Gejdos, 2015:1082). Thus, there are three types of outsourcing costs that need to be identified and quantified; which are reflected in Table 2.15 below:

Table 2.15: The Three Types of Outsourcing Costs

1. Functional Production costs	These are the costs invoiced by providers for service delivery.
2. Transaction Costs	Costs incurred to create a contract as well as its implementation, costs related to the communication between clients and service providers; and the costs of expert and consulting services.
3. Hidden costs	A hidden cost coincide with transaction costs and make reference to auxiliary costs incurred, such as, costs to manage the transition phase of outsourcing, redundancies, outsourcing relationship termination.

Source: Giertl *et al.*, 2015:1082

Table 2.15 above present the 3 types of outsourcing costs that have to be taken into account when a company decides to engage in outsourcing. Moreover, Giertl *et al.*, (2015:1083), state some of the hidden costs of outsourcing which are presented in Table 2.16 on page 69.

Table 2.16: The Hidden Costs of Outsourcing

The Hidden Costs of Outsourcing
1. Outsourcing contract
2. Transfer of know-how of client to the outsourcing company
3. Travel costs
4. Transfer of activities
5. Communication
6. Efficiency
7. Changing of business processes
8. Cultural diversity

Source: Gierl *et al.*, 2015:1083

These hidden costs of outsourcing as presented in Table 2.16 above are often overlooked and are only realized once operations get underway. They can accumulate over time and increase the costs of doing business. They have to be addressed with the service provider as a matter of importance in order to understand them better and to find ways to minimize their impact.

Thus, the total costs of outsourcing can be determined as follows: (Gierl *et al.*, 2015:1082)

$$\begin{aligned}
 & \text{A price paid to the service provider} \\
 & \quad + \text{additional purchasing costs} \\
 & \quad + \text{costs related to implementation} \\
 & \quad = \text{total costs of outsourcing}
 \end{aligned}$$

2.39 The Concept of Risk

Risk can be defined as a danger that may possibly result in a company's failure and embodies the impending loss that may arise from activities or inactivity (Fabianová and Ridzonová, 2015:4). Similar to any business activity, outsourcing also poses risks (Fabianová and Ridzonová, 2015:4).

In BSRs, there are two types of risk, that is to say, relationship risk and performance risk (Tsai *et al.*, 2012:179)

This is explained next.

Table 2.17: The Two Types of Risk in BSRs

<p>1. Relationship Risk</p>	<p>Relationship risk occurs due to relationship failure. Such failures include the possible defection by a partner, opportunistic behaviours, lack of understanding, conflict risk, loss of core proprietary capabilities and infringement risk.</p>
<p>2. Performance Risk</p>	<p>Performance risk emerges due to factors which impact alliance performance such as intensified rivalry, shifting government regulations, demand fluctuations and lack of competence.</p>

Source: Tsai *et al.*, 2012:179

There are two types of risks in BSRs, namely relationship risk and performance risk as presented in Table 2.17 above.

2.40 Logistics Outsourcing Risks

According to Li-jun (2012:1270), logistics outsourcing risks mainly include contract risk, management risk, information risk, market risk and financial risk.

2.40.1 Contract Risks

Contract risk is the primary one because the design of a logistics outsourcing contract creates contract risks due to the 3PL provider being unable to successfully complete their required tasks or the principal company is unable to pay expenses on time as specified in the contract (Li-jun, 2012:1270). Generally talking, the 3PL provider can accomplish their tasks as specified in the contract; however, given their limited resources, they may be unable to complete all their tasks in a busy season on account of capacity constraints.

2.40.2 Management Risk

In the co-operation between the principal company and the 3PL provider, the difference in management methods and culture may create the management risk of logistics outsourcing (Rajesh *et al.*, 2013:49). If the outsourcing company fails to properly deal with their cultural conflicts or to fully evaluate and manage their 3PL provider then the end result will be that logistics outsourcing has failed. In the operational process of logistics outsourcing, all sorts of problems exist, as put forward by (Li-jun, 2012:1271). For instance, if the 3PL provider amends their pattern of logistics service, which in turn impacts their staff with employees boycotting these new methods, then standard production and operations will be hindered. Another

management risk, and quite an important one too, is that seniors management does not give due attention to the right KPIs in assessing the performance of their 3PL provider.

2.40.3 Information Risk

In the logistics outsourcing process, the outsourcing company will share vast amounts of information relating to commodity, customer and management with their 3PL provider (Li-jun, 2012:1271). Subsequently, the abovementioned information is likely to be distributed and furthermore, after the conclusion of the outsourcing agreement, although both parties have signed confidentiality clauses, it is very probable that the information of the outsourcing company will be given away, which causes great loss (Ternovyi, 2015:1).

2.40.4 Market Risk

This refers to the risks arising from the external environment, such as fluctuations in the market, for example, the cost of raw materials and labour, changing consumer demand as well as fluctuations of the logistics service market (Li-jun, 2012:1271). When the logistics market booms, the price of raw materials and labour increase and the market service price increases and because the market service price is higher than that stipulated in the outsourcing contract, the logistics principal benefits; and when logistics market is slump and gloomy, the opposite holds and the logistics principal suffers losses (Li-jun, 2012:1271). Lastly, a market risk that is precisely pertinent to the outsourcing of logistics to 3PL providers is that of fuel price fluctuations.

2.40.5 Financial Risk

Financial risk is the risk related to a company's return on investment (ROI) and more specifically, when it is lower than what is was expected or forecasted to be (Li-jun, 2012:1271). A company would normally generate a lot of expenditure by paying for human, material and financial resources in order to search the market looking for the right 3PL provider, negotiating and supervising its service level (Ennouri, 2013:291). If these expenses are not off-set by an affordable 3PL partner who will offer cost savings in the long-term, then the company will suffer a financial risk.

2.41 Auxiliary Logistics Outsourcing Risks

The table on page 72 also lists several logistics risks that need to be avoided by all means.

Table 2.18: Additional Logistics Outsourcing Risks

Description of Auxiliary Logistics Risks
1. Withdrawal of the outsourcing partner
2. Outsourcing partner (3PL) goes bankrupt
3. Data protection is problematic
4. Reducing the impact of the delivery manager on the outsourced staff
5. Failure to comply with delivery schedules
6. Failure to comply with the number of vehicles agreed in the contract
7. Failure to comply with the number of employees agreed in the contract
8. Departure of employees from the organisation to the outsourcing partner's firm
9. Removal of responsibility
10. Damage to company reputation
11. Different sizes of vehicles
12. Possibility of conflicts between employees and outsourcing partner staff
13. Irresponsible approach to work of the outsourced staff
14. Price increasing
15. Low quality of delivery service

Source: Fabianová and Ridzonová, 2015:4

Table 2.18 above offers the reader 15 additional risks that are associated with logistics outsourcing. These risks need to be mitigated in every respect and one way to specifically achieve this is through effective contract management which should address these issues so as to hold the 3PL provider accountable for non-performance of their duties.

2.42 The Concept of Risk Management

Risk management refers to the process of taking the necessary actions in order to decrease the consequences or the likelihood of the occurrence of an adverse event (Ennouri, 2013:291). Risk management denotes the methods, strategies and auxiliary tools used to identify and control risk to an acceptable level (Ennouri, 2013:291).

2.43 The Risk Management Process

The risk management process is executed in four steps and is presented in Table 2.19 below.

Table 2.19: The Risk Management Process

1. Risk Identification	The fundamental step to identify events that will disrupt or hamper the efficient working order of the SC.
2. Risk Assessment	This step is compulsory for selecting suitable corrective actions for the identified risk; it refers to assessing the likelihood of occurrence of the adverse events which can be categorized as a very unlikely event, improbable event, moderate event, probable event or very probable event.
3. Risk Management	This step makes reference to the selection and implementation of the ideal remedial action for the identified risk.
4. Risk Monitoring	This is the last step in the risk management process, where the system is supervised to measure the efficiency of corrective actions and to detect future potential risks not identified in the previous steps. This step can enhance the risk management system.

Source: Ennouri, 2013:291

Table 2.18 above describes the risk management process which starts from Risk Identification all the way through to step 4; risk monitoring. By following this process, risks can be effectively identified, assessed, managed and controlled in a systematic fashion.

Thus, risk management can be considered as a methodical application of management policies, practices as well as procedures to evaluate and manage risks (Wheeler, 2014:1). In the literature, there are two approaches for the realization of these steps depending on whether a proactive strategy (predict risks and implement measures to prevent adverse outcomes) or reactive strategy (following the occurrence of risks) is required (Wheeler, 2014:1).

2.44 Risk Management Strategies

The five forms of Risk Management Strategies are discussed next.

2.44.1 Identifying the Core Competence of Enterprise

The first factor to consider when deciding to go ahead with logistics outsourcing is to ensure that the logistics provider can meet the company's demands and requests and that the operation cost and quality offered by the logistics service provider is superior to the company's (Tayauova, 2012:189). Or else, logistics outsourcing will be a failure and will lead to a succession of glitches. Therefore, the principal company must carefully scrutinize whether logistics is its core

competency and if logistics can generate economic benefits if outsourced, depending on what the core competencies of the company are.

2.44.2 “Win-win” Principle

Logistics outsourcing entails that both the parties' interest is bound together and that good co-operation will ensure that they both benefit so the inferior performance of any one party will make damage both parties (Michaels, 2015:1). Outsourcing is worthwhile as both entities will try to maximize their own interest and at the same time reach a win-win status whereby everyone can benefit (Akman and Baynal, 2014:4). For this to happen, logistics outsourcing must be treated with a long-term strategic view in mind (Michaels, 2015:1).

2.44.3 Choosing the Right Outsourcing Partner

The principal company will select their 3PL partner in accordance with its resources and the strategic requirement of its future development (Li-jun, 2012:1271). At first, the company has to investigate and evaluate the prospective logistics providers, and to be precise, investigate their management condition, their strategic orientation, IT capabilities, their flexibility, as well as the operational experience of the logistics provider in the field in addition to assessing the cost of engaging in an agreement, the logistics provider's long-term development plans and credibility, thereby, selecting the most appropriate outsourcing partner (Rajesh *et al.*, 2013:45). The abovementioned factors can be considered as an appropriate risk management strategy and if not given due attention, logistics outsourcing will fail, surely.

2.44.4 Strengthening the Contract Management

The goal of logistics outsourcing should be to establish a method of sharing bilateral risks and benefits. Usually, the company will sign two agreements with their logistics provider – one agreement incorporates general terms with regards to regulations and laws, such as those pertaining to confidentiality, insurance, compensation and the rescission of the contract; the second agreement is related to the business with stipulations having to be specific and operable in order to avoid any ambiguity (Li-jun 2012:1271). Also, termination clauses must be clearly set out in the contract and in the execution of the outsourcing agreement, the principal company must ensure that the outsourcer understands their duties so as to ensure the outsourcing activities smoothly and does not breach the contract by not performing their contractual obligations.

2.44.5 Establishing Performance Evaluation System

Establishing a performance evaluation system such as the utilization of KPI monitoring can be regarded as an appropriate risk management strategy. This is because by regularly assessing the performance of logistics providers, the principal company will ensure that they do not default on any of their duties and responsibilities – and by so doing, the principal company will safeguard their logistics functions from being negatively impacted by any risks.

2.45 Risk Perspective from the RBV and TCA

(Neves *et al.*, 2014:689) identifies two factors that can lead to transaction costs – the first one is related to limited rationality or uncertainty, the incompetence of human beings to foresee all issues concerning a transaction; and the second factor is the risk of opportunism; which transpires when a single party involved in the transaction benefits from unexpected variations in conditions regarding the transaction (this includes variations in IT, quality and market conditions of supply and demand) and capitalizing on the situation, the stronger party necessitates contract alterations that bring them unwarranted advantages (Neves *et al.*, 2014:689). Amid these two factors, uncertainty is the most intricate and thus the most important because the literature mentions that, given a high level of uncertainty, companies will implement control mechanisms (contract control mechanisms, commitment, personal ties and trust) into their transactions in order to gain control over their transactions and to decrease risks as well as transaction costs (Yang and Zhao 2016:218). To put it simply, companies that outsource, or are proposing to outsource their logistics activities must take into account the relationship risk involved in the decision.

TCA also identifies the frequency of transactions as a factor that affect BSRs in logistics outsourcing (Reeves Jr *et al.*, 2010:460). The frequency of transactions influences the decision to outsource logistics in numerous ways, the accumulation of trust, economies of scale including along with increased sensitivity to reputation effects. To be exact, when there are frequent and recurring interactions between partners, the incentive to uphold a good reputation in order to sustain the probability of future transactions will be adequate to diminish opportunism. Similarly, frequent and repeated dealings will bring about the growth of trust between partners, which will again eradicate opportunism and will make market transactions more attractive than they otherwise would be.

Both commitment and trust have been recognized as aspects favourable to relationship success since they lead to co-operative behaviour amongst partners, with trust having the stronger influence (Tsai *et al.*, 2012:179). Managing trust is deemed more and more as a method of enhancing BSRs and in addition to this, bearing in mind that opportunism is a noteworthy cause of relationship failure, companies are giving more attention to trust (Tsai *et al.*, 2012:179).

To conclude this chapter, it started off by explaining what SCM, outsourcing and 3PL are. This chapter also detailed the foremost factors that motivate a company to resort to logistics outsourcing as well as the critical areas for a successful logistics outsourcing programme. This chapter also highlighted the importance of both PM and KPI appraisal in relation to logistics outsourcing. Lastly, the literature review examined the dangers of logistics outsourcing in addition to several remedial strategies available to combat the dangers or risks of outsourcing.

The next section of this dissertation discusses the research methodology that guided the research.

Chapter 3: Research Methodology

3.1 Introduction

This particular research examined the issue of outsourcing transportation within a manufacturing company, and as such, this study accepts that the outsourcing of transportation is multidimensional in nature. Hence, this research can be examined solely by paying careful attention to those individuals engaged in the logistics and distribution functions within Defy Appliances. That being said, a qualitative approach is utilized for this study which in turn, will provide accurate, comprehensive responses explicating concerns appropriate to the research objectives and will; therefore, guarantee a more valuable and noteworthy study (Corbin and Strauss, 2015:5).

An exclusive exploration undertaken with the intention of facilitating the comprehension and awareness of a particular topic - that is how Creswell (2013:6) defines research. Within this chapter, the research methodology is explained. Various issues like the research design, sampling, target population as well as the design of the research instrument, data collection and the analysis of data are discussed. Over and above these issues, validity and reliability, the elimination of bias as well as the ethical considerations are also provided.

3.2 The Research Design

The term research design is used in multiple ways with some researchers using it widely to discuss aspects such as the formulation of problems, sampling, operationalization and the adoption of data selection methods (De Vaus, 2013:30). Conversely, to define research design more accurately, it can be defined as the construction and arrangement of data as opposed to the particular data itself with the foremost characteristic of acceptable research design delivering a perspective or background in which comparatively unequivocal declarations can be made (De Vaus, 2013:30).

The five common forms of research design are briefly discussed below:

3.2.1 Causal-comparative Research

Causal-comparative research is popular in psychology and education due to the occurrence of comparisons of people with dissimilar characteristics such as: race, gender, disabilities and

ethnicity (Mertens, 2014:158). It is a form of research where the collection of criteria of people who portray specific traits that differentiate themselves, as gauged by the peripheral verdict of the researchers (Mertens, 2014:158).

3.2.2 Correlation Research

In correlation research multiple data sets are collected from participants for analysis with some sort of relationship being established from the sets of data (Creswell, 2013:164). More accurately, the correlation coefficient is computed, it is a statistical representation of the relationship between two variables (Tuckman and Harper, 2012:186). It ranges from +1 (positive correlation) and -1 (negative correlation) with 0 indicating isolated or independent variables (Creswell, 2013:164).

3.2.3 Explanatory Research

It is defined as an attempt to attribute concepts to understand cause and effect, as scholars try to examine the fundamentals of cause and effect (De Vaus, 2013:30). Explanatory research seeks to classify protective (or risk) variables that are causally connected to conclusions as this research design seeks to explain the grouping of variables that accurately envisage contemporary judgements or future happenings (Sainani, 2014:881).

3.2.4 Descriptive Research

This is a study designed to represent the partakers of a study in a precise way and to put it more simply, descriptive research is largely concerned about describing the partakers in research (Salaria, 2012:161). It comprises data collection that pronounces happenings and then arranges, tabulates, illustrates and describes data making use visual utilities like charts and graphs to assist in appreciating the data (De Vaus, 2013:18).

3.2.5 Exploratory Research

In exploratory research, scholars study phenomena of importance and explore its depths, especially its relation to other variables (Portney and Watkins, 2015: 22). It is commenced for issues that are not properly demarcated. It is commonly adopted when not enough is acknowledged and before conceptual differences can be defined or when explanatory relationships need to be defined (Zikmund, Babin, Carr and Griffin, 2012:52).

From the above descriptions of the different forms of research design, both a descriptive and exploratory research design is adopted for the purpose of this study.

A descriptive research design is used because the answering of the research objectives and questions of this study will primarily be answered with the information obtained from the participants who will be involved in the interviews. The answers describe the participant's perspectives of different logistics activities and outsourcing within Defy which and is used to answer the research objectives and questions of the study. This is reiterated by Hale (2011:1) who states that descriptive research involves participants answering questions administered through interviews and after the answering of these questions, researchers describe the responses given. In order for the interviews to be both reliable and valid it is important that the questions are constructed properly by being written clearly and easy to comprehend.

Further to this, by adopting exploratory research, it enabled a more formal research approach being undertaken in the future such as that of a quantitative research approach. Exploratory research and similarly, a qualitative approach, offers in-depth quality information that allowed for a comprehensive and decent answering of the research questions and objectives for this study in addition to reducing bias. Exploratory research mainly deals with interviews as the research instrument employing the use of open-ended questions which allowed for the facilitation of collecting data from participants that is rich in content. Thus, by making use of both a descriptive and exploratory research design it permits the acquiring sufficient information with regard to the outsourcing of logistics to a 3PL provider that could possibly be challenging to acquire if a different research design had to be adopted instead. The research philosophy is discussed next.

3.3 The Research Philosophy

According to Goertz and Mahoney (2012:1) there are two main research categories:

3.3.1 Phenomenology (Qualitative)

Qualitative research is a methodology for discovering and comprehending the contribution of groups and individuals and their ascription to human and social phenomena (Creswell, 2013:4). This practice of research comprises questions and processes with data collection in the setting of the participant and data analysis being inductively constructed from specifics to general themes

(Creswell, 2013:4). This methodology employs the use of flexible and open designs. The aspects of qualitative research are explained in Table 3.1 below.

Table 3.1: Aspects of Qualitative Research

Grounded Theory	This is a design of inquiry from sociology whereby scholars develop a broad, abstract theory of process, action grounded from perspectives of the participants. It contains various phases of collecting data and the enhancement of information categories.
Ethnography	This stems from anthropology and sociology whereby scholars examine shared trends of language, actions and behaviour of integral cultural clusters in a natural setting across sustained timeframes. The collection of data consists of interviews and observation.
Case Studies	It is utilized in various arenas, particularly evaluation, whereby scholars create a detailed examination of an activity, event, process or case. These examinations are time-bound with scholars collecting a wealth of information adopting an assortment of procedures for collecting data over long time periods.

Source: Cresswell, 2013:14

3.3.2 Positivist (Quantitative)

This is research that is comprehensible and driven by data provided by results from numerical and statistical viewpoints (Zikmund *et al.*, 2013:133). Large amounts of data are accumulated and this is prepared easily and deployed into analysable information (Rasinger, 2013:10). It is deductive and based upon recognized theories with such research being adopted to create hypotheses which are then proved or disproved (Rasinger, 2013:10). The two primary aspects of quantitative research are explained in table 3.2 below:

Table 3.2: Aspects of Quantitative Research

Surveys	Surveys offer quantitative and numerical portrayals of attitudes, patterns and opinions of a population by examining a sample from that population. It extensively depends on structured interviews and questionnaires for data collection with the intention of generalizing results.
Experiments	Experiments look to define if an exact treatment impacts a result. Scholars evaluate this by developing a detailed treatment to a single group and concealing it from the next group and then realizing how both groups fared in such an undertaking.

Source: Babbie, 2015:247

3.4 Combined Research Strategies

This is referred to as mixed methods research and is a methodology involved with the collection of qualitative and quantitative data alike, combining both types of data, and using distinctive designs involving philosophical suppositions and theoretical frameworks (Creswell, 2013:4).

3.5 Adopted Methodology for this Study

Given the nature of this study and the intricacies involved, this research can specifically be examined solely by paying careful attention to – and examining – those individuals engaged in the logistics and distribution functions within Defy Appliances. That being said, a qualitative approach will be utilized for this study which in turn, will provide accurate, comprehensive responses explicating concerns appropriate to the research objectives and will; therefore, guarantee a more valuable and noteworthy study (Corbin and Strauss, 2015:5). Furthermore, a qualitative approach is undertaken as it is all-encompassing methodology to this research of outsourcing logistics; this will result in the unearthing of momentous issues which in the future, can be verified by means of quantitative research. To precisely answer the research questions and objectives put forward in Chapter one of this study, it made sense for a qualitative approach to be utilized as it does not warrant any numeric or statistical information; but, rather, the individual's input is needed which can be extracted by making use of open-ended questions. Qualitative research will prompt vital specifics concerning human behaviour, sentimentality and personas not garnered by quantitative approaches.

3.6 Target Population

A collection of individuals or observations containing all the possible affiliates of that category is referred to a population (Collis and Hussey, 2013:198).

With regard to this study the target population comprised of all the employees working within the Supply Chain and National Distribution departments of Defy Appliances. Having actually visited both departments of the company, it was noted that there are about forty individuals across both the Supply Chain and National Distribution departments.

With regard to this study, the target population comprised of all the employees working within the Supply Chain, Exports and National Distribution departments of Defy Appliances. Due to the fact that the researcher works within the Supply Chain department at Defy Appliances, it has been noted that there are fourteen employees that comprise this department. There are four senior managers as well as three team leaders. The Supply Chain department works in very close relation with the National Distribution Department at Defy Appliances. That being said, it has been noted that there is one senior manager as well as two team leaders in the National Distribution department. The reason for these specific individuals being selected is explained below under the sampling section.

3.7 Sampling

Collis and Hussey (2013:198) designate sampling to be the procedure of picking elements from a population because when the sample is examined; the outcome of that study can be easily generalized to the population where selection of the elements occurred. Sampling exists of probability and non-probability sampling. This is discussed below in tables 3.3 and 3.4 respectively.

3.7.1 Probability Sampling

The types of probability sampling are explained in table 3.3 below:

Table 3.3: Types of Probability Sampling

Simple	There is equal likeliness that every person in population will be selected.
Systematic	Everyone in a population is assembled or listed with a designated random start then each person from the population is selected at regular intervals.
Stratified	A simple random sample is conducted from a stratum or group, with every person in a population being assigned to a particular stratum or group.
Cluster	Each individual in a population is assigned to a cluster or group where clusters are selected randomly and all individuals from that a cluster being included in the sample.

Source: Sekaran and Bougie, 2013:247

3.7.2 Non-probability Sampling

The types of non-probability sampling are explained in table 3.4 below:

Table 3.4: Types of Non-Probability Sampling

Convenience	Samples are selected according to their availability.
Purposive	Samples are selected on their appropriateness as judged by the researcher
Snowball	Selected individuals find other individuals to be involved in the sample.
Quota	This is when identical representation of elements are selected and this relies on the characteristics utilized to develop the quota.

Source: Sekaran and Bougie (2013:247)

This research was undertaken using a non-probability, judgmental sampling technique to select the appropriate company to be investigated. The aim of the study was to investigate logistics outsourcing and KPI appraisal within Defy Appliances. A non-probability sampling method, which entails the selection of elements with the purpose to replicate certain group activities within the population that is the subject, was used (Sekaran and Bougie, 2013:247). Therefore,

this method was used to select one company that has features of the entire appliances industry, namely Defy.

Additionally, since the qualitative approach was utilized for this study, a reduced sample size of ten participants will be selected by means of judgmental sampling; a non-probability sampling technique. This is because the participants who will be included in this study of outsourcing logistics are specifically or purposively selected due to the trust and conviction that these participants are the most appropriate for the research. These employees consist of senior managers as well as team leaders who will be able to provide insightful information that will assist in answering the research objectives and questions of this research in the best possible way. They are vastly knowledgeable individuals with a wealth of experience that allowed for the answering the research objectives and questions of this study in a very apt manner. Lastly, judgemental sampling was used because no statistical knowledge was required.

3.8 The Research Instrument

Research instruments denote the different methods whereby researchers acquire data for their work (Bryman and Bell, 2015:184). Different types of research instruments are utilized by researchers; this is dependent upon the nature of research undertaken (Bryman and Bell, 2015:184).

To successfully answer the research objectives and questions of this study, it was advisable to employ the use of an interview from the perspective of a qualitative approach. This is confirmed by Schultze and Avital (2011:1) who state that interviews are essential to qualitative research. It is distinguished from other research approaches as it encompasses direct discussions between researchers and participants and this generates deeply reliable and contextual elucidations from participants. There were open ended questions that allowed the participants to effectively express themselves without any constraints and this is strongly believed to garner rich information aiding in answering the objectives of this study. For the purpose of this study, the use of open-ended questions were asked as it permitted the participant answering the questions to freely express themselves and in this way, more elaborate responses were be elicited. In addition to the use of open-ended questions, some semi-structured questions will also be asked. Thus, both unstructured and semi-structured questions were used as the interview questions with unstructured questions forming the bulk of the interview questions.

There are three types of interviews, as described below:

3.8.1 Structured Interviews

A structured interview is a standardized type of interview in which the orders of questions are consistent ensuring objectivity and fairness, reducing bias (Collis and Hussey, 2013:207). Comparisons are easily made because questions asked in a structured interview are close-ended limiting the flexibility of interviewers.

3.8.2 Unstructured Interviews

In unstructured interviews depending on the understanding and intelligence of the respondent, the interviewer can adjust questions according to their discretion (Hair, 2015:194). This turn out to be difficult in comparison drawing because the questions asked are qualitative and open-ended where interviewers ask particular questions to test the partaker's extent of expertise in a certain subject (Qu and Dumay, 2011:244).

3.8.3 Semi-structured Interviews

When scholars use semi-structured interviews, they exercise their own inventiveness in succeeding a respondent's answers as occasionally; interviewers may ask unrelated or unsuspected questions not originally contained within the interview set of questions (Hair, 2015:191). This approach can result in unforeseen and valuable information, thus enhancing the findings.

3.9 Pre-Testing of the Interview

From a qualitative perspective, it is important to pre-test the interview questions in order to evaluate the viability of the questions that will be asked as pre-testing it embraces little versions of the study (Kim, 2011:191). It is very useful as it assists in judging the effects of research on partakers beforehand (Cohen, Manion and Morrison, 2013:84).

Pre-testing of the interview questions will be undertaken to assess the interview questions as this will guarantee that the participants understand the questions and have no difficulties in answering them. This would contribute to the trustworthiness of the results of the study. For this study, the interview questions will be pre-tested by administering it to two people prior to it

being actually used when interviewing participants from the Supply Chain and National Distribution departments. Before the actual interviews will be conducted, all the interview questions will be pre-tested so that if there are any problems regarding some of the questions, this can be brought to the attention of the researcher. For this study, the interview was pre-tested by asking two employees, one from the Supply Chain department and another from the National Distribution department prior to it being actually administered to the senior managers and team leaders. Moreover, the interview guide was pre-tested with an academic in the school to make sure that ambiguous and unclear questions were eliminated before conducting the empirical study.

The two employees from Defy who were pre-tested are both knowledgeable within the field of SCM. Both individuals mentioned to the researcher that they understood all the interview questions clearly and experienced no difficulty in answering any of the questions. After the pre-testing was complete, the same interview questions were asked to the actual sample as none of the interview questions were altered.

3.10 Administration of the Interviews

Sekaran and Bougie (2013:119) state that interviews can be conducted telephonically, online and face-to-face. For this research, interviews will be administered face-to-face or one-on-one. Before the actual interview will take place, a detailed description of what is expected from each individual will be provided to them before-hand so as to familiarize them with the process. During the actual interview, the researcher will take the necessary material and will make notes as the participants go through each of the interview questions. All notes taken during the interviews will be scanned and kept away in a dedicated folder so as to maintain a repository of the responses. This is explained over the following paragraphs.

The advantages of conducting a face-to-face interview will be discussed next:

3.10.1 Advantages of Conducting Face-to-face Interviews

Some of the advantages of conducting face-to-face interviews are described below; these points are put forward by (Marshall, 2016:1).

- Allow for more in-depth data collection and comprehensive understanding
- Body language and facial expressions are more clearly identified and understood

- The interviewer can probe for explanations of responses
- Stimulus material and visual aids can be used to support the interview
- Interview length can be considerably longer since the participant has a greater commitment to participate

Points 1 and 3 above are specifically pertinent to this research; this is because the information attained from asking participants questions on a one-on-one basis is rich and comprehensive as if there is any confusion or misunderstanding from both the interviewer's and interviewee's perspective, then this can be cleared immediately. Moreover, whilst answering the questions, the participant may say something that can jolt the researcher or interviewer's mind which can result in further probing and in turn, the research objectives and questions can be answered distinctly.

3.10.2 Disadvantages of Conducting Face-to-face Interviews

Additionally, the disadvantages of conducting face-to-face interviews are described below; these points are also put forward by Marshall (2016:1).

- Interviews are more time consuming to recruit and conduct
- As a result of timing and travel, face-to-face interviews can be expensive
- Interviews can deliver biased responses
- Most carefully vet the respondent's ability before investing time in the recruitment process and interview process

These disadvantages can be overcome, for example, despite these interviews being time consuming to conduct, by being employed within Defy Appliances the individual conducting the interviews can access to the participants who will comprise the sample, thereby, cutting out the need to travel and meet participants. In addition to this, to negate the biased responses of the participants, Guba's Model of Trustworthiness will be used to establish credibility and dependability. Finally, the participants who were included in the research were purposively chosen as these individuals consist of senior managers and team leaders who are knowledgeable and vastly experienced with regards to the outsourcing of logistics to 3PL providers. This has also been outlined under the sampling section.

3.11 Data Collection

For this research, interviews were administered face-to-face. This is because it was highly beneficial for the research questions and objectives to be answered by means of a face-to-face interview as per the above arguments.

As briefly mentioned earlier, as the interview progressed along noting down important points was done which assisted with answering the objectives and questions of the study.

3.12 Data Analysis

The procedure of data analysis in qualitative research is complex. With regards to recognizing, understanding and scrutinizing reoccurring denotations or themes, Thematic Analysis is utilized in qualitative research (Rohleder and Lyons, 2014:95).

Furthermore, analysing qualitative research is aimed at the creation of useable extrapolations from the customarily overwhelming quantity of data gathered (Sekaran and Bougie, 2013:337). The three stages of qualitative data analysis are described below:

3.12.1 Data Reduction

Qualitative studies usually generate a wealth of data; however, not all of it is important. Once the data is collected, it needs to endure a process of data reduction so to detect and concentrate on the most important and meaningful aspects (LaFrance, 2016:13). This is the process of reducing and transforming raw data; and it is the researcher's duty to sift through the raw data to understand if certain portions of the data are relevant as well as to convert the data into a basic format understood in relation to the research questions (LaFrance, 2016:13).

3.12.2 Data Display

Once themes or patterns have been identified as per the stage above, the data needs to be arranged, assembled and transformed into a display such as graphics, tables or matrixes and textual displays that enables the drawing of conclusions (Sekaran and Bougie, 2012:349). Irrespective of the format selected, the data should be constructed in such a manner so as to encourage the researcher to think about innovative ways in recognizing logical patterns and interrelationships across themes (Sekaran and Bougie, 2012:349). In the data display stage,

researchers must be adept at recognizing re-occurrences and associations detected both across and within groups.

3.12.3 Drawing Conclusions

Conclusion drawing is final step in qualitative data analysis. To infer reasonable conclusions, researchers must revisit and examine their judgments again and then conclude whether such judgments assist in answering the research questions and objectives. To verify such deductions, researchers must reconsider their data (through the data reduction and display stages) several times over in order to confirm that their conclusions are worthwhile.

When analysing all the completed interviews, they will be carefully scrutinized to see what is most pertinent in answering the research objectives of the study. If there is any feedback considered not to be important, this feedback will not be considered for any further inclusion in the study, this makes reference to data reduction. Once this has been accomplished and the unimportant points discarded, reoccurring themes and patterns of similarities will be identified by comparing the answers of the participant involved. This was accomplished via the use of Thematic Analysis (TA) which is a procedure for identifying, understanding and examining patterned significances or themes in qualitative research (Rohleder and Lyons, 2014:95). TA is especially useful as it allows access into qualitative research by assisting researchers with the technicalities of coding and analysing qualitative data methodically, later on which can be connected to larger conceptual or theoretical matters (Braun and Clarke, 2012:2)

The resultant themes and patterns were tabulated and graphed which enabled the last part of qualitative data analysis to be carried out – conclusion drawing. Within this last stage, all information put forward to answer the research questions and objectives were re-examined to see if it is truly worthwhile and if its consideration in the study is justified.

3.13 Validity and Reliability

It is extremely important that all subsequent conclusions from research are verified. This entails the conclusions from qualitative data being authentic, reliable and trustworthy (Sekaran and Bougie 2012:350). This gives rise to the concepts of validity and reliability, as discussed next.

3.13.1 Validity

Qualitative research follows a set of principles of validity very different from quantitative research. Cohen *et al.*, (2013:180) states that there are five types of validity within qualitative research. This is explained next.

Table 3.5: The Five Types of Validity in Qualitative Research

Descriptive Validity	This is the factual accurateness of the study that is not fabricated, selective, or biased. In this respect, validity incorporates reliability and it is analogous to the concept of truth in research – what really happened, objectively factual.
Interpretive Validity	This is the ability of the study to grasp the significance, understandings, relationships, circumstances and events as described by individuals in the study.
Theoretical Validity	The degree to which research clarifies phenomena and implicates the theoretical edifices as propounded by the researcher.
Generalizability	This refers to when the theory formulated can be worthwhile in explaining comparable situations or proceedings.
Evaluative Validity	The adoption of an appraisal and judgmental approach towards what is being researched; in contrast to an explanatory or descriptive approach.

Source: Cohen *et al.*, (2013:181)

3.13.2 Reliability

Bowling (2014:53) affirms that the degree of deductions being dependable across an extended period of time in addition to being able to accurately represent the total population that is being studied, is denoted as reliability. Besides this; on the evidence that the results of research can be simulated using similar approaches, such research is assumed to possess reliability (Bowling, 2014:53).

In terms of accounting for trustworthiness in this research; credibility, transferability and dependability will be established by referring to Guba’s model of trustworthiness. These three terms are first defined below:

- **Credibility:** This refers to objectivity — the likeliness for similarity between two or more independent people regarding the data’s relevance, meaning or accuracy. This criterion is concerned with establishing that the data represents the information provided by the participants and that these interpretations are not imagined by the inquirer (DeVault, 2016:1).
- **Transferability:** This is connected to generalizability, and refers to the extent to which qualitative findings have applicability in other groups or settings (Elo, Kääriäinen, Kanste,

Pölkki, Utriainen and Kyngas, 2014:2). This depends on the outcomes and their ability to be generalized to diverse clusters or settings (Elo *et al.*, 2014:2).

- **Dependability:** This makes reference to the reliability and consistency of the research outcomes and the extent to which research procedures are documented, allowing someone outside the research to follow, audit, and critique the research process (Moon, Brewer, Januchowski-Hartley, Adams and Blackman, 2016:2). The dependability question is: Can the findings of the study be repeated if the inquiry was to be repeated with the same participants in a similar (or the same) context? Credibility cannot be achieved in the absence of dependability, just as validity in quantitative research cannot be attained in the absence of reliability (Bryman and Bell, 2015:403).

Moon *et al.*, (2016:2) affirms that credibility and dependability can be established through strategies such as data and method triangulation (employing the use of several sources of data and/or methods); peer debriefing (sharing questions about the research process and findings with peers who offer a supplementary outlook on interpretation and analysis); and lastly, member checking (returning answers to participants to gauge if their answers reflect their experiences). To outline what triangulation is – Devault (2016:1) states that triangulation is the process of asking the same research questions to different participants and by collecting data from various sources as well as by utilizing different methods to answer those research questions.

Member checks occur when the researcher asks participants to review both the data collected by the interviewer and the researchers' interpretation of that interview data (Moon *et al.*, 2016:2). Participants are commonly grateful for the member check process, and recognizing that they now have the opportunity to verify their statements tends to cause participants to keenly fill in any gaps from earlier interviews Moon *et al.*, (2016:2). Trust is an important aspect of the member check process.

With regards to member checks, once the participant's answers have been properly recorded after taking into account the three stages of qualitative data analysis; their answers will be communicated back to them for them to review so that it accurately reflects what they were intending to say and that nothing has been misinterpreted by the researcher. Also, in terms of peer debriefing, the research questions will be first shared with the researcher's supervisor whose expert opinion and advice will ensure that the right questions are being asked in order for the research objectives and questions to be accurately answered. This is how Guba's model of

trustworthiness were employed and moreover, this is how credibility and dependability will be established in this research study.

3.14 Elimination of Bias

To eliminate bias, any questions referring to religion, ethnicity, age and gender will be omitted. The interview questions will be easy to understand as no loaded, double-barrelled, leading, socially desirable, confusing or vague questions, therefore, eliminating any incidence of bias.

3.15 Ethical Considerations

Ritchie, Lewis, Nicholls and Ormston (2013:79) assume the perspective that ethical values and rules must be upheld and that doing so is morally correct, as well as beneficial to research. Applied to research, this means that taking the view that ethical ideologies in codes and frameworks must always be sustained and that no deviance is tolerable (Ritchie et al., 2013:79). All participation in this study will be voluntary and participants will be allowed to pull out from the study at their discretion without any consequences. There are certain aspects of ethical consideration that need to be accounted for; these will be discussed over the ensuing paragraphs.

3.15.1 Ensuring Participants have been given Informed Consent

Informed consent can be delineated as a process where participants partake in a study after they have understood the risks associated with the study (Silverman, 2013:162). For this study, the reasons for embarking upon the study will be provided at the onset. Participants will be guaranteed that there will be no implications for them partaking in this study and all information gathered is solely for research purposes.

3.15.2 Ensuring no Harm Comes to Participants

Silverman (2013:162) states that research must be undertaken in a way that eliminates harm or danger to the people involved. In this research, the safety of the partakers is ensured as if there are any potential dangers arising from the research; this will be communicated to the partakers. Also, no one under eighteen years will be permitted to participate in this research.

3.15.3 Ensuring that Permission is Obtained

Before approaching the employees of Defy Appliances, permission from the faculty of Law and Management studies will be sought and the ethical clearance form will be completed. Also, the

HR division of Defy Appliances will be consulted informing them of the researchers' intention to conduct interviews with its employees. This permission will be given in writing from the company under investigation.

3.15.4 Ensuring Confidentiality and Anonymity

In research, anonymity is achieved when the obtainable results cannot be matched to an answer given by a participant (Babbie, 2015:64). Research assures confidentiality when the researcher can link an individual's answer but promises to not do so (Babbie, 2015:64). In ensuring anonymity and confidentiality, no names were required in order to safeguard the identity of the individuals involved.

3.16 Conclusion

This section of this research charted the research methodology that will be utilized for this study which indicated that a qualitative approach is preferable subsequent to a comprehensive examination of the available methodologies and their suitability with regard to an investigation of the outsourcing of transportation within the manufacturing industry. The application of a qualitative approach provides more complete and more valuable information that is precisely required to examine the KPIs utilized to gauge the effectiveness of 3PL providers. To gather data from the selected participants, the research instrument will be the interview and its accompanying advantages were systematically described. The target population and sampling technique were also examined in addition to the explanation of data analysis concerning qualitative research. Lastly the elimination of bias as well as ethical deliberations was both explained.

The results that were obtained from the empirical field research and the drawing of conclusions in accordance with the objectives of this study are presented for discussion in the next chapter, Chapter four.

Chapter 4: Analysis, Presentation and Discussion of the Findings

4.1 Introduction

The first three chapters of this research dissertation began by introducing the research objectives and research questions along with the purpose and significance of this study; this was achieved in chapter one. Afterwards, in chapter two, the literature review discussed the various aspects of logistics outsourcing as per the research objectives and research questions. Lastly, in the preceding chapter, the research methodology that guided this study was examined.

This chapter deals with the analysis of the empirical data collected from the research sample during the empirical field research. The findings are presented, analysed and discussed and conclusions are drawn in relation to the objectives of this study. The empirical research for this study comprised of a qualitative method employing the use of open-ended questions in order to allow the participants to effectively express themselves without any constraints. This chapter presents the findings from the data collected at Defy's Head Office in Jacobs, South Africa.

This chapter starts by revisiting the research objectives and research questions stated in chapter one. By doing so, the reader is able to see how each objective has been achieved individually. Subsequent to this, the organizational structure of Defy is presented in order to give an indication as to where each participant is in Defy's management structure and to gauge the granularity of the Supply Chain and National Distribution Departments. This chapter covers issues discussed during the interview with the managers and senior team leaders at Defy which are vitally important in answering the research questions and objectives of this study. This chapter also explains why Defy in particular was chosen for this research and concludes with a summary of the most important issues discussed during the data analysis.

4.2 Revisiting the Research Objectives and Questions

Before discussing the data analysis and findings, it is important to first re-visit the research questions and objectives to determine the focus of this chapter.

That being said, this study aims to determine:

- 1) The influencing factors that motivate Defy to resort to logistics outsourcing and how the outsourcing of logistics can be implemented successfully;
- 2) The value that KPI appraisal brings to Defy and how it improves Defy's relationships with its 3PL providers;
- 3) The specific KPIs that Defy can utilize to measure the performance of its 3PL providers; and
- 4) The dangers that Defy is exposed to when outsourcing its logistics needs and the remedial strategies that can negate these dangers.

These research objectives were translated into research questions and are shown below:

1. What are the influencing factors that motivate or drive a company to resort to outsourcing and how can the outsourcing of logistics be implemented successfully?
2. How does key performance indicator appraisal improve the buyer-supplier relationship and how does performance measurement add value to the principal company?
3. What KPIs can be utilized by the principal company to assess whether their selected 3PL provider is performing their responsibilities to a level deemed appropriate by the principal company?
4. What are the pitfalls that accompany logistics outsourcing and what remedial actions can be taken to eradicate such pitfalls?

The research objectives and questions that are documented above are each discussed in detail in sections 4.6 all the way through to 4.9 as different themes, totalling 4 in number. Each theme deals with a specific research objective and question which is further broken down into categories which are then coded. Looking back at chapter three, The Research Methodology, under section 3.12, Data Analysis, it was stated that TA would be used. The result of this analysis provided the researcher with a 'thematic map' which is presented as Figure 4.1 on the next page which demonstrates the findings of the data analysis.

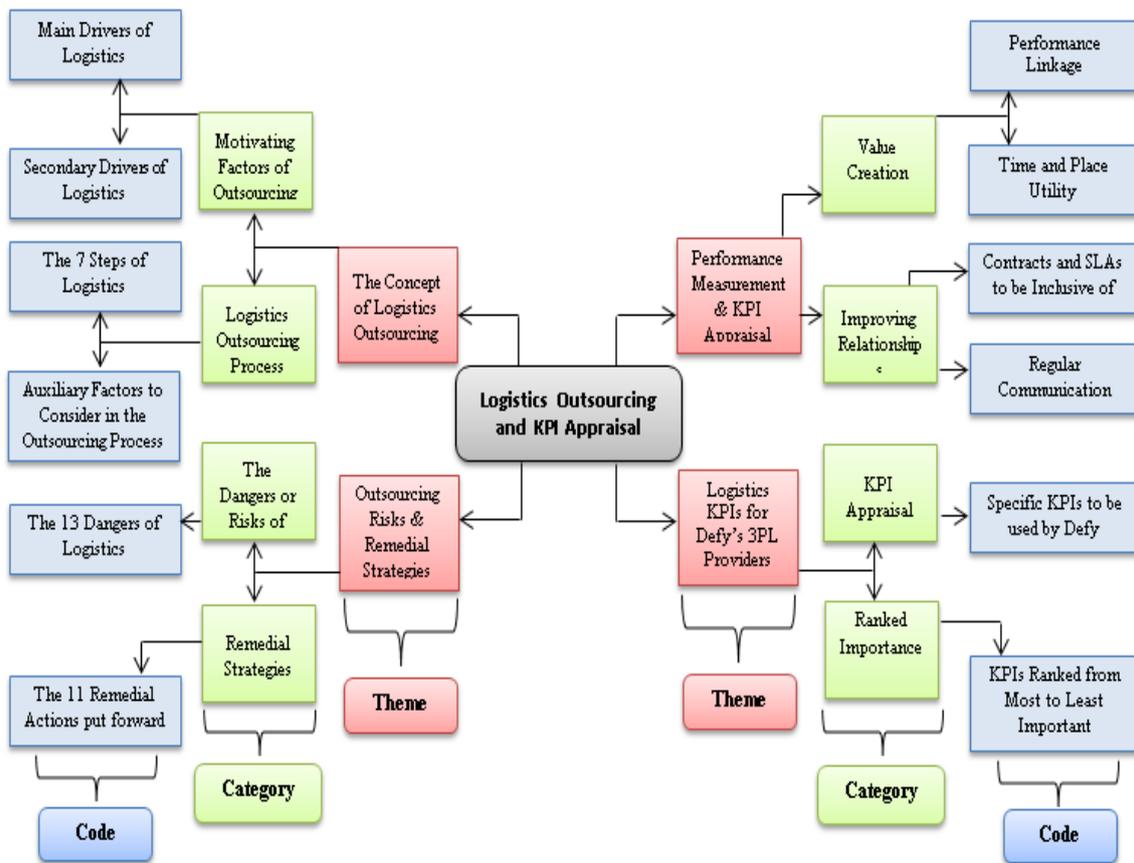


Figure 4.1: The Thematic Map

Source: Author's Own Design

Figure 4.1 above presents the thematic map that guided the findings of the data analysis. The subsequent sections of this chapter will ‘unpack’ the four themes. The research questions were used as the basis for the formation of the eight different categories with the responses provided by the participants falling into one of the different categories which in turn, were linked to a broader theme, as illustrated above in figure 4.1. Lastly, the various responses obtained from the participants were grouped together and coded for better examination.

Before the analysis of data is presented, the organizational structure of Defy is discussed briefly below.

4.3 The Organizational Structure of Defy

The figures on the next page depict the organizational structure that exists within the Supply Chain and National Distribution departments at Defy. Figure 4.2 is presented first.

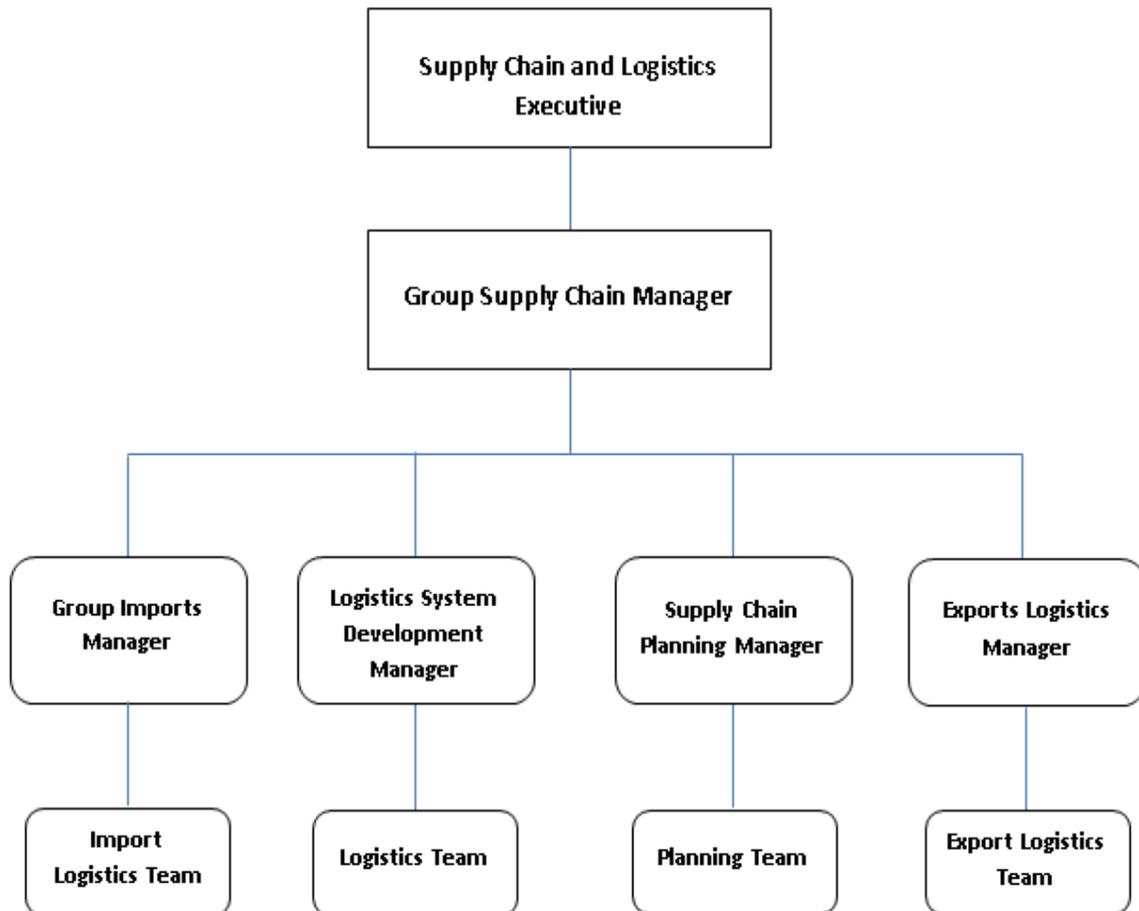


Figure 4.2: Defy's Supply Chain Hierarchy

Source: Author's own design

From figure 4.2 above; seven of the ten participants who took part in the empirical field research came from this hierarchy. These seven participants were the, the Group Supply Chain Manager and the four managers that fall under the Group Supply Chain Manager as well as the Senior Exports Administrator from the Exports Logistics Team and the Imports Controller from the Imports Logistics Team. The remaining three participants from the sample came from the National Distribution department; this is elaborated upon further in Figure 4.3 which is depicted on the next page.

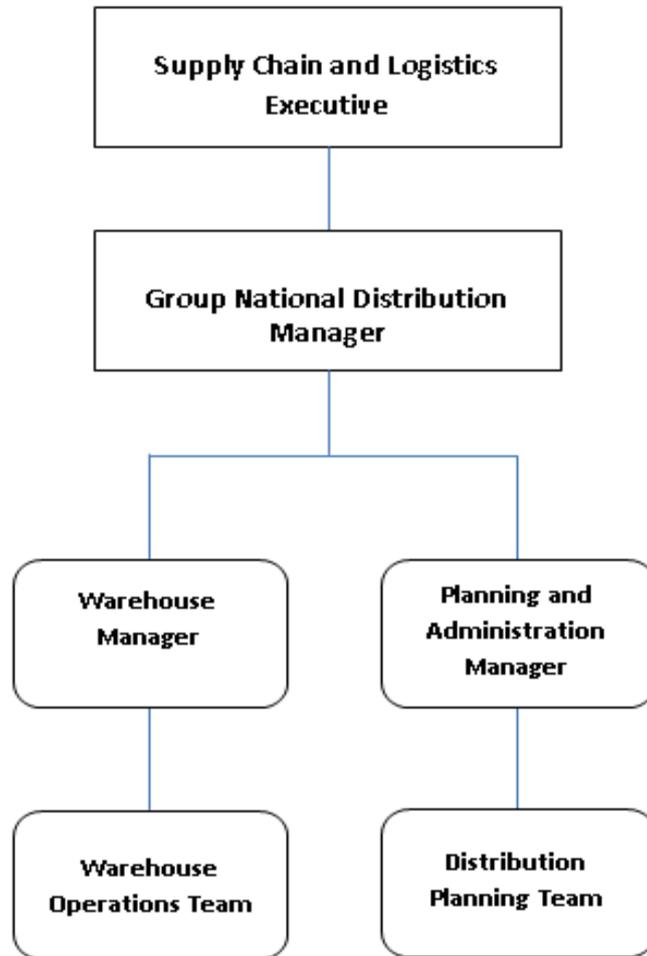


Figure 4.3: Defy’s National Distribution Hierarchy

Source: Author’s own design

From figure 4.3 above; three of the ten participants who took part in the empirical field research came from this hierarchy; this includes the Executive of Supply Chain and Logistics with the remaining two participants being the Group National Distribution Manager and the Warehouse Manager. Together with the seven participants from figure 4.2 there are ten participants altogether which comprised the sample that was selected to partake in this research. As stated earlier under non-probability sampling, in section 3.7.2, these participants were specifically selected to participate in this research study as they are vastly knowledgeable with a wealth of experience and good qualifications that will allow them to answer the research objectives and questions of this study well. The next section discusses the reason as to why Defy was selected to be a part of this study.

4.4 Justifying why Defy was Selected

In Southern Africa, Defy has the strongest brand positioning with regards to domestic appliances due to its consistent product quality and meaningful product innovation that is signified by its slogan - 'Believe in Better'. In Southern Africa, Defy Appliances is the leading distributor and manufacturer of domestic appliances with a traceable history dating back for over a century. Almost every person in SA has come into contact with one of Defy's products during their lifetime. Defy also plays a major role within the South African economy with its huge workforce as well as continuously creating multiple job opportunities each within its various operational activities. Lastly, Defy outsources the vast majority (upwards of 90%) of its logistics activities such as that of transportation and distribution to an array of different 3PL providers. It is for this reason that Defy was selected to conduct this study of logistics outsourcing. On the topic of Defy, the next section deals with the interviews conducted with the different employees at Defy, these ten employees were discussed above in section 4.3 under the company's organizational structure.

4.5 Interviews with Defy's Employees

The purpose of the interviews was to gain the perspective of Defy's employees in order to: identify what factors drives Defy to consider outsourcing its logistics needs, how the outsourcing of logistics can be undertaken successfully, how does KPI appraisal add value to Defy's operations, how performance measurement improves Defy's relationships with its 3PL providers, the specific KPIs that Defy can adopt to gauge the performance of its 3PL providers, the dangers that Defy can experience in its efforts to outsource it logistics requirements and lastly, the solutions to the dangers of logistics outsourcing.

As explained in chapter three, an interview guide was drawn up and this is attached as Appendix A. Participants were presented with different open-ended questions according to their functions in their respective departments. Permission was granted to use a recording device during the interviews. The interviews took approximately thirty minutes each and all the interviews conducted took place at Defy's Head Office in Jacobs.

The next four sections of chapter four will discuss the finding from the empirical field research with each research objective and the corresponding research question being answered per theme. Each part of the thematic map will now be scrutinised and discussed to provide an in-depth

understanding of all the issues that developed from the data. To support the findings, some of the sections will also provide verbatim quotes from the participants.

Before the data analysis section of chapter four commences, it is vitally important to mention that Defy's Corporate Services Manager (Defy's internal lawyer), from a legal perspective, instructed the researcher not to divulge any information that can reveal Defy's trade secrets as well as not to publish any findings from the interviews that can be reputationally scathing to Defy. The empirical findings presented hereafter have been expressed in such a way that upholds the abovementioned points as per Defy's Corporate Services Manager. That being said, the first theme is discussed below.

4.6 Analysis of Data: Theme 1 – The Concept of Logistics Outsourcing

The first theme will now be discussed – the concept of logistics outsourcing. As per the thematic map, the two main categories arising from theme one is that of the motivating factors behind Defy considering logistics outsourcing as well as the logistics outsourcing process at Defy. Before the first category can be discussed, outsourcing and the make-or-buy decision is discussed in order to lend perspective to the motivating factors behind logistics outsourcing. The concept of outsourcing is discussed next.

4.6.1 Outsourcing

In section 2.3 of chapter two, the Literature Review, outsourcing was defined as being made up of two words – “out” and “sourcing”; where sourcing refers to the activity of transferring responsibilities, work and decision rights to an external provider who can perform it faster, cheaper and better. To provide a second definition of outsourcing from the literature review section, outsourcing was defined as the allotment of risk and responsibility for executing a task or service to an external individual or institution.

Both these definitions were upheld by the ten participants who partook in the interview session. Looking at the first definition, some of the answers obtained from the ten participants stated that outsourcing means that Defy will no longer be doing an activity in house and that same activity will be done by an external party. Another answer stated that outsourcing means reaching out to different service providers for their services, like in the transport business, if vehicles are needed

and if Defy does not own any vehicles, then a 3PL provider must be approached for their vehicles as Defy must resort to using an external outside company to perform its logistics functions. It involves Defy having to pay for that function obtained from the 3PL provider, be it transportation, warehousing or clearing and forwarding because Defy is not capable or optimized in that particular function if it were to be executed in-house.

Looking at the second definition, Manager C stated that for Defy to outsource its logistics functions Defy first has to consider the risks and liabilities of outsourcing as these risks and liabilities are moved on to an external or third party. Thus, the answers gathered from the interview sessions were all congruent with the two definitions of outsourcing provided in the literature review. The next part of theme one looks at the make-or-buy decision.

4.6.2 Difference between the Make-or-buy Decision

Regarding the make or buy decision, section 2.3 of the literature review affirmed that when companies outsource their business functions, a buy decision is made, and when a function is performed in-house, a make decision is made. The above definition was agreed to by all the participants. They agreed that a make decision involves internally performing a function, and that a buy decision involves approaching the market looking for external providers to perform functions on Defy's behalf.

In terms of giving an example to elaborate upon the make-or-buy decision, the participants chose to either give an example based upon the manufacturing of appliances by Defy compared to outsourcing transportation. Referring to the example of manufacturing appliances, participants stated that to arrive at a decision concerning make or buy; Defy first must consider from a feasibility front, whether they should produce appliances in-house, a make decision, or if Defy approaches an outside supplier and had to buy the same appliances from them, then which would be more economically beneficial? Defy has to consider the two options of making appliances in-house vs buying, then weigh these options up and then decide on the make or buy decision. An example given by Manager D in this regard is that Defy used to make some appliances in its Jacobs factory; however, this is no longer the case as the same appliances are now imported from Turkey, a buy decision. This is because it was more economically feasible for Defy to acquire the items from Turkey than to manufacture it locally.

With regard to transportation, participants stated that for Defy to arrive at a decision concerning make or buy, then Defy would have to consider purchasing its own fleet of trucks as well as its own labour sources such as truck drivers and then performing distribution using their own vehicles and labour sources. Defy would have to also insure the vehicles that it purchases. Manager A affirmed that for Defy to arrive at a decision concerning make or buy a cost analysis has to be done. Having said that, another manager stated that from Defy's perspective, it would involve Defy investing in a lot of people and vehicles which can be extremely expensive, running into millions of Rands with extensive capital investment being required. Thus, regarding logistics outsourcing in Defy, it is outsourced almost completely from a primary and secondary perspective. The answers provided by Manager A as well as Manager E is reiterated by Manager H who echoed that most people will differentiate between the make-or-buy decision based on what's more competitive and will ultimately go with what will cost the company the least amount to deliver a unit to the customer. Moreover, Manager H also states that if Defy can perform certain logistics functions in-house and if it is more competitive than outsourcing, then there is no reason to outsource, however, if Defy is unable to perform certain logistics functions within its current setup and within its current logistics budget then Defy must consider outsourcing.

Now that outsourcing and the make-or-buy decision has been discussed, the next discussion centres on the first category – the motivating factors of logistics outsourcing.

4.6.3 The Motivating Factors of Logistics Outsourcing

In sections 2.9.1 – 2.9.5 of the literature review, the five topmost drivers of logistics outsourcing were explained, these are: Financial Incentive, Focus on Core Competencies, Improved Productivity, Technology Advancements and Access to expertise. In order to understand if these five drivers of logistics outsourcing (as per the literature on logistics outsourcing) are congruent with the answers received from Defy's employees, these five main drivers have been coded separately as the five main drivers of logistics outsourcing. The remaining six drivers have been coded as the secondary drivers of logistics outsourcing.

The first driver is discussed, with the other four main drivers being discussed successively.

4.6.3.1 Financial Incentive

One of Defy's senior managers' stated that the first driver of outsourcing should be cost and that only if outsourcing is economically feasible should it be undertaken. This means that if Defy can perform its own logistics functions at more competitive rates than 3PL providers in the market, then Defy definitely cannot outsource any logistics functions to any 3PL provider due to it being more expensive than the make option. This is affirmed by both Manager A and Manager G who both state that the main driver as to why Defy outsources its logistics activities is due to the financial incentive it receives from using the more economically viable solution of outsourcing. As per the Manager B: *"Every function has a target to decrease and minimize cost"*.

4.6.3.2 Focus on Core Business

Another driver of outsourcing is that it allows the principal company to focus on its core business. Looking at Defy Appliances, they have been in the business of manufacturing appliances for over a century; they are not a 3PL service provider. This aforementioned statement has been confirmed by both Manager E and Manager F whose answers are explained next: They all state that Defy needs to focus on what their primary function is, the manufacturing of good quality appliances, and that it would be better for Defy to pay attention to their core ability and leave the logistics to the professionals. They also cited that the main reason as to why Defy outsources its logistics functions is because Defy is not an expert at logistics, Defy is an expert in manufacturing and as such, Defy outsources transportation and warehousing facilities to different 3PL providers due to their expertise and because it is economically sensible to do so.

4.6.3.3 Improved Productivity

Manager B states that by outsourcing their Logistics needs to 3PL vendors, then there are less inefficiencies seeing as how Defy can make use of the 3PL provider's transportation facilities only when it is needed. This is because if Defy had to apply the make decision and purchase vehicles and pay for labour then Defy would carry the risk of inefficiencies, and the additional cost of inefficiencies and operational problems arising from Defy executing distribution with its own transportation. Manager B states that inefficiencies in this case would be that perhaps, for argument's sake, in the warehouse Defy has eight truck drivers and for secondary distribution Defy has eight trucks, if there is a strike Defy still has to pay labour for the eight drivers,

however, if Defy outsources, then Defy will only pay for when it makes use of labour. Manager F also affirms that outsourcing increases productivity and is one of the reasons as to why Defy actively pursues it. It is stated that for Defy to use its own transportation, it would be in a non-optimized way and that is why Defy goes to 3PL providers who have the necessary expertise and have a good network and can save Defy money and time which is linked to carrying the risk of inefficiencies, and the additional cost of inefficiencies. To put it in that manager's specific words – it is “*all about cost savings and being efficient*”.

4.6.3.4 Access to Technology

Another motivating factor behind Defy outsourcing to 3PL is that 3PL providers have access to technology as their technological prowess in terms of tracking shipments, such as airfreight and the whereabouts of vehicles on route for delivery. Manager A states that Defy may not want to invest in technology as it can be expensive to outlay capital and it would be better that the 3PL provider has access to such technology and that Defy gains access to it via outsourcing. Access to technology as being one of the reasons motivating outsourcing within Defy was also an answer offered by Team Leader B.

4.6.3.5 Access to Expertise

Access to Expertise was also mentioned as being a reason for Defy outsourcing. One manager stated that if Defy believes they are incapable of performing its logistics functions as well as the professionals in logistics game, then that could be a driver for resorting to 3PL. Manager A states that better expertise is a reason why Defy purchases its logistics services from 3PL providers. According to Manager D, by accessing the expertise of 3PL vendors, it will allow for logistics to be undertaken more efficiently and effectively which in turn, will save Defy time and will permit Defy to focus on other areas of the business.

Now that the five main drivers of Defy outsourcing its logistics needs has been explained with the answers obtained from the interview and categorized according to the five main drivers as per the literature review, the secondary drivers will be explained next.

The first one is related to the transferral of risk and thereafter, the six remaining secondary drivers will be discussed respectively.

4.6.3.6 Risk Transfer

One of the drivers of Defy outsourcing its logistics needs to outside vendors involves shifting risk to the vendor. The transfer of risk will be explained using an example, when stock is loaded to be delivered to a customer; it is always according to the invoice, for instance five units. At the loading point the 3PL provider does not raise any red flag stating that they short loaded any units so it expected that they received and loaded all five units for the customer delivery. Therefore, when delivery is to take place to Defy's customer, Defy expects that five units will be delivered. However, the proof of delivery (POD) note confirms that only, perhaps four units were delivered to the customer, and in turn Defy must credit the customer for the one unit that they did not get as confirmed by the POD. Thus, the 3PL provider must be raised an invoice for the one unit and hence, the risk has shifted from Defy to the 3PL provider.

Manager F states that when Defy outsources its logistics functions, risk is passed onto the 3PL as they are responsible for handling Defy's goods, for example, in their warehouse, storing and handling of Defy's goods becomes their responsibility and they are responsible for the goods.

4.6.3.7 Avoid Capital Outlays

Manager B stated that another reason as to why Defy outsources its logistics needs is to avoid purchasing assets, because if Defy buys vehicles, then these vehicles will be sitting in Defy's books and this is something that Defy does not want to do. Also, Defy is not too keen on outlaying capital regarding technology as the 3PL provider already has access to this as briefly discussed under section 4.6.3.4.

4.6.3.8 Resources and Infrastructure

The next driver of outsourcing is related to the resources and infrastructure that Defy gains access to and consequently, does not need to purchase. As per Team Leader A, these resources and infrastructure are related to the trucks, trailers as well as the forklifts and storage facilities that the 3PL provider will supply (and has access to) if they are selected to perform Defy's transportation and distribution needs. Skilled labour is also included under resources and infrastructure and refers to the truck drivers, loading and offloading teams that will undertake Defy's logistics functions. Team Leader B also stated that manpower is a reason as to why Defy considers outsourcing. It is closely related to the above driver of outsourcing; avoiding capital outlays as Defy does not to invest in resources and infrastructure.

4.6.3.9 Customer Expectation Failure

Manager H cited that customer expectations are a driver of outsourcing because when a company fails to meet their customer expectations; it can be a trigger to consider outsourcing as a 3PL provider with their vast experience and knowledge can expedite customer deliveries more efficiently than a company who executes customer deliveries on their own behalf.

4.6.3.10 Competency

As per Manager G, a logistics service provider's competency is an important factor that drives outsourcing decisions. It was stated that how the logistics service provider goes about managing the outsourced function (for example transport) is very important because it will determine how much time Defy will have to spend managing that outsourced function. Almost every single participant involved in the interview schedule stated that one of the reasons that motivate Defy in its logistics outsourcing initiatives is that Defy can concentrate more in its core function, the manufacturing of appliances and save time to look at other concerns in the business. If the 3PL is incompetent and necessitates Defy having to constantly step in and manage the outsourced function, then the essence of outsourcing is lost.

4.6.3.11 Senior Management Directives

The issue of senior management directives as a driver of outsourcing will be looked at from a cost perspective. It is important to note that cost is not the only reason as to why Defy considers outsourcing its logistics needs and it is also not the only senior management directive. That being said, Manager B states that there is constant cost pressure from Defy's Executives as well from Defy's holding company in Turkey. With regards to cost reduction, it is one of the main objectives within Defy (and at the same time maintaining high quality standards) because if Defy ignores this, then Defy will not be able to cope in the market as Defy cannot change its commodity pricing or increase its selling price seeing as how Defy cannot project these cost increases on to the end customer. Manager B affirms that the company must reduce costs (and similarly maintain a high quality standard) in order to control their selling price so that more appliances can be sold. Furthermore, financial indicators are very important for Defy, at the moment, Defy experiences a certain percentage in operational costs and every function has a target to minimize cost. This is because, as an example, even 1% affects a company's bottom line profitability, and that 1% can fluctuate enormously on how costs are controlled. If Defy leaves its costs uncontrolled then profitability suffers, and, for example, 1% may seem meagre

when seen as a percentage, but, that 1% could possibly translate into millions of Rands in terms of profitability.

Now that the first category of theme 1 has been discussed, the next section will look at the advantages and disadvantages of outsourcing as described below in section 4.6.4 before the logistics outsourcing process can be examined in section 4.6.5 - the second category of theme 1.

4.6.4 Advantages and Disadvantages of Outsourcing

In sections 2.19.1 and 2.19.2 of chapter two, the Literature Review, several advantages and disadvantages of outsourcing were tabled and discussed. These advantages and disadvantages are listed in table 4.1 below.

Table 4.1: The Advantages and Disadvantages of Outsourcing

Advantages	Disadvantages
1. Focus on Core Competencies	1. Loss of Control
2. Cost Savings	2. Security and Confidentiality Issues
3. Access to Expertise	3. Tarnish Reputation
4. Performance Improvements	4. Hidden Costs
5. Flexibility	5. Employee Dismissal

Source: Tayauova, 2012:190

The tables over the following pages record the advantages and disadvantages of outsourcing as per the feedback from the interviews conducted. Table 4.2 is shown first on page 108 and subsequently, the advantages are discussed thereafter.

Table 4.2: Advantages of outsourcing as per the interviews conducted

Advantages
Cost savings
Improved efficiency
Transfer of risk
Focus on core function
Technological access
Access to expertise
Less staff
SC optimization
Save time
Capital outlays

Source: Interviews conducted with Defy’s employees

The advantages are now discussed.

4.6.4.1 Advantages

To briefly discuss the advantages: Cost savings, improved efficiency, the transferral of risk, permitting Defy to focus on its core function, technological access and access to knowledgeable logistics professionals were all put forward as the most frequent cited advantages of Defy outsourcing its logistics functions to 3PL.

There were other advantages provided as well, some of which include, less staff on Defy’s books, this can be related to cost savings as Defy will not have to pay for their wages. Another advantage is that by outsourcing logistics to 3PL it will save Defy time and that the whole idea behind logistics outsourcing is to optimize Defy’s SC; these two points are linked to improved efficiency and access to the knowledge and skills of logistics professionals who will be able to undertake Defy’s distribution functions in a more optimized and efficient manner than compared to Defy bringing logistics in house. Also, another advantage cited is that there will be no need to outlay capital to invest in resources such as Defy’s own fleet of vehicles. Transportation flexibility and preferred rates was also an answer that emerged from the interviews. Defy can favourably negotiate transport rates to suit its target rates from the different transporters as per the Team Leader B. The disadvantages are looked at next.

Table 4.3: Disadvantages of outsourcing as per the interviews conducted

Disadvantages
Loss of control
Confidentiality problems
Tarnish reputation
Hidden costs
Job losses
Poor communication
Non-adherence to instructions
Ethics and vision congruence
Customer responsibility
Difficult to break contracts
Trust issues
Capacity constraints
Execution difficulty
Stock damages

Source: Interviews conducted with Defy’s employees

The disadvantages are now discussed.

4.6.4.2 Disadvantages

The five disadvantages of logistics outsourcing that were cited in section 2.19.2 were received from the answers obtained during the interview with Defy’s professionals. The remaining disadvantages are now discussed.

Poor communication was listed as a disadvantage seeing as how now that 3PL vendors are involved, Defy first has to go through the 3PL vendor to find out information regarding customers, there is someone else involved in the process which slows the process down. Both Manager G and Manager D stated that 3PL providers on the imports and exports side of Defy’s operations do not always adhere to instructions. It was stated that they (the managers) had to keep managing and reminding the 3PL provider about problems. Both managers stated that when Defy sends out RFQ’s in the tender process, the rules and procedures are clearly defined; however it is sometimes not adhered to by the 3PL provider. This is linked to the next disadvantage, ethics and vision congruence. One of the answers received from the participants

stated that the 3PL provider must have the same ethics and vision of Defy because sometimes Defy's ideals is not shared by the logistics service provider and Defy will not want to work with such a 3PL provider. For instance, the 3PL provider might want to short cut the procedures involved which is not in Defy's best interests, and as a result, this can tarnish Defy's name which then leads to Defy having a bad reputation.

The three disadvantages cited by Manager A makes reference to Defy still being responsible to its customers despite the delivery of appliances being undertaken by an outsourced vendor and that Defy's SC network has been entrenched for many years so to outsource it can be a long process to change this (execution difficulty). It was also stated that it is difficult to break contracts, because usually logistics outsourcing entails contracts being drawn up for a period of five years, depending on the size of the contract.

Another disadvantage provided was linked to capacity constraints of the 3PL provider. One senior manager stated that when there is a massive spike in customer orders, sometimes the 3PL provider may not be able to cope with this extra volume as their resources are stretched. As per the Team Leader B: *"We are at the mercy of our service providers"*.

The last two disadvantages of Defy outsourcing its logistics functions entailed the logistics service provider damaging appliances as well as trusting the 3PL provider; the latter is linked to confidentiality problems seeing as how the 3PL is aware of the volume that Defy moves as well as the price that Defy pays for its transportation and distribution functions.

The last part of the discussion concerning theme one is that of the logistics outsourcing procedure which is covered in sections 4.6.5 – 4.6.6. As per the thematic map, this is the second category of theme one.

4.6.5 Procedures of Logistics Outsourcing

Figure 2.1 under section 2.14 in chapter two examined the Logistics Outsourcing Process. It is important to note that in Defy Appliances, any tender process regarding logistics outsourcing is undertaken by Defy's SC department. In this research, the steps and procedures of logistics outsourcing will be based upon the answers given by those individuals directly involved in setting up logistics contracts with Defy's different 3PL providers. The answers received from the other participants will be used to supplement and reinforce the logistics outsourcing process at Defy.

The following steps have been put forward by those individuals responsible for setting up logistics contracts with Defy's logistics vendors.

4.6.5.1 Step 1: Understand Defy's Network

It is important to firstly understand how Defy is currently doing business. Every movement has to be catered for and how costs are being accumulated all need to be identified. Before any logistics service provider can come into Defy's network, the team responsible for setting up logistics contracts with potential vendors must first understand their own company's network very well in order to ensure that they put the right 3PL vendor in place.

4.6.5.2 Step 2: Conduct a Feasibility Analysis

There has to be a feasibility analysis to determine which is more appropriate between the make-or-buy decision. As an example, to consider whether Defy should outsource the clearing and forwarding portion of its business, there was a feasibility analysis conducted whereby in-house clearing was examined in comparison to purchasing the same function from a 3PL supplier. Upon completion of this feasibility analysis, it was revealed that in-house clearing was not actually cost – efficient; and as a result of that, Defy outsourced this function to an external service provider.

4.6.5.3 Step 3: Identify Potential Vendors in the Market

The third step would be to identify potential companies that are in market that can take on Defy's business and meet its logistics requirements. A noteworthy point is that maybe it is better to approach those companies already with experience in the appliance industry. These companies must be reputable and credible. Going back to step one, it is important to also look at size of the outsourced function. If it is something small, then it may not warrant the “big players in the game” with regards to 3PL providers, in this case it would make more sense to use smaller 3PL vendors as they offer a more personalized logistics service. Once the potential companies have been identified, an RFQ is presented to them detailing what Defy requires and rates are submitted by each potential 3PL vendor.

4.6.5.4 Step 4: Shortlist the Potential Vendors

Each 3PL vendor is evaluated and the shortlisted vendors are selected to enter negotiations with. At this point, it is critical to note what Defy drives on, either Defy will want to drive on efficiency or costs for this particular logistics function. If profit margins are small; then the driver would be cost as opposed to if Defy wants to drive on customer service; then delivery lead times would be the driver and this will be linked to efficiency. In the last tender that Defy undertook, there were at least fifteen identified 3PL vendors; these fifteen vendors were short-listed to five. Then, only with the five shortlisted vendors does Defy bring them in to negotiate back-and-forth. A lot of time is spent meeting the potential 3PL vendors with frequent communication and meetings are set up so that Defy can see who they will be dealing with in order to understand the people and to create a relationship.

4.6.5.5 Step 5: Select the best Vendor

From the shortlist of potential vendors, Defy has to select the best vendor. According to one manager, pricing is very important, but not the main thing that is looked at. Also, another manager stated that cost is important, but not the most important thing as Defy cannot be put into a dangerous situation by selecting a logistics service provider based on simply who is the cheapest; that 3PL provider must be capable to proficiently perform Defy's business. It is well-known that cost is important but when selecting a 3PL provider to partner with, it is encouraging to note that Defy looks at the 3PL provider's capability, performance, reliability as well as experience - cost is not the sole decision maker. The abovementioned points is further approved by another very senior manager who states that from a SC perspective, selecting the best 3PL provider involves a mixture of both cost and service offering. It is no use chasing the cheapest cost if that 3PL vendor cannot deliver Defy's goods seeing as how service offering is of critical importance in addition to cost. Hence, selecting the best 3PL provider to perform Defy's logistics functions would be based on a service-cost combination, as per this senior manager.

4.6.5.6 Step 6: SOP and Contract Finalization

Once the 3PL provider has been selected, standard operating procedures (SOP) have to be put in place. This is to understand which person from the 3PL provider will be responsible for each function and this will also define their duties and responsibilities. It was noted that one answer received stated that the SOP is the main thing, it is an important guideline ensuring that both

Defy and its logistics provider are on the same page as it clarifies all factors. Even when managers are absent, the SOP can be followed, and if it is followed, no problems should be encountered. In terms of setting up the contract, this is of the utmost importance, it has to be clearly defined in the sense of what is Defy's expectation and how that expectation will be managed by the 3PL provider, and if it is not managed, then what are the resulting consequences? Once both Defy and its selected 3PL vendor have agreed to the terms, conditions and consequences a contract is signed which usually runs for 3-5 years

4.6.5.7 Step 7: Vendor Evaluation

KPIs need to be put in place to measure the performance of the 3PL provider. This will determine whether the SOP and contract guidelines are being adhered to.

Now that the logistics outsourcing process has been established, the subsequent sections will discuss other noteworthy points to consider as provided by the participants from the interview schedule.

4.6.6 Auxiliary Points to Consider When Selecting 3PL Providers

The paragraphs below describe additional points that need to be taken into account during the logistics outsourcing process.

4.6.6.1 Network Infrastructure

In terms of selecting the best possible vendor, Defy has to ensure that the vendor has a strong network, both in SA and internationally, especially, China and Turkey so that imports can be expedited from suppliers in those countries. On the imports side, Defy imports raw material and finished goods from China and Turkey, the selected 3PL vendor must have strong transportation and clearing and forwarding capabilities in these countries so that there are no delays in receiving shipments from these areas.

4.6.6.2 Environmental Consideration

It has been noted that with regards to the environmental considerations, every tender that Defy goes into, the different 3PL providers always present something on the environment and that the 3PL provider always has some environmental initiatives in place. Defy is putting in ISO 14001

both in its factories and warehouses at end of 2017 which will then extend to getting suppliers involved. One manager remarked: *“In today’s economic world, green is important, and when going out to tender Defy must consider it as an important factor in awarding tenders, especially on the transport side”*.

4.6.6.3 Risk Transferral

Defy must carefully look at the RFQ which has to be explicit, Defy must flag areas of concern and then make 3PL provider aware of certain risks and where Defy would hold them accountable.

Additional points to consider included the number of employees that the 3PL has available to put on Defy’s account, how the 3PL vendor will respond to emergency situations, the reporting that is sent through to Defy, how efficient they are in communication, and last but not least, the 3PL vendor’s finance facility because as they handle Defy’s shipments, they outlay money for Defy. Defy must look at their transportation supplier’s background, it may be necessary go and visit their facility to see if their transport facility meets the required safety regulations and that both Defy’s products and people who are involved are safe. The 3PL must also ensure that their insurance is in place to protect Defy’s cargo.

Theme one dealt with the issue of logistics outsourcing and the two research questions or categories that were answered under this theme was that of the factors that motivate logistics outsourcing within Defy as well as the logistics outsourcing process that currently exists within Defy. What follows next is section 4.7 which deals with theme two, performance measurement and KPI appraisal.

4.7 Analysis of Data: Theme 2 – Performance Measurement and KPI appraisal

The reader will now look at how theme two is “unpacked”. The participant’s perception as to what PM is forms the basis of the discussion in section 4.7.1 below.

4.7.1 Performance Measurement

Some of the responses received from the participants when asked about what they understand what PM is included how well (or not well) Defy’s 3PL providers adhere to a particular standard

as established by Defy. This standard or measure would be something that is related to Defy's logistics operations. An example then put forward by Manager H included the percentage of damages in the warehouse, such as 0,5 % being acceptable. Manager H goes on to say that PM is setting the standard which in turn must be constantly met by the 3PL provider where the 3PL provider's meeting of this standard must be measured constantly as well. Manager C stated that PM entails Defy setting out what its expectations are from its 3PL vendor and then how Defy will go about measuring whether their expectation has been met. A very noteworthy point provided by Manager B indicated that PM is related to performance, which then has to be measured because Defy's customers have numerous expectations, and these customer expectations are met with the service level of Defy's 3PL provider. It is further stated that PM is absolutely essential seeing as how Defy's customers' expectation and the performance of the Defy's 3PL provider must tie up.

To summarize what PM is, an answer is provided by Manager A who affirms that PM is the efficiency as to how tasks and objectives get achieved by Defy's 3PL provider.

KPI appraisal is looked at next.

4.7.2 KPI Appraisal

Looking at section 2.30.2 of the literature review, it is stated that KPIs are utilized to gauge the performance of a company since KPIs play a major role in supplying information with regards to the performance of projects, tasks and companies.

Again, Manager A stated that KPI appraisal entails giving logistics service providers' specific targets and then assessing whether they perform against these targets. KPI appraisal reveals to the logistics service provider what Defy expects from them. The KPIs have to be revisited at regular intervals in order to assess if Defy's targets are being met, then these targets are "tightened", however, if the logistics service provider is under performing, then Defy has to address this. According to Manager H, KPI appraisal also involves putting contingency plans in place when Defy's targets are not being met by its 3PL vendor.

Manager F stated that KPIs involve setting targets which then have to be monitored in order to see how close or far these targets have been realized. For example, in terms of the number of containers loaded each month, the logistics service provider must achieve a specific target, if

that target is not being realized then Defy has to sit with them and understand the reasons why the logistics service provider is failing to realize its targets. Defy will have to put measures in place so that this non-conformance does not happen again. The answer provided above is enhanced by Team Leader A who states that Defy's targets must be met, or even better, exceeded by the logistics service provider.

Manager B remarked: "*KPIs must be realistic, achievable, countable, then (Defy) can measure their (3PL Provider's) performance.*" This is directly linked to the SMART Principles of KPIs which have been discussed under section 2.32.3 of the literature review chapter; the essential design principles of KPI development.

The ideology that KPI appraisal involves specific targets that are communicated to Defy's 3PL providers which must be met was the more or less the answer given by almost every single individual who participated in the interview schedule.

One of Defy's managers' stated that KPI appraisal, from a SLA (Service level agreement) perspective, is used in contract management as it ensures that transporters are aligning themselves to the contract. It was also stated that if a transporter falls behind on achieving their KPIs, then there is a clause in the contract from a SLA front whereby Defy has the option to exit the contract and resort to another transporter due to poor performance of the current service provider. It is important to mention that Defy already has SLAs in place and if service providers are not performing to the required standard, Defy can exit the contract.

Another senior manager stated that KPI appraisal can play a part in determining what portion of the business Defy gives to its logistics service provider. Defy has a strategy of having multiple 3PL vendors; Defy does not rely on a single vendor, and with that being said, if one 3PL vendor has poor KPIs revealing mediocre performance, then Defy can take away the business from that 3PL vendor and award it to an alternate 3PL vendor.

Now that both the concepts of PM and KPI Appraisal have been discussed, the first category of theme two can be examined which addresses the research question as to how does KPI appraisal adds value to the principal company, Defy Appliances.

4.7.3 Adding Value to Defy's Operations

With regard to how PM adds value to Defy's operations, the different answers obtained from the participants were grouped together, analysed and similarities between answers were identified, which in turn gave rise to the codes that are shown below. The first of which is discussed next under section 4.7.3.1 whereas the second code is discussed under section 4.7.3.2.

4.7.3.1 The 3PL Provider's Performance is linked to Defy's Performance

Looking back at the answers received from the participants with regards to how does PM adds value to Defy's operation, the response received from Manager B was quite prominent. The response provided stated that the performance of Defy's 3PL provider is 100% directly linked to Defy's capability because everything that the 3PL provider does affects Defy, if they perform well, then subsequently, Defy will also perform well. The 3PL provider must realize that they are on the same team as Defy and that their performance is also Defy's performance; Defy performs against its customers with the 3PL provider's service level. If they are slow; Defy is slow. If the 3PL goes into a customer's store late, then the end customer will purchase a competitor's product. The end customer goes into the store to purchase something, they do not want to come back out again to the store to buy Defy's products, there is no loyalty on the end customer's side, they simply come to the store to purchase what is in stock and are very price conscious, if Defy's 3PL provider is late with delivery then the end customer will buy someone else's product. Hence, PM is the key to Defy's success as explained by Manager B. To reiterate this, Manager F also remarked: *"If they do well, we do well"*. In addition to this, the Team Leader A mentioned: *"If we fail to deliver then it is a failure on our service provider, but if they exceed expectations then it adds value on Defy's side because we are exceeding our expectations to our customers to deliver"*. The next paragraph details the response given by Manager A.

It is stated that every time Defy's transporters achieve on their KPIs, it is to Defy's value, if the KPIs reflect poor performance, then Defy will be incurring costs and Defy will be losing credibility with its customers which has a very large negative effect. That is why the measuring of performance via KPI appraisal is a critical aspect; however, Defy cannot set KPIs and then not measure it. Manager E mentioned: *"It is very important from a Defy front to ensure that the*

3PL provider is adhering to what we want as we are paying not just for the service they provide but for the value-added services as well that they supply”.

The next paragraph will deal with the answers put forward by Manager E and Manager G. The answers put forward stated that the performance of the 3PL provider is linked to Defy; how well they do determines how well Defy does. Manager G stated that there is a ripple effect; the performance of one party affects the performance of the other party. The other answer received stated that it is very important from a Defy perspective to ensure that the 3PL provider is adhering to Defy’s requirements; this will ensure that they are aligning their operational activities in line with Defy’s KPI’s. KPI appraisal will permit Defy to have a picture or indication of where Defy is at the moment, if the 3PL provider performs well then Defy does well, if not, Defy performs poorly – it is a reciprocal partnership. That is to say, if the 3PL provider is performing well, then Defy’s SC department is performing well (the SC department is in charge of logistics contracts) and the SC department is positively contributing to the organisation as a whole in terms of cost-saving and increasing customer satisfaction.

There was a common recurring pattern of answers that was noticed from the answers above. This pattern is that of a clear relationship between Defy and its logistics service provider which entails the performance of the logistics service provider being directly linked to Defy, the principal company. If the logistics service provider performs dismally, then likewise, so too will Defy when servicing its customers. As stated above, the 3PL provider is the bridge between Defy and its customers and taking the response from Manager B; Defy performs against its customers with the 3PL provider’s service level.

The second code is discussed next, time and place utility – which assists in answering the research question of how the PM of Defy’s 3PL providers assist with the creation of value.

4.7.3.2 Time and Place Utility

One of the answers received stated that if Defy fails to deliver to its own customer then that is a failure on their logistics service provider, however, if the same logistics service provider exceeds expectations then it adds value to Defy as Defy’s customers are satisfied. It adds value to Defy’s operations as customer satisfaction is being facilitated by the 3PL provider. Units are being delivered to customers when it is needed and to the place that these units are needed. This is referred to as time and place utility which was discussed in chapter two, sections 2.24.1 and

2.24.2. The participant further went on to state that the 3PL provider is the bridge between Defy and its customers. An example was also provided in this regard to illustrate the above point. Defy outsources its transportation and distribution functions to different 3PL providers who export units to the rest of Africa and Turkey on Defy's behalf. If the 3PL providers' performance is exceptional, then containers will be placed on time which means that no shipping vessels are missed .i.e. containers are loaded onto the ship on time so that appliances can swiftly get delivered to Defy's customers and that Defy can raise invoices to its customers and capture their revenue through that sale. As stated by another participant, getting paid in business is vitally important because this affects business cash flow. In order to get paid, however, and using the example cited above, Defy can only capture revenue from sales once an invoice is raised to the customer. For that to happen, the customer needs to have their orders delivered in the time that they specified and where they specified the delivery to take place – this is what is referred to as time and place utility.

More importantly and which is a big concern for management is that Defy is losing revenue, and this is due to the negative performance of its 3PL provider who has an inefficient distribution system. Defy's customers run promotions and specials and they need the required appliances to sell in their stores; these appliances need to be with the customer by a certain place and time because if the units are not there, then how can Defy's customers run their sale promotions and this negatively impacts Defy as well as its customers. This is further elaborated upon by an example given by Team Leader A. If Defy's 3PL provider is late with transporting containers for exports, then orders are cancelled because of the delay and that is how Defy ends up with irate customers. This also means that there will be replenishment back orders from Defy's customers because of all the delays and cancelled orders due to 3PL provider transporting export containers late. The principles of time and place utility are not upheld and this affects Defy's reputation to deliver and render services to its customers.

However, it was noted that there was one negative response provided; this involved one participant stating that KPI appraisal is over-rated as Defy puts KPIs in place, and then forgets about it by not assessing it afterwards. If these KPIs were enforced, then it will add value to Defy as the 3PL vendor will know where they stand and if they are meeting Defy's requirements or not. It was stated that sometimes "people just get on with the business", and things are happening whereby in some instances Defy loses money or gains profit, but if both parties

measured their KPIs continuously, both parties will know where they stand. At the moment, Defy is not strictly measuring their 3PL provider's performance based on KPI appraisal.

Now that the first category and its corresponding codes of theme two have been discussed, the next category and its corresponding codes will be looked at. The second category of theme two makes reference to Defy improving its relationship with its 3PL providers and is the basis of the discussion of section 4.7.4.

4.7.4 Improving Buyer-supplier Relationships

With regards to how KPI Appraisal improves the BSR, the different answers obtained from the participants was grouped together, analysed and similarities between answers were identified, which in turn gave rise to two different codes; both of which will now be examined.

The first code is that Defy's logistics outsourcing contracts and SLAs must be inclusive of KPIs.

4.7.4.1 KPIs Must be Included in the Contract and SLA

The first answer put forward will be from Manager A who stated that with regards to utilizing KPI appraisal as a tool to improve the BSR, Defy first has to have clear KPIs with its 3PL provider and these KPIs must be in the contract. Defy must measure their logistics service provider on a more frequent basis and in so doing, it will force the logistics service provider to see how far they are out. It was also stated that if the transportation vendor does not meet the agreed to KPIs, then there will be consequences. On the opposite end, if the transportation vendor does meet the stated KPIs then Defy will be happy to do business with them. Again, however, it was noted that these KPIs must be included in the contract and SLA so that the transportation vendor is aware of it and know what they have to do in order to achieve these KPIs.

Another response also mentioned that it is necessary for Defy to give its transporters clear guidelines and clear instructions as to what is required and the resulting consequences of them not achieving Defy's requirements. The above statement from Manager H was further verified by Manager E who mentioned that KPIs govern the logistics contract from a SLA front. The information that KPIs reveal determines how much Defy needs to be "push" their transportation providers. If the KPIs indicate that the transportation provider is below the required standard

then Defy, as the principal company, has to “push” them in the direction that they need to go to improve their performance. By the transportation provider achieving its KPIs, then it will allow Defy to understand if goods are being delivered on time in full and this will warrant no major intervention from Defy which is good news.

The issue of “pushing” is further discussed by the answer put forward by Manager B who stated that Defy needs to firstly be transparent with its transportation providers, and that they should not be pushed illogically, every decision has to have logic behind it. At the same time, Defy cannot have unreasonable expectations from its transportation providers and that the market norm should be the expectations. Defy can, however, push for more than the market norm to an extent but this “push” still needs to be realistic. Manager B then went on to list several characteristics of KPIs; these are: Realistic, achievable and countable. Defy can then transparently engage in PM with its transportation providers and if the KPIs indicate poor performance, then there will be a problem.

Manager B affirmed that Defy must definitely have a contract (and SLAs) with KPIs attached to it, and that the 3PL provider must be subject to penalties for non-performance against these KPIs. At the moment in Defy, Defy is not strictly currently doing this and that it is unfortunate. Defy has a several KPIs in place but Defy is not 100% there in terms of measuring performance against the agreed to KPIs. For example, one of the KPIs that is in place is that of damages where Defy charges its transporters to cover this specific risk. Defy needs to improve upon measuring transporter’s performance against the agreed to KPIs and perhaps in the next big tender Defy can start to implement this.

The second code is that there must be regular communication between Defy and its 3PL provider regarding KPI appraisal that reflects poor performance.

4.7.4.2 Regular Communication

The notion of Defy communicating what KPIs it will adopt to measure its transportation provider’s performance against was a recurring pattern of responses put forward by several participants. These responses will be discussed now.

One response stated that it was important for Defy to bring its 3PL provider in every month, communicate with them and inform them of their performance. Another one of Defy’s senior

managers stated one of Defy's 3PL provider's is not being brought in every month and their performance is not being communicated to them and this is negatively affecting their performance. It was agreed that there exists a definite need for Defy to measure the performance of its 3PL providers via KPI appraisal on either a monthly or quarterly basis.

By regularly communicating with each other, both Defy and its transporter will know what is expected from each other and if mishaps do happen, then they can be tackled instantaneously. Regular communication between the principal company and its logistics service provider will permit a healthy relationship whereby an atmosphere of trust and transparency prevails. This is because both parties are constantly informed of operational activities and decisive actions can be taken immediately which will ensure favourable KPI appraisal of the logistics service provider.

The two points that were discussed above under improving BSRs include: KPIs must be documented in the logistics contract and SLA, that there must be regular communication with the 3PL provider regarding KPI appraisal. Both these points are nicely summarized by one of Defy's senior managers whose answer is provided below.

This senior manager stated that Defy is speaking to its 3PL providers with regards to their KPIs, but, this communication is not being done as formally as it should be. In other words, Defy is going back to its 3PL providers with problems, but, Defy is not measuring them on their performance consistently enough on what they are achieving; this should be done at least every month. The same participant went on to say that in terms of penalties and consequences; the biggest penalty is that if the 3PL provider loses the business which is why Defy has to sit down very early in their relationship with the 3PL provider and let them know about their KPI achievement (or failure).

Theme two dealt with the issue of PM and KPI appraisal and the two research questions that were answered under this theme was that of how does PM adds value to Defy's operations and how KPI appraisal can improve the BSR. What follows next is section 4.8 which deals with theme three, the specific set of KPIs that Defy can use to gauge the performance of its 3PL providers.

4.8 Analysis of Data: Theme 3: Logistics KPIs for Defy's 3PL providers

The next section of chapter four will discuss the third theme, the specific set of logistics KPIs for Defy's 3PL providers. The different responses received were all categorized together by examining the similarities between answers and a list of ten KPIs were drawn up. These ten KPIs are the codes under examination in section 4.8, theme three – the specific set of logistics KPIs that can reveal the performance of Defy's 3PL providers.

This list of ten KPIs will now be discussed.

4.8.1 Logistics KPIs to be used by Defy

The first KPI is that of on-time in full (OTIF) delivery, after which, the remaining nine KPIs will be examined individually.

4.8.1.1 OTIF

As per the participant's response, OTIF refers to on time in full which specifies that all of Defy's deliveries to its customers must be delivered at the right time and quantity as per the customer's order. Another participant also mentioned that "*OTIF is very nice rounded KPI to measure a transporter's performance*". This is because OTIF looks at not only lead-times, but also damages. OTIF reveals how well the transporter is managing Defy's delivery requirements. Effective service delivery would be linked to OTIF. For example, if a customer order specifies that they need five fridges, then the transporter must deliver five fridges within the specified lead-time, if the lead time into that particular area where the customer is warrants a lead time of three days then delivery must be completed within three days. Moreover, Manager A also mentioned that transporter's must arrive on time to load as Defy orders trucks and then transport Defy's products to its customer on time, simultaneously looking after the products on their vehicles and providing Defy with feedback. OTIF is particularly important because Defy's customers run promotions and they need the necessary appliances to do this. If trucks arrive late then the customer will not have any stock to sell, and then when the customer loses sales due to the scarcity of stock, they cancel the orders they placed with Defy. On the exports side, Defy has loading slots and transporters must ensure that they meet these loading slots because if their trucks are late, it hinders the process as Defy has to make another booking which creates

unnecessary delays. At the same time, the correct units must be loaded, if a customer orders a gas stove, then an electric stove must not be delivered. Stock holdings must balance across the board because Defy needs to have the right details on their side, the transporter must also have the correct units reflected on their documentation and the customer also needs to receive what they ordered. Everything must balance and match. Staying with exports, stacks close at the port, if Defy is loading for a vessel, the ship will come into port and Defy has three days to get containers out of the port terminal, load it and send it into the port for stacking. If the stacks are missed then Defy cannot load on that vessel, or alternately Defy can, but it involves making additional arrangements and there are costs involved to get containers on the ship. It is an extremely time sensitive operation. Manager B stated that OTIF is the most vital KPI that Defy can utilize in order to evaluate the performance of its 3PL providers – “*OTIF is big KPI for logistics business*”.

OTIF is also a main contributor to place and time utility; when goods are delivered on time in full it means that both the principles of time and place utility are being upheld as per its definitions which have been discussed in sections 2.24.1 and 2.24.2 of the literature review as well in section 4.7.3.2 above.

4.8.1.2 POD TAT

Proof of delivery turn-around times was another KPI that was mentioned whereby transporters can be measured on. In fact, according to Manager C, it is the most important KPI. The same manager stated that a delivery is not complete until the POD is with Defy. From the time that the order is generated, Defy has to allocate stock to that order, then confirm with customer and book a truck, then Defy has to load that truck according to the customer’s order, deliver the appliances to the customers’ facility, offload the appliances and then the transporter returns the POD. Once the POD is back, Defy can see what was delivered to the customer and if the customer received the same appliances according to the POD and to their order, meaning that there are no discrepancies – then only can Defy sign off the transporters invoice as complete and “clean”. This is the most important KPI for the 3PL vendor and the same manager went on to say that this was the very first thing that was learned as a manager many years ago. POD TAT was also mentioned as a suitable KPI by one of the group managers’.

PODs allow for Defy to receive payment from its customers because no customer will pay any invoice without the supporting documentation, that is, the POD. If Defy does not get paid timeously it affects cash flow because the usual terms for most invoices are thirty days from statement. If the POD TAT is sluggish and takes a while to come back then Defy's customers will not pay within thirty days and the accounts end up being in arrears because the thirty day window for payment has lapsed – this is due to there being no POD which confirms delivery of a certain amount of units and its corresponding value that was received by the customer. As per the Manager D, *“Getting paid in business is a big thing”*.

4.8.1.3 Damages

From a Defy perspective, a damages KPI gives an indication as to how well the transportation provider is treating or handling the appliances that Defy puts in its care. Manager H and Manager B both stated that damages are a KPI that is worth having.

Damages directly impact on Defy's reputation as a manufacturer of appliances because by sending units that are in poor packaging and that are dented or scratched, the customer immediately becomes dissatisfied with Defy. Therefore, transporters must properly handle the units that are being loaded onto their trucks and not damage it in anyway. The abovementioned statement is reiterated by Manager E who commented that damages *“Gives you an indication of how well they are treating the product”*.

4.8.1.4 Communication

Communication was a KPI that Manager G mentioned as an important KPI as communication allows for everyone involved in a particular operational activity to know what is going on. Another participant professed that communication is critical because if Defy and its 3PL provider does not communicate to each other there is bound to be misunderstandings and problems will arise because either party will expect the other to meet expectations; hence communication is vital.

In terms of what is required from the communication front, one of the managers stated that: *“A nice KPI dashboard where you agree on what you want to monitor, set up achievable targets and review monthly to see what is happening, and communicate to them (the 3PL provider)”*.

By having communication as a KPI it will allow for problems to be resolved immediately, proactive, as opposed to trying to solve problems at a later stage after it occurred, reactive. If there is an issue, the transporter must immediately contact the relevant people within Defy to quickly resolve the problem instead of doing nothing about it and then communicating this at a later stage.

4.8.1.5 Reporting

Reporting was mentioned as a KPI as Defy's managers want to see monthly reports regarding the outsourced functions that the 3PL performs on behalf of Defy. For example, a manager wants to see a status report regarding deliveries, the 3PL provider must inform Defy timeously and not provide Defy with this information only when it is requested. The same manager said that Defy's 3PL providers must be proactive and not reactive! At Defy, some of the respective managers inform the 3PL provider when things are going wrong, instead of the 3PL informing Defy. The 3PL provider has "to be on the ball". It was also noted that reporting is what some of Defy's 3PL providers are currently lacking as they are not making Defy aware of issues timeously, this is what is alluded to as being reactive and not proactive.

That being said, by the 3PL provider sending out monthly reports giving a summary of the previous months happenings, it will allow for Defy to see where improvements can take place and this will assist both the transporter as well as Defy.

4.8.1.6 Stock Losses

A stock loss in this regard is different from damages as a stock loss refers to when the 3PL provider cannot account for the units it received from Defy as well as theft. If the 3PL provider has poor systems in place and cannot properly receive and maintain their inbound deliveries and properly record the stock received, then there definitely will be stock losses. The appliances that Defy sends are recorded on Defy's side, and if it is different to what is received – it will create an issue. This issue is that it will take time to reconcile the difference and costs will be incurred to exchange additional units to and from the 3PL provider. One manager stated that theft is massive because unscrupulous people will always find a way to steal Defy's goods seeing as how such people are "out for a quick buck" and that "crime is huge". The same manager said that the temptation to steal Defy's goods is ever-present.

Therefore, a suitable KPI to prevent the 3PL provider's inability to manage stock or when there is theft is that of stock losses.

4.8.1.7 Flexibility

As Defy's demand works in line with seasonality, often times the transporter is unable to cope with the spike in demand during the period between October and December. Additionally, there are many cases at Defy where there are emergency situations or unexpected emergencies that necessitate activities outside of the norm. A KPI to be used in this regard is that of flexibility, and it can determine how the transporter can provide a solution to satisfy their customer (Defy). On the topic of flexibility, usually the transporter subcontracts out to another transporter if they do not have capacity. However, it is still the transporter's risk as Defy does not enter into any agreement with the subcontractor; the transporter has to manage the risk and the activities that the subcontractor performs – the risk is on them, not on Defy. However, Defy's reputation can be on the line even though subcontractors are involved as Defy's requirements are in the 3PL's hands, who put it in the hands of the subcontractor due to their lack of flexibility.

4.8.1.8 International Offices

It was mentioned that sometimes issues do come up, and on the exports side Defy's 3PL providers need to have a strong network in place in order to get documentation quickly and not wait 3-4 weeks. This is because Defy needs to submit documents to the bank for exports purposes, however, if the 3PL provider does not have a good network in place in order to get documents promptly; it prejudices Defy as to whether Defy gets paid and in business it is very important to get paid on time.

4.8.1.9 Customer Relationships

An interesting answer received from Manager B is concerned with Defy's logistics service providers and the relationship that they have with Defy's customers. The selected logistics service provider is the face of Defy and represents Defy in front of the customer. The logistics service provider goes to the customer's warehouse or store and delivers goods; they are representing Defy seeing as how Defy does not distribute its goods on its own. Defy cannot measure this KPI due to the characteristics of KPIs mentioned in section 2.33 of chapter two,

this is not countable or quantifiable. Defy can, however, gauge the performance of their 3PL provider based upon the feedback received from its customers.

4.8.1.10 Cost

In terms of cost, Manager E mentioned that it is negotiated on an annual basis and in that sense it cannot be exactly a KPI per se. This is also confirmed by Manager C who stated that costs are already done up front in the contract; Defy knows what they are getting billed for in advance for example, with the overtime and transport rates. Cost can be a KPI, however, if the 3PL provider is charging adhoc or once-off prices that are out of line. When this happens, Defy can set a KPI when referring to costs such as improvement projects to name it more appropriately. Defy can set out a KPI whereby the 3PL provider puts cost-saving initiatives in place and then pass on this saving to Defy. From a Defy SC front, it is perhaps necessary for cost drivers as Defy needs to acquire the benefit of the 3PL provider's cost drivers. The 3PL provider's procurement decisions made by their purchasing teams must realize cost-saving initiatives and benefits which in turn must be shared with Defy and this is a good KPI to be suggested. Manager A states that cost can be a KPI because within SC, a portion of transportation costs are variable, something not standard and measured over time. It is important to grab all the fixed costs together and put it in the contract to be clear-cut and the variable costs can be made as a KPI. Manager F declared that cost can be a KPI in the sense that it can be used internally to determine if the savings put forward by the 3PL provider are being realized and if it was worth using them.

The ten points above make reference to set the of KPIs that can be specifically used by Defy to gauge the performance of its 3PL provides who undertake Defy's transportation and distribution activities; this will ensure that logistics outsourcing is successful at Defy.

The next part of theme three involves the participant's answers to the five KPIs shown to them and where they had to rank it from the most important to the least important. These answers are discussed next.

4.8.2 Participant's Perspective of the Most Important KPIs

A list of KPIs were shown to the participants during the interview sessions, this list contained five KPIs: On-time delivery, cost, quality, flexibility and innovation. The participants were asked to rank these five KPIs based on what they considered the most important KPI and what

they considered the least important KPI. Their answers are discussed next, with the most important KPI, on-time delivery, being discussed first then proceeding to the second most KPI and so on.

4.8.2.1 On-time Delivery

From the ten participants who partook in the interview, seven of them mentioned that on time delivery is the most important KPI to be used to measure the performance of Defy's 3PL providers. The remaining three participants classified on-time delivery as the second most important KPI to be used to measure the performance of Defy's 3PL providers.

4.8.2.2 Cost

In terms of cost as being a KPI to measure the performance of Defy's 3PL provider, it was noted that five of the participants declared that it should be the second most important KPI to measure the performance of Defy's transporters. The remaining participants stated that cost should be the third and fourth most important KPI. These five participants who stated that cost is the second most important KPI are Manager E and Manager F, Manager B, Team Leader B and Manager A.

4.8.2.3 Quality

With regards to quality, six of the participants stated that quality is the third most important KPI to be used to measure the performance of Defy's 3PL providers. Manager H and Manager D, however, both mentioned that quality is the most important KPI when asked to rank the five KPIs from most important to least important.

4.8.2.4 Flexibility

Flexibility was overwhelmingly put forward as the fourth most important KPI ranked in order of its importance from the list of the five possible KPIs. Eight of the participants all professed that from the list shown to them of the five KPIs; flexibility was ranked fourth in terms of its importance and relevance with regards to measuring the performance of Defy's 3PL providers.

4.8.2.5 Innovation

This was declared to be the fifth or least important KPI that Defy can use to measure its 3PL provider's performance. Eight of the participants ranked innovation last amongst the five KPIs

shown to them. The only exception to this was Manager G who ranked innovation as the second most important KPI and another manager who ranked innovation as the third most KPI.

Theme three dealt with the issue of logistics outsourcing and the main research question that was answered under this theme was that of compiling a set of KPIs that Defy can use to measure the performance of its 3PL providers. What follows next is section 4.9 which deals with theme four, the last theme – the dangers of outsourcing and the solutions to combat these dangers.

4.9 Analysis of Data: Theme 4: Outsourcing Risks and Remedial Strategies

From the interviews conducted with Defy's employees, it was noted that there were fourteen dangers of logistics outsourcing that Defy can potentially experience. The different responses received were all categorized together by examining the similarities between answers and a list of fourteen dangers were drawn up. These fourteen dangers of logistics outsourcing are all discussed next.

4.9.1 Dangers of Defy Outsourcing its Logistics Needs

The first danger that Defy can encounter whilst outsourcing its logistics needs is that of losing control, this is discussed below in section 4.9.1.1 and subsequent to this, the remaining thirteen dangers will be examined individually.

4.9.1.1 Loss of Control

One of the answers received stated that Defy is servicing its customers with different transportation providers who represent Defy. Another participant stated that transportation providers may not look after Defy's interests as Defy would if they had to perform these distribution and transportation functions on their own accord. As such, it is generally accepted that by having ownership of something, it entails the owner being more careful with the item being owned. This view is echoed by Manager C who mentioned that the 3PL provider will not handle the product the same as Defy's own staff would as there is a tendency that Defy would handle its own product better than the 3PL provider.

4.9.1.2 Brand Reputation

Defy's customers are not too concerned as to which transporter is delivering to them; if the transporter fails to deliver then it is a poor reflection on Defy's side as the customer only acknowledges Defy. Despite the transporter being the "face of Defy" - if there are any issues the customer will come straight to Defy, they will not go see the transporter who supplied the trucks. This is how Defy's reputation gets tarnished and the customer's trust is lost which makes it difficult going forward to make more sales.

4.9.1.3 HR and IR Issues

Defy has to employ an outside company who has its own labour and workforce. As such, if this 3PL provider experiences any labour disputes within its own company then there can be a strike and this 3PL provider can let Defy down due to their HR and Industrial Relations (IR) issues. Also, another participant stated that once the decision to outsource has been finalized, it is difficult to go back on that decision and to re-employ the same people who initially lost their jobs.

4.9.1.4 Handling and Damages

Manager A stated that Defy relies on the 3PL provider for the safe and proper handling of all its different appliances and not damage it. Team Leader A mentioned that once the appliances are loaded on their truck then the 3PL provider assumes responsibility for the loaded appliances. If there are any issues with the appliances such as damaged packaging, the 3PL Provider has the right to reject it at the loading point; otherwise if they take the appliances on to their vehicle then they assume responsibility for it as it was in good condition when they took it. If the appliances arrive in poor condition when it arrives at a customer, they must be held accountable as the appliances were damaged in transit. Another participant mentioned that there has to be a clear policy or definition in terms of damages – what condition are the units, is it still sellable? The same participant stated that customer's informed Defy that they saw the saw 3PL provider not handle the goods properly, the goods were handled roughly. The 3PL provider must take the necessary precaution and put cardboard boxes or blankets in between to prevent friction. This is because damages can be very expensive, sometimes the amount can be up to millions of Rands on expensive shipments and in order to prevent this, the 3PL provider must handle the load with care to prevent damages. Lastly, theft is also a danger of outsourcing as the 3PL provider can steal the products they transport. Another example was given by one participant who stated that

last year; there was an incident of theft. In such an instance, the customer is not looking at the transportation provider, but rather, is looking at Defy – the customer is not seeing that these are the transportation provider’s trucks, but are Defy’s trucks as Defy selected this specific transportation provider to distribute goods on Defy’s behalf.

4.9.1.5 Loss of Confidentiality

Manager D said that if the opposition come in and deal with the 3PL provider, then they (the latter) can let something slip innocently and this can cause huge problems in the market place as Defy’s competitors have access to private information. Both Manager G and Manager A stated that the 3PL provider is aware of the volume that Defy moves as well as the price that it pays to move this volume.

4.9.1.6 Customer Perception

If a customer, for argument’s sake, orders five units and only receives four units with the transporter failing to mention anything about the short-loading of the 1 unit. In such an instance, the customer has to do extra paperwork to resolve the issue as they have to be credited for the one unit they did not receive. If this happens frequently enough then in the back of the customer’s mind the customer will realize that this is going to be a long drawn out process with numerous discrepancies involving this specific transporter. The customer will have the perception of deliveries not being accurate and there will be an overflow of paperwork to resolve the issues. The transporter must deliver OTIF and change the perception of the customer that there will be no problems with this delivery and there will be no paper work to be filled out.

4.9.1.7 Costs

One of Defy’s managers mentioned that once the decision is made to go ahead with outsourcing, then it is very difficult to go back on that decision. If there are any costs not clearly defined, the 3PL provider can bring it up and charge Defy. After Defy signs the contract, Defy will no longer have the necessary resources to go back and handle their own transportation and distribution activities and to do so will cost a fortune. Without the resources, Defy is at the mercy of the supplier (3PL provider) who has the ability to dictate terms and take advantage of Defy as they know that Defy cannot go and distribute its products without access to its own vehicles and drivers to do so.

“Any logistics company will find a way to charge you something; the aim is to make money - that is why we open up a business, to make money”.

This is an answer put forward by one of the Defy’s Group Managers and it is quite important for Defy to take cognizance of as it is definitely one of the risks that accompany logistics outsourcing.

4.9.1.8 Insolvency

Manager G stated that the 3PL provider represents Defy as a bank as they outlay capital on Defy’s behalf. If they have no money, then Defy’s products and cargo will be caught up in their legal battle without Defy having access to it. Another manager stated that company financials are very important, for example, the owner of one of Defy’s transporters is spending a lot of money in his private life, after some time the owner needs more money to sustain himself, then that owner may sell trucks (or increase pricing) to continue his current lifestyle. This will negatively affect their cash flows and their performance which in turn will affect Defy because if they go bankrupt, they will stop Defy’s operations completely. If this happens, Defy will have to find a quick solution to continue its operations and in such an instance cost is not the first priority, but rather operation continuity is so Defy will have to select another transportation provider not based on cost. Thus, financial stability is critical.

4.9.1.9 Customs

Regarding customs, Defy’s integrity is at risk with the performance of the selected 3PL provider. They must do the correct thing and follow the established procedures because if not, Defy’s preferred trader status will be revoked, Defy can be prosecuted, Defy can end up paying fines as well as Defy’s cargo can get stuck at customs if the 3PL provider is negligent or does things incorrectly. This danger of outsourcing is closely related to the next danger.

4.9.1.10 Ideals and Standards

If the 3PL provider is an expert and well renowned in the logistics sector, then they must have the same ideals as Defy - this answer was given by one of Defy’s managers from the SC department. It is closely related to the disadvantages stated whereby the 3PL provider may want to take shortcuts and not adhere to the established procedures as detailed in the SOP. The

established procedures cannot, under any circumstance, be faltered upon and must be followed exactly.

4.9.1.11 Trusting their Capability

When Defy outsources its transportation and distribution functions to a 3PL Provider it trusts that its operations will be executed efficiently by the nominated 3PL provider. On the contrary, if the 3PL provider experiences any issues, it directly affects Defy, and reacting to these issues can take time depending on how big the outsourced function is especially if Defy needs to exit a five year contract before time. Thus, trusting a 3PL Provider is one of the risks of outsourcing.

4.9.1.12 Capacity

Defy operates on a seasonal basis, that is demand peaks during October to December (peak period) and alternately, demand slows down during January to March. In the peak period, transporters may have no capacity to cope such as no space in their warehouses to hold Defy's goods or may not have ample trucks to complete deliveries.

4.9.1.13 Competitor Piggy-backing

Due to their volume, Defy has an established network and is the largest in the market. Defy creates lanes and routes that other competitors will never go into as Defy allows for its transportation providers to carry their competitors' products who would ordinarily never go into those areas at those prices before - Defy creates access to those outlying places. Defy has created the opportunity for the opposition to jump into the same network which is also a platform for the transportation provider to sell into that network or route/lane.

The thirteen points above make reference to the dangers that Defy can potentially encounter in its efforts to outsource its logistics activities. These thirteen dangers of logistics outsourcing must be given due consideration as it definitely will have adverse effects on the efficiency of the outsourced function.

Now that the risks of logistics outsourcing have been discussed, the different remedial strategies or actions are put forward and this is discussed next under section 4.9.2. The remedial strategies is the second category of theme four, and the eleven different strategies are the codes which have been developed by looking for similar patterns amongst the answers as well as categorizing the different answers received from the participants.

4.9.2 Remedial Strategies to Combat such Dangers

The first remedial strategy is related to contract management and is examined below, thereafter; the remaining ten remedial strategies are examined individually.

4.9.2.1 Contract Management

Manager E stated that contractual agreements are perhaps the most important remedial action there is to combat the dangers of outsourcing. This answer is also shared by another senior manager who states that the contract must be really detailed in order to mitigate risk and 3PL provider has to be aware of the contents of the contract.

Ideally, there should be no amendments and addendums having to come in later; examples such as the 3PL provider did not cost on this or these factors are eating into profit margins, therefore these factors have to be charged separately. With regards to contract management, it is very important that at the beginning, Defy sets the groundwork, clearly defines the risk and liability of who will be responsible in certain events; there are no unexpected events or variables that come into play – all parties must be aware, agree to the terms and conditions and sign. Manager A mentioned that the contract is important to go back to as it takes care of potential problems that might occur.

4.9.2.2 SOP

The contract and the SOP are linked; this is an answer according to Manager F. When Defy enters into any contract with a logistics service provider, it also draws up a guideline of SOPs. These SOPs give a clear indication as to the roles and responsibilities of each individual who will be involved in the whole logistics operation, because sometimes – the logistics service provider is unclear as to their role. Thus, the SOP and contract is linked, as both parties signed and agreed to the various clauses and are bound to it.

4.9.2.3 KPI Monitoring

One of the answers received stated that it is necessary to have KPIs as well as SLAs in place to support the contract, these KPIs support (or justifies) Defy's clauses where Defy requires to exit the contract.

One Manager stated that:

“KPIs and service level agreements (SLAs) are in place to support the contract; it supports our clauses should we require leaving the contract. You obviously don’t want to be in a position where we are stuck in the contract for five years but are not happy for four of those years.”

The principal company, Defy, does not want to be in a position where they are stuck for five years with a poor logistics service provider and are unhappy for four of those years. Defy must be in a position where they structure contracts with logistics service providers where Defy can leave the contract if the 3PL provider is not achieving their KPIs. These KPIs need to be continuously monitored and then communicated on a regular basis, either monthly or daily to the 3PL provider. Defy must speak to the various managers of the 3PL provider. The above answer was upheld by another participant who mentioned that there must be a KPI dashboard with achievable targets that are reviewed monthly, and communicated to the 3PL provider – Defy needs to understand why there are poor KPIs and alternately, if there are good KPIs, Defy must thank the 3PL provider.

4.9.2.4 Penalties

For the 3PL provider, based on the contract, their core function is to transport Defy’s products in good condition from the point of load to the point of offload. If the 3PL provider is not meeting that portion of their contract, then Defy will bill the 3PL provider for that. For example, if a customer rejects a load (because of a late delivery or damaged appliances) then Defy can lose a sale which then must be passed onto the transporter. If trucks fail to arrive, there is an actual monetary value that can be attached to this which can then be charged to the transporter as Defy is not the only party affected by the transporter not providing the service. Defy can only follow through on this if it is written into the contract. The 3PL provider will always find excuses to reject costs, however, if penalties are written in the contract, Defy has the right to discuss charging the 3PL provider for the loss of sales, otherwise Defy cannot even bring this issue up if it is not written in the contract. The important point is that these issues have to be tabled in the contract and then only can Defy charge for non-performance - the customer charges Defy a penalty, in turn, Defy charges its 3PL provider.

In terms of damages, Defy has to protect its appliances and not accept any damages, the transporter must pay for damages as goods must continuously be received in a good condition or the 3PL provider must responsible for any damages arising thereof.

4.9.2.5 Multiple Vendors

Concerning a counter measure for strikes, it is a bit difficult, but one solution can be that of having multiple vendors whereby one can pick up the slack of the other. Manager H also professed that by having two or three vendors will limit the monopoly created by just having a single vendor and will create competition. By creating this competition, it will aid in the prevention of the 3PL provider dictating to the principal company which can be quite costly. Defy will not have to re-employ the same people that were lost if Defy had to insource. Manager B remarked that it is vital to have an alternate vendor in the system that has experience and is familiar with Defy's operations. By having multiple vendors in Defy's system who can react is important as Defy knows all of their costs because they are already in the system; not someone from the street our outside, thus, Defy has created a solution within its own system. With regards to line-haul, Defy only has two or three at the moment, ideally it should be four which will increase competition between the different vendors as a different vendor can step in when the other has operational problems – the vendor already has the experience in Defy's business and Defy is aware of their costs as well. It is also less risky to go find another 3PL provider – Defy has a solution in the system. This is one of the key things that Manager B mentioned as one of the reasons to combat the dangers of outsourcing - splitting the business and having more than one supplier per function in the system is the most important to reduce risk. Team Leader B also mentioned this as a remedial action.

4.9.2.6 Non-disclosure Agreement

Most of the participants mentioned that one way to ensure that the logistics service provider does not divulge Defy's confidential information out is to put non-disclosure agreements in place. These agreements restrict the logistics service provider from revealing any information pertaining to Defy within the appliances industry or with any external company for that matter.

4.9.2.7 RFID Technology

Manager F mentioned that for Defy to better control its stock, Defy needs to adopt advanced technology such as that of Radio Frequency Identification (RFID) Tags such as the scanning of barcodes to assist in properly verifying stock tallies. This will permit Defy to know exactly how much stock is in the warehouse at any given time and do not have to wait for several days for the 3PL provider to count stock. Manager A mentioned that there has to be an efficient warehouse Management System (WMS) and RFID technology to assist with the short loading and extra loading of units onto the transporter's trucks. Manager A went on to mention that this is in the pipeline at Defy and is possibly the next step that Defy plans to implement in its logistics operation – adopting RFID technology such as scanners that are linked to Defy's Material Requirements Planning (MRP) system. Defy will first use these scanners with automatic uploads wherever the 3PL provider is managing/handling Defy's stock and if this is beneficial in terms of ensuring that there are no short or extra loading, then Defy can roll it out to other areas.

4.9.2.8 Historical Data and Forecasting

One of the answers put forward to combat the danger of the transportation provider not having sufficient capacity in peak season is for Defy to use historical data and forecasting. Historical data such as the number of trucks used in the past five years for the peak period will assist the 3PL provider in understanding the trend of how many vehicles they need to cope with the surplus of outbound deliveries. Also, in terms of space the number of cubic metres used in the warehouse or the no of containers used to store containers can assist the 3PL provider with their planning. Also, Defy must try and accurately forecast the number of units that are to be sold in its peak period as this will help the transporter in planning how many vehicles and labour it needs to plan its outbound deliveries. The participant went on to state that Defy must use EDI and communicate this info to the 3PL provider.

4.9.2.9 Regular Meetings

Manager G stated that there must be regular meetings with the 3PL vendor in order to ensure that there is continuous communication as this will facilitate in transparency which will nip problems in the bud. Team Leader A mentioned that these meetings can be a platform as to where Defy can discuss the 3PL provider's KPIs to see if they are performing well or poorly.

4.9.2.10 Vendor Monitoring

Another answer put forward is that Defy must closely monitor its 3PL providers, this is closely linked to the previous point but it differs to an extent. Defy must examine the 3PL provider's financial stability, this is especially so if the 3PL provider is listed on the Johannesburg Securities Exchange (JSE) where their financials are published. Defy must also monitor the market as it is not uncommon to hear of companies going bankrupt; all of the above points are necessary to make certain that the selected 3PL provider is able to execute Defy's logistics functions with integrity.

4.9.2.11 On-site Contact

Both Manager A and Manager F stated that it is a good idea to have one of the 3PL provider's employees to be based at Defy on-site to represent Defy. This on-site person will facilitate in speeding up communication with the 3PL provider and can assist with expediting logistics processes.

The eleven points above make reference to the eleven remedial strategies and actions that can be put forward to combat the dangers of outsourcing. To conclude, theme four dealt with the issue of the dangers of logistics outsourcing and the appropriate remedial strategies that can be put forward to combat the dangers.

To summarize the answers generated by the empirical field research; table 4.4 is presented on the following page:

Table 4.4: Summary Analysis of the Answers from Empirical Field Research:

Research Questions	Research Objectives	Answers as per the Empirical Field Research
<ul style="list-style-type: none"> • What are the influencing factors that motivate or drive a company to resort to outsourcing? • How can the outsourcing of logistics be implemented successfully? 	<ul style="list-style-type: none"> ➤ To determine the driving factors that influences Defy to implement logistics outsourcing. ➤ To determine a logistics outsourcing process. 	<ul style="list-style-type: none"> ✓ Section 4.6.3 (split into main and secondary influencing factors) ✓ Sections 4.6.5 and 4.6.6 (split into the 7 steps and auxiliary points to consider)
<ul style="list-style-type: none"> • How does PM add value to Defy's operations? • How does KPI Appraisal improve the buyer-supplier relationship? 	<ul style="list-style-type: none"> ➤ To determine exactly how PM adds value to Defy's operations. ➤ To determine how KPI Appraisal improves Defy's relationships with its 3PL Providers. 	<ul style="list-style-type: none"> ✓ Sections 4.7.3.1 and 4.7.3.2 (Performance linkage and utility) ✓ Sections 4.7.4.1 – 4.7.4.2 (Contracts including KPIs and regular communication)
<ul style="list-style-type: none"> • What KPIs can Defy utilize to gauge the performance of its 3PL Providers? 	<ul style="list-style-type: none"> ➤ To determine a specific set of KPIs that Defy can use in its efforts to gauge the performance of its 3PL Providers. 	<ul style="list-style-type: none"> ✓ Sections 4.8.1.1 – 4.8.1.10
<ul style="list-style-type: none"> • What are the dangers that accompany logistics outsourcing? • What remedial strategies can be taken to eradicate such dangers? 	<ul style="list-style-type: none"> ➤ To determine what dangers can encounter whilst outsourcing its logistics activities. ➤ To determine what actions Defy can undertake to eradicate the dangers. 	<ul style="list-style-type: none"> ✓ Sections 4.9.1.1 – 4.9.1.13 ✓ Sections 4.9.2.1 – 4.9.2.11

Source: Empirical Field research

What follows next is section 4.10 which allows the reader to see how the principles of research design, which were enunciated in chapter three, was upheld.

4.10 Staying True to the Principles of Research Design

Under section 3.14, the issue of eliminating bias was examined. During the empirical field research, there were no questions referring to religion, ethnicity, age or gender. The interview questions were also easy to understand and contained no loaded, double-barrelled, leading, socially desirable, confusing or vague questions. This was verified during the pre-testing as the

two participants who were pre-tested did not encounter any problems answering the interview questions.

Under section 3.15, the ethical considerations were considered. How the ethical considerations were upheld will be discussed over the ensuing paragraph.

All participation in this study was completely voluntary as participants were informed that they could withdraw from the interview at any time without there being any consequences attached to their decision to withdraw. Participants were also guaranteed that there will be no implications or risks posed to them for partaking in this study and all information gathered is solely for research purposes. Also, no one under the age of 18 was involved in the empirical field research.

Moreover, anonymity and confidentiality were also observed as no names are published in this research. From the all the discussions in chapter four, it is not possible to associate any answer to the name of any person or to the position of that person. Each individual is referred to as being either Manager A or B, or team-leader A or B.

Lastly, the HR division of Defy Appliances was consulted and permission was obtained from the HR Manager, an HR Representative as well as Defy's Group SC Manager. In addition to this, Manager A also gave his permission for the researcher to conduct empirical field research. Defy's internal lawyer also instructed the researcher not to give away any trade secrets or to publish any information that can tarnish the company's reputation – this instruction has also been adhered to.

The theoretical implications of this study are examined next based upon the answers received during the field research.

4.11 Upholding the Theoretical Framework

This section of Chapter 4 will look at the theoretical framework adopted to underpin this study; the first part will look at the RBV whereas the second part will look at TCA.

4.11.1 Resourced Based View of Defy

From section 2.18.1 in chapter two, it was mentioned that the RBV is particularly proficient when analysing outsourcing because institutions essentially implement outsourcing initiatives as a procedure for acquiring access to other companies' valuable resources as they lack these resources in-house. The RBV also denoted that institutions have to focus their internal resources on their core competencies and outsource the rest. With regards to Defy, it is quite evident that its core competency is the manufacturing of domestic appliances; Defy is not a transportation provider that supplies vehicles for transportation and distribution purposes. As such, Defy must acquire access to a 3PL provider's valuable resources (trucks, IT, expertise, and logistics infrastructure) seeing as how Defy lacks these resources internally. The abovementioned point has also been described in section 4.7.3.2 of chapter four. Thus, the answers received from the empirical field research are congruent with the RBV of the theoretical framework.

4.11.2 Transaction Cost Analysis of Defy

From section 2.18.2 in chapter two, it was mentioned that the TCA involves decision-makers carefully evaluating the costs of insourcing compared to outsourcing a particular function. It was also noted TCA is practically at the core of all deliberations concerning the make-or-buy decision. Going back to the answer given by Manager H (provided in section 4.7.2) it was mentioned that if Defy can perform its logistics functions in-house and if it is cheaper than outsourcing, then there is no reason to outsource. Contrariwise, if Defy is unable to perform certain logistics functions within its current setup and within its current logistics budget then Defy must consider outsourcing. The latter is usually the case for Defy, whereby Defy has to engage in logistics outsourcing. The answer provided by Manager B is also significant who stated that the first driver of outsourcing should be cost and that only if outsourcing is economically feasible should it be undertaken. In addition to this, the abovementioned points are confirmed by Manager A and Manager G who both state that the main driver as to why Defy outsources its logistics activities is due to the financial incentive it receives from using the more economically viable solution of outsourcing. Thus, based upon the definition of TCA, the decision makers (the managers at Defy) must carefully evaluate the costs of insourcing and outsourcing and then make a decision accordingly. As a result, the answers received from the empirical field research are congruent with the TCA of the theoretical framework.

4.12 Summary

Chapter four served as the data analysis chapter of this study. The chapter commenced by revisiting the research objectives and questions of the study which also included the creation of the thematic map. The organizational structure of Defy was also broken down in order to see the position of the ten participants who were involved in this study; these ten participants came from both the Supply Chain and National Distribution departments within Defy. This chapter also reiterated why Defy was selected to be a part of this study.

This was followed by the data analysis section of the chapter whereby each research objective and question was scrutinized. Consideration was given to the responses obtained from the participants during the interviews. Four themes were identified as per the thematic map, figure 4.1. Different categories and codes were developed for each theme in order to arrange the empirical data into a meaningful order.

The next chapter, chapter five, concludes this dissertation by summarising the main findings. Each objective will be considered individually, revisiting both the literature and the empirical findings of each objective in order to draw conclusions and make recommendations.

Chapter 5: Conclusion and Recommendations

5.1 Introduction

In the previous four chapters, the problem statement, objectives, literature study, research methodology as well as empirical data analysis were all presented. This concluding chapter presents a summary of the study in its entirety, recommendations and suggestions for future research. This chapter serves as an overarching summary of the dissertation with each research objective being examined individually by summarising the literature and empirical findings, drawing conclusions and providing recommendations in light of the research questions. After the discussion of each objective, the chapter concludes by discussing the limitations of the study and also by providing recommendations for future research on a similar topic. The concluding section of this chapter summarises the main discussions and findings of the study.

5.2 A Final Conclusion of the Study's Research Objectives and Questions

This section of chapter five reflects on the main research objectives and questions of the research study. These formed the basis of this research study and it is important to indicate how they have been achieved and met during the course of the study.

Table 5.1 provides an illustration of the main research questions and objectives of this research study as per the themes depicted in the thematic map of the previous chapter.

This is depicted on the next page.

Table 5.1: Reflecting on the Main Research Questions and Objectives

Theme	Research Questions	Research Objectives
1	<ul style="list-style-type: none"> • What are the influencing factors that motivate or drive a company to resort to outsourcing? • How can the outsourcing of logistics be implemented successfully? 	<ul style="list-style-type: none"> • To determine the driving factors that influences Defy to implement logistics outsourcing. • To determine a logistics outsourcing process.
2	<ul style="list-style-type: none"> • How does PM add value to Defy's operations? • How does KPI Appraisal improve the buyer-supplier relationship? 	<ul style="list-style-type: none"> • To determine exactly how PM adds value to Defy's operations. • To determine how KPI Appraisal improves Defy's relationships with its 3PL Providers.
3	<ul style="list-style-type: none"> • What KPIs can Defy utilize to gauge the performance of its 3PL Providers? 	<ul style="list-style-type: none"> • To determine a specific set of KPIs that Defy can use in its efforts to gauge the performance of its 3PL Providers.
4	<ul style="list-style-type: none"> • What are the dangers that accompany logistics outsourcing? • What remedial strategies can be taken to eradicate such dangers? 	<ul style="list-style-type: none"> • To determine what dangers can encounter whilst outsourcing its logistics activities. • To determine what actions Defy can undertake to eradicate the dangers.

Source: Author's Own Design

The next section of this chapter provides a summarised discussion of how each objective has been achieved and how each has contributed towards addressing the main research problem presented in the study.

5.2.1 The Achievement of Objective 1

The first objective of this research study was to identify the influencing factors that motivate or drive a company to resort to outsourcing and how can the outsourcing of logistics be implemented successfully.

The findings of this research indicate that there are eleven different factors that motivate Defy to resort to logistics outsourcing. These eleven factors are categorized as main factors and secondary factors with their being five main factors and 6 secondary factors. The five main factors were obtained from the literature review and the answers received from Defy's employees were congruent with this, this is explained next.

Table 5.2: The Factors that Motivate Defy in its Logistics Outsourcing Initiatives:

Motivating Factor behind Logistics Outsourcing	Main Factor	Secondary Factor
1) Financial Incentive	✓	
2) Focus on Core Business	✓	
3) Improved Productivity	✓	
4) Access to Technology	✓	
5) Access to Expertise	✓	
6) Risk Transfer		✓
7) Avoid Capital Outlays		✓
8) Resources and Infrastructure		✓
9) Customer Expectation Failure		✓
10) Competency		✓
11) Senior Management Directives		✓

Source: Author's Own Design

From Table 5.2 above, it is quite evident to see the eleven motivating factors behind Defy's logistics outsourcing initiatives with each factor being coded as either a main or secondary factor.

With regard to how can the outsourcing of logistics be implemented successfully, section 4.6.5 of the preceding chapter addressed this. For the outsourcing of logistics to be implemented successfully, there has to be a process that is followed which will facilitate the outsourcing of logistics. This logistics outsourcing process is summarized in table 5.3 below:

Table 5.3: The Logistics Outsourcing Process

The Procedures of Logistics Outsourcing	
Step 1	Understand Defy's Network
Step 2	Conduct a Feasibility Analysis
Step 3	Identify Potential Vendors in the Market
Step 4	Shortlist the Potential Vendors
Step 5	Select the best Vendor
Step 6	SOP and Contract Finalization
Step 7	Vendor Evaluation
Auxiliary Points to Consider when Selecting 3PL Providers	
Point 1	Network Infrastructure
Point 2	Environmental Consideration
Point 3	Risk Transferral

Source: Author's Own Design

From table 5.3 on the previous page, the Logistics Outsourcing Process has been designed specifically for Defy seeing as how its creation hinged upon the answers received from Defy’s employees, especially those individuals who are responsible for setting up logistics contracts within the company. Objective two is discussed next.

5.2.2 The Achievement of Objective 2

Objective two dealt with PM and KPI appraisal. With regards to how PM adds value to Defy’s operations, the answers received from Defy’s employees were split into two categories, as per the thematic map in chapter four. This is summarized in the table below.

Table 5.4: PM as a Means to Add Value to Defy’s operations

Performance Measurement adds values to Defy’s operations in 2 ways:
1) The 3PL provider’s performance is linked to Defy’s performance
2) Time and Place Utility

Source: Author’s Own Design

From table 5.4 above it can be observed as to how exactly PM adds value to Defy’s operations. The first way is that the performance of the 3PL provider is 100% directly linked to Defy’s performance. This has been analysed in detail in section 4.7.3.1 of chapter four. The second way is that the 3PL provider’s performance allows for products to be delivered at a specific place and in the required time; place and time utility. This has been analysed in detail in section 4.7.3.2 of chapter four.

Staying with objective two, the second category as per the thematic map looked at how KPI appraisal improves Defy’s relationships with its 3PL providers. This is summarized in table 5.5 below.

Table 5.5: KPI Appraisal as a Means to Improve the BSR

KPI Appraisal can improve the buyer-supplier relationship in 2 ways:
1) KPIs must be included in the contract
2) Regular Communication

Source: Author’s Own Design

From the answers received during the interviews with Defy’s employees, which has been summarized in table 5.5 above, it was noted that there are two ways whereby KPI appraisal can improve Defy’s relationships with its 3PL providers. These two ways involve contracts and SLAs being drawn up that include the different KPIs that Defy will utilize in order to gauge the performance of its 3PL providers as well as there being regular communication between Defy and its 3PL provider concerning KPI Appraisal. These two points have been fully examined in the previous chapter in sections 4.7.4.1 and 4.7.4.2 respectively. The next part of this chapter will discuss objective three.

5.2.3 The Achievement of Objective 3

The third objective of this research study was to identify a specific set of logistics KPIs for that Defy can utilize to measure the performance of its 3PL providers. From the different answers put forward by Defy’s employees, similarities were identified and a list of ten KPIs were created. This is depicted below in table 5.6 – The specific set of KPIs to be used by Defy for 3PL provider PM.

Table 5.6: The Specific Set of KPIs to be used by Defy for 3PL Provider PM

The List of KPIs to be used by Defy to measure 3PL provider performance
1) OTIF
2) POD TAT
3) Damages
4) Communication
5) Reporting
6) Stock Losses
7) Flexibility
8) International Offices
9) Customer Relationships
10) Cost

Source: Author’s Own Design

From table 5.6 above, the reader can see exactly what KPIs Defy’s management and senior team leaders consider important in order to gauge the performance of the transportation and distribution functions that have been outsourced to 3PL providers. These ten KPIs were

discussed at length in the previous chapter from section 4.8.1.1 all the way through to section 4.8.1.10.

The last part with regards to objective three was Defy's employees' perception as to what was the most important KPI by ranking several KPIs from the most important to the least important. The result of this is depicted in table 5.7 below:

Table 5.7: Defy's Employees' Perspective of the Most Important KPIs

The ranking of KPIs from most important to least important
1) On-time Delivery
2) Cost
3) Quality
4) Flexibility
5) Innovation

Source: Author's Own Design

From table 5.7 above, most of the participants mentioned that on-time delivery was the most important KPI with cost coming in second, quality coming in third, flexibility coming in fourth and innovation being the least important KPI. Objective four forms the basis of the next discussion.

5.2.4 The Achievement of Objective 4

The fourth and last objective dealt with the risks or dangers of logistics outsourcing and the remedial strategies or actions that can be put forward in this regard. First, the dangers of logistics outsourcing will be discussed; this is accomplished with the aid of table 5.8, illustrated on the next page.

Table 5.8: The Dangers of Logistics Outsourcing

The Dangers of Logistics Outsourcing	
1)	Loss of control
2)	Brand Reputation
3)	HR and IR Issues
4)	Handling and Damages
5)	Loss of Confidentiality
6)	Customer Perception
7)	Costs
8)	Insolvency
9)	Customs
10)	Ideals and Standards
11)	Trusting their Capability
12)	Capacity
13)	Competitor Piggy-backing

Source: Author’s Own Design

From table 5.8 above, the reader can see exactly what dangers Defy can encounter in its logistics outsourcing initiatives. These thirteen dangers were all identified from the interviews with the participants at Defy’s Head Office in Jacobs, and the ten participants who were involved in the empirical field research were all mentioned in section 4.3 which looked at Defy’s organizational structure and the hierarchy of the Supply Chain and National Distribution Departments. The remedial strategies are discussed next with the assistance of table 5.9, shown on the next page.

Table 5.9: The Remedial Strategies to Combat the Dangers of Logistics Outsourcing

The Remedial Strategies to Combat the Dangers of Logistics Outsourcing
1) Contract Management
2) SOP
3) KPI Monitoring
4) Penalties
5) Multiple Vendors
6) Non-disclosure agreement
7) RFID Technology
8) Historical Data and Forecasting
9) Regular Meetings
10) Vendor Monitoring
11) On-site contact

Source: Author’s Own Design

From table 5.9 above, the reader can see exactly what remedial strategies are available to Defy mitigating or combating the dangers of outsourcing. These remedial strategies were discussed at length in chapter four, section 4.9.2 which examined the answers from the participants who offered various solutions in light of the dangers of outsourcing.

The next part of this chapter will now examine the recommendation that will be put forward for this research study.

5.3 Recommendations

In section 5.3 of this chapter, recommendations will be provided based upon the literature review as well as the empirical field research conducted. These recommendations will be provided for each research objective individually. Research objective one is dealt with first.

5.3.1 Recommendations Pertaining to Research Objective 1

The motivating factors of logistics outsourcing will be looked at first and then recommendations will be put forward in this regard.

5.3.1.1 The Motivating Factors of Logistics Outsourcing

It is important for Defy to understand where its core competency or focus lies, that is, Defy is a manufacturer of domestic appliances. Defy is not a transportation provider who has vehicles on its books that it can sell or rent out to other companies. It is for this reason that Defy has to engage the service of transportation providers who can fulfil Defy's logistics requirements, namely transportation and distribution. It is recommended that Defy does not engage in purchasing its own fleet of vehicles with this recommendation being justified by Manager E who stated that for Defy to simply fulfil its distribution requirements Defy needs a multitude of vehicles - the total cost for this is extremely expensive. This is an exorbitant amount of money to outlay and Manager B stated that Defy wants to avoid purchasing assets, because if Defy buys trucks, then it will be sitting in Defy's books and this is something that Defy does not want to do because these trucks will depreciate. Manager D also mentioned that it is compulsory for Defy to outsource its logistics needs. Thus, it is recommended that Defy continues to outsource its logistics needs because it is more cost effective in addition to there being eleven motivating factors behind logistics outsourcing. The logistics outsourcing process is examined next.

5.3.1.2 The Logistics Outsourcing Process

The logistics outsourcing process was defined based upon the answers received from the interviews and to be more precise, the answers obtained from those individuals responsible for settling up logistics contracts. It is recommended that Defy utilizes table 5.2 as a blueprint to guide its logistics outsourcing initiatives. This is because the one provided in figure 2.1 under section 2.14 (The Logistics Outsourcing Process) in the literature review chapter is based upon the literature related to logistics outsourcing whereas the logistics outsourcing process outlined in table 5.2 has been designed specifically for Defy.

Moreover, environmental considerations need to be more formal when Defy conducts its tenders. Presently, all 3PL providers are selected following a logistics outsourcing process and are ultimately selected based on their service offering and cost. Thus, it is recommended that in future tenders, Defy has to take environmental factors into account in its logistics outsourcing process. However, it is encouraging to note that all of Defy's shortlisted vendors present their environmental initiatives during all tender processes. Moreover, what is promising though is that

Defy is currently in the process of implementing ISO 14001 both in its factories and warehouses at the end of 2017 which will then extend to getting suppliers involved.

Now that recommendations have been provided in terms of research objective 1, the second research objective is dealt with.

5.3.2 Recommendations Pertaining To Research Objective 2

With regards to research objective two, the creation of value via PM will be looked at first.

5.3.2.1 The Creation of Value via PM

The majority of the answers received stated that if the performance of the 3PL provider is exceptional, then so too will Defy's performance, and vice versa. It is recommended that Defy offers the 3PL provider as much assistance as possible in order to facilitate the achievements of the 3PL provider's KPIs which in turn will assure exceptional performance as both time and place utility will also be achieved.

Looking back at section 4.7.3 and seeing how KPI appraisal adds value to Defy's operations, there was one negative answer which is addressed below.

One of the managers stated that KPI appraisal is over-rated as Defy puts KPIs in place, and then forgets about it by not assessing it afterwards. If these KPIs were enforced, then it will add value to Defy as the 3PL will know where they stand and if they are meeting Defy's requirements or not. In light of the above statement, it is recommended that Defy does not implement KPI appraisal merely for the sake of it, but rather, it must be given due attention as it will definitely add value to Defy's operations. Looking back at section 2.20 in the literature review chapter, it was mentioned that "What is not measured cannot be managed" and "If it cannot be measured, it cannot be improved". Thus, based on this, if the performance of the 3PL provider is not consistently measured via KPI appraisal then their performance cannot be managed and subsequently; it cannot be improved. The issue of BSRs and how it can be improved via PM is discussed next.

5.3.2.2 Improving the Buyer-supplier Relationship via PM

It is recommended that Defy continues to give its transporters clear guidelines and clear instructions as to what is required from them and the resulting consequences of them not abiding by this. This must be documented in the contract and SLA whereby both parties sign and agree to it. Additionally, one of Defy's senior managers stated that one of Defy's transportation service providers is not coming in regularly to discuss their performance; it is recommended that all of Defy's 3PL providers are brought in and their KPIs are reviewed monthly. This will reveal the current service provider's performance and the necessary areas which can be improved.

The above sections define the recommendations have been provided with regards to research objective two, the third research objective will now be examined.

5.3.3 Recommendations Pertaining to Research Objective 3

In section 4.8.1 of the previous chapter, there were ten logistics KPIs that were developed based upon the answer received from the participants during the empirical field research. Thus, recommendations will be provided in light of this.

5.3.3.1 KPIs to be Used by Defy for PM Purposes

It is recommended that Defy strictly utilize this list of ten KPIs as a benchmark to implement and award performance bonuses.

KPIs cannot actually determine AGIs (Annual General Increases) seeing as how the price of fuel and labour rates fluctuate; these are both determined by the Department of Mineral and Energy Affairs and the Department of Labour respectively. The abovementioned points mean that Defy's transporters have to increase their prices each year (or every quarter) in line with the fuel and labour rates in order for them (the transporters) to economically survive. However, Defy can introduce a performance bonus whereby KPI appraisal can be used as a means to determine the extent of the performance bonus awarded to the various 3PL providers that Defy currently utilizes. For example, if one 3PL provider consistently performs well each month with their operations progressing smoothly and whereby no major intervention is required from Defy, then it warrants a favourable performance bonus at the end of the year. On the contrary, if the 3PL

provider's performance was poor, then unfortunately a very meagre performance bonus can be awarded, or, even no performance at all can be awarded.

Also, at the moment in Defy, with regards to the different transporters that are utilized, Defy is not currently appraising them on their KPI performance. Defy has a few KPIs in place (for example, damages and missed deliveries) but Defy is not 100% there as yet in terms of appraising performance against the agreed to KPIs. It is recommended that Defy starts to do be more formal in its approach to KPI appraisal of its transporters as this will improve the performance of the transporters which in turn, will benefit Defy. Furthermore, it is recommended that Defy utilizes the ten KPIs in table 5.5 (especially OTIF) to measure the performance of its transporters as this will assist with continuous improvement and benchmarking initiatives. As per section 2.29 of the literature review, PM is at the heart of continuous improvement as the primary objective of performance evaluation being to assist executives and senior managers in developing the direction and goals of the company.

By Defy using the list of ten KPIs for 3PL PM, Defy's executives will know the company's logistics situation and then can take decisive action as the KPIs will reveal the necessary information pertaining to logistics and transportation. Also, as per section 2.29 of the literature review, benchmarking is the next step after continuous improvement to advance a company's effectiveness and efficiency with regards to its processes. Defy can engage in benchmarking to see how its logistics function compare to its competitors in the appliances industry; this is a form of competitive benchmarking whereby a company compares its processes with its competitors – this has been explained in section 2.30.1 of the literature review.

The issue of losing revenue via orders being cancelled and sales being dropped is discussed next.

5.3.3.2 Loss of Revenue

Any loss of revenue through customers cancelling orders and sales being lost due to the non-achievement of time and place utility must be given serious attention. This cannot be tolerated under any circumstance. Defy must calculate the cost of that loss of sale and then charge the 3PL provider accordingly. As per Manager G, Defy penalizes the 3PL provider too little and that Defy is too lenient with its 3PL providers. The same view was shared by one manager who

mentioned that in twenty two years of being at Defy, the 3PL provider is not often charged for mishaps. Defy does threaten to charge transporters, but Defy does not follow through on it.

Regarding the loss of revenue, the paragraphs below emphasize why it is such an important point within Defy and why it has to be taken so seriously.

The answer put forward one of Defy's group managers is very important in this regard. The manager went on to state that based on the logistics contract – there has to be penalties based on the transporter's performance. The same manager went on to state:

“If Defy complains verbally, the transporter will listen and go back to their office, but a month later they will do the same thing and Defy will complain again and they will do the same thing. The best punishment or penalty is when it costs something, when there is a monetary value attached to poor performance. Then only will the transporter will wake up and resolve problems. KPIs will reveal the info and Defy can gauge whether the transporter's performance is getting worse. It needs to hurt a little bit, not a little, they need to experience pain, and then only will they resolve their problems.”

The aforementioned statement was also affirmed by another Group Manager who remarked:

“We are lenient, 3PL tends to take advantage, and every now and then we should tighten the reigns and penalize them when we say we are going to penalize them”.

Manager C also remarked:

“Remember, there is nobody that opens a business because they want to open a business, everybody who goes into business goes into business for the purpose of building a brand, making a profit, trying to sustain yourself in the market, but, the ultimate goal is profitability, for your investment, you are going to get a return on that investment in the sense of profitability”.

In light of the above discussions it is recommended that Defy starts to penalize its 3PL providers for non-performance and additionally, Defy must strongly hold its position regarding passing over the loss of sale to its transporters.

Now that recommendations have been provided in terms of research objective 3, the fourth and last research objective is dealt with.

5.3.4 Recommendations Pertaining to Research Objective 4

Recommendations are first provided in terms of the risks or dangers of outsourcing. At this point it is noteworthy to mention that concerning the dangers of logistics outsourcing, the recommendations provided have already been extensively discussed in section 4.9.2 of the previous chapter.

5.3.4.1 Risks of Logistics Outsourcing

It is recommended that Defy is resolute in its decision to outsource its transportation or distribution functions because it is difficult to go back on this decision. It is also recommended that Defy consults closely with its HR and legal departments in order to avoid any complications with regards to IR problems.

Also, with regards to handling and damages, pictures are taken after loading has been completed and is the basis upon which claims for damages are argued. However, for split deliveries, where the truck has multiple stops, there are no pictures taken once a certain portion of the truck has been offloaded. It is recommended that pictures are taken after every stop especially if there are multiple drops en route to the final destination.

As per Manager A and Manager F, it is worthwhile to have one of the 3PL provider's employees to be based at Defy on-site to represent Defy. Defy already has 1-2 on-site supervisors from some of its 3PL vendors with them being involved in an operational function. It is recommended that perhaps it would be better to have a dedicated 3PL team (perhaps 2-3 people) based on-site at Defy's premises to assist with resolving admin communication issues timeously. It is also recommended that other 3PL vendors who do not have an on-site representative instruct one of their employees to be based at Defy and as the operations expand, that 3PL vendor can set up a whole on-site team of 2-3 people at Defy. This team must play an administrative role which will expedite communication and which can resolves issues timeously.

That being said, recommendations are also provided concerning the remedial strategies for the dangers of outsourcing.

5.3.4.2 Remedial Strategies for the Dangers of Outsourcing

Manager B stated that there are only two vendors in the system for line-haul, whereas ideally, it should be four. It is recommended that Defy goes out to tender again (based on the logistics outsourcing process) and adds two additional vendors onto its books as this will definitely assist with capacity constraints faced during the peak period. Also, Manager F mentioned that during the peak period (October to December) Defy can try to forecast as accurately as possible or use historical data in order to determine the volumes that need to be moved during peak, and then communicate this to the transporters. It is recommended that Defy does this to the best of their ability with the available information on hand so that transporters can appropriately plan their truck loads during the peak period.

It is also recommended that Defy develops and looks into RFID technology (scanners to scan barcodes which are uploaded to Defy's MRP system) to assist with the short loading and extra loading of units. Manager A mentioned that this is in the pipeline at Defy and is possibly the next step that Defy plans to implement.

At the end of the day Defy wants to create a healthy relationship with its transporters who then will be willing to make a concerted effort to assist Defy with all of its requirements or problems that arise. The aforementioned statement is reiterated by Manager C who says:

“Ultimately, you want to create that partnership where your service provider is not just looked as a service provider, but as a partner, where it is not just you are trying to do them over or them trying to make a quick buck on your side. It's that partnership that you got to have.”
Manager C.

As per Manager B:

“Their (the 3PL provider's) business is 100% directly linked to your operation and linked to your capability, everything that they do affects us, if they do well, we do well. They need to think that we are on the same team, their performance is our performance. We are performing against our customers with their service level. If they are slow, we are slow. If we go into store late, then

the end customer will buy someone else's product. You (the end customer) is going to buy something, and there is no stock, the guy doesn't want to come again...in this environment there is no loyalty actually, coming for stock and cost, if they desperately need this product he (the end customer) will never wait for you. So, your service provider's performance is key to your success."

Therefore, it is recommended that Defy tries to foster win-win situations between its 3PL providers where both parties can be successful and profitable.

The limitations of this research study form the next discussion in this chapter.

5.4 Limitations of the Study

The limitations of this study are outlined as follows:

- Only one company in the appliances industry, Defy Appliances, was included in this study. Other companies operating in the appliances industry in SA did not partake of this study. Therefore, the findings of this research cannot be generalised to all companies in the appliances industry in South Africa.
- This study achieved several objectives which involved identifying the different factors that motivates Defy to resort to logistics outsourcing, the logistics outsourcing process, a specific set of KPIs to be used by Defy for PM purposes, the various risks of logistics outsourcing as well as the remedial strategies to combat the risks of outsourcing. These categories and its resulting codes thereof, as per the thematic map, cannot be considered as an exhaustive list as not all the different factors have been identified.
- Defy's vision and mission statement is currently under review and is only due for release next year. Defy's internal lawyer stated no older version of Defy's vision and mission can be used as it will not be an accurate reflection of the company. Thus, this study was not able to see the link between how KPI appraisal can be used as a successful tool for logistics outsourcing in accordance with Defy's vision and mission statement.

The areas for future research are dealt with next.

5.5 Areas for Future Research

The areas of future research will be provided below, these pertain to:

- It is suggested that further research is to be undertaken to include all role players in the appliances industry with regards to utilizing KPI appraisal for logistics outsourcing. Alternatively, a similar study could be conducted in a different industry (perhaps the motor or construction industry) to determine how diverse industries in South Africa are utilizing KPI appraisal for logistics outsourcing.
- Some of the logistics KPIs and risks of logistics outsourcing that were identified in the literature did not surface during the empirical field research. Similarly, there were KPIs and risks identified in the empirical field research that were not found in the literature. Therefore, it is recommended that further research is undertaken to make connections between the literature and empirical study in order to find common ground.
- The logistics outsourcing process that was defined for Defy, as per section 4.6.5, was based upon the answers received from the interviews with Defy's SC employees, and more specifically, those individuals responsible for setting up logistics contracts within the company. Thus, a possible future research area exists whereby the logistics outsourcing process can be explored using different companies both within and outside of the appliances industry.
- There is the general perception and consensus at Defy that the initial investment and costs for implementing insourcing initiatives is high. It is possible for research to be conducted at Defy looking possible logistics insourcing initiatives whereby certain portions of Defy's transportation and distribution activities can be brought in-house.

The contribution of this research study is discussed on the next page.

5.6 Contribution of the Research Study

The research study contributes to the application of KPI appraisal and logistics outsourcing in the appliances industry of SA. There was particular emphasis on the factors that drive Defy to consider outsourcing its logistics needs, how the outsourcing of logistics can be undertaken successfully, how does KPI appraisal add value to Defy's operations, how performance measurement improves Defy's relationships with its 3PL providers, the specific KPIs that Defy can adopt to gauge the performance of its 3PL providers, the dangers that Defy can experience in its efforts to outsource its logistics requirements and lastly, the solutions to the dangers of logistics outsourcing. The above-mentioned factors in the study have a significant impact on the competitiveness of Defy, who plays a key role in the South African appliances industry and the overall economy of this country.

Recommendations were made to Defy and the appliances industry as a whole which have been discussed in section 5.3 of this chapter. These recommendations could also be further developed into future research studies.

The field of KPI appraisal and logistics outsourcing is dynamic; thus, the study of the literature and the findings of the empirical field research make a contribution to the body of knowledge and provide new insight into this field.

5.7 Concluding Remarks

This study can be classified as both descriptive and exploratory as per their descriptions in sections 3.2.4 and 3.2.5 in the research methodology chapter. Through the literature research, it was established how KPIs can be utilized for successful logistics outsourcing. This was further evidenced in the interviews with Defy's executive and senior management during the empirical field research at Defy's Head Office in Jacobs.

Chapter five started by reflecting on the main research objectives and questions of the research study as these formed the basis of this research study. Afterwards, it was systematically explained as to how each research objective and question was achieved. This is explained in section 5.2.1 all the way through to section 5.2.4 where each objective was achieved utilizing the answers put forward by the individuals who participated in the empirical field research.

Thereafter, recommendations were provided by making use of both the answers gained from the empirical field research as well as content from the literature review. As per the thematic map which has been illustrated in figure 4.1 of chapter four, there were multiple categories that were identified. As such, recommendations were provided according to these categories which are addressed in sections 5.3.1 – 5.3.4 of this chapter.

Subsequent to this, chapter five also discussed the limitations of this study as well as the potential areas for further research with regards to a similar subject matter. Lastly, the contributions of this research study have also been provided in section 5.6 above.

Concerning Defy Appliances, based upon the discussions from chapter four as well as the recommendations contained in this chapter – it can be said that utilizing KPI Appraisal to measure the performance of 3PL providers will ensure that logistics outsourcing is undertaken successfully. This will certainly allow for Defy Appliances to improve its logistics efficiencies while simultaneously reducing costs and this will ultimately improve the profitability of the company as well as its reputation in the market place in addition to segmenting its status of Southern Africa's largest manufacturer and distributor of domestic appliances.

List of References

- Aguezzoul, A., 2014. Third-party logistics selection problem: A literature review on criteria and methods. *Omega*, 49, pp.69-78.
- Akdoğan, M.Ş. and Durak, A., 2016. Logistic and marketing performances of logistics companies: A comparison between Germany and Turkey. *Procedia-Social and Behavioral Sciences*, 235, pp.576-586.
- Akman, G. and Baynal, K., 2014. Logistics service provider selection through an integrated fuzzy multicriteria decision making approach. *Journal of industrial engineering*, 2014.
- Aktas, E., Agaran, B., Ulengin, F. and Onsel, S., 2011. The use of outsourcing logistics activities: The case of Turkey. *Transportation Research Part C: Emerging Technologies*, 19(5), pp.833-852.
- Ali, H.A.E.M., Al-Sulaihi, I.A. and Al-Gahtani, K.S., 2013. Indicators for measuring performance of building construction companies in Kingdom of Saudi Arabia. *Journal of King Saud University-Engineering Sciences*, 25(2), pp.125-134.
- Ambe, I.M., 2014. Key indicators for optimising supply chain performance: the case of light vehicle manufacturers in South Africa. *Journal of Applied Business Research*, 30(1), p.277.
- Babbie, E. (2015) *The Practice of Social Research*, 14th ed., Boston: Cengage Learning
- Badawy, M., El-Aziz, A.A., Idress, A.M., Hefny, H. and Hossam, S., 2016. A survey on exploring key performance indicators. *Future Computing and Informatics Journal*, 1(1-2), pp.47-52.
- Baroudi, R., 2014. Key performance indicators Winning tips and common challenges. *Performance Journal*, 6 (2).
- Bloem, N. and Bean, W.L., 2015. The application of outsourcing decision-making methods in a logistics context in South Africa. *Journal of Transport and Supply Chain Management*, 9(1), pp.1-14.

- Bonner, M. (2017). What is a Legal Contract? [online], available: <https://www.thebalance.com/what-is-a-legal-contract-462462> [31 May 2017]
- Bowling, A., 2014. *Research methods in health: investigating health and health services*. McGraw-Hill Education (UK).
- Braun, V., Clarke, V. and Terry, G., 2012. Chapter 4–Thematic Analysis. *Handbook of Research Methods in Psychology*, 2, pp.57-71.
- Bryman, A. and Bell, E., 2015. *Business research methods*. Oxford University Press, USA.
- Cheng, S.K. and Tongzon, J., 2014. Logistics outsourcing, contract complexity and performance of Australian exporters. *Oxford Journal: An International Journal of Business & Economics*, 7(1).
- Cohen, L., Manion, L. and Morrison, K., 2013. *Research methods in education*. Routledge.
- Collis, J. and Hussey, R., 2013. *Business research: A practical guide for undergraduate and postgraduate students*. Palgrave macmillan.
- Corbin, J., Strauss, A. and Strauss, A.L., 2014. *Basics of qualitative research*. Sage.
- Council of Supply Chain Management. (2017) CSCMP’s Definition of Logistics Management, [online], available: <https://cscmp.org/supply-chain-management-definitions> [4 May 2017]
- Creswell, J. W. (2013). *Research design: Qualitative, Quantitative, and Mixed Approaches*, 4th ed., Los Angeles: Sage Publications.
- De Vaus, D. (2013). *Surveys in Social Research*, 6th ed., London: Routledge
- Defy. (2017). About, [online], available: <https://www.defy.co.za> [4 May 2017]
- DeVault, G. (2016). Establishing Trustworthiness in Qualitative Research, [online], available: <https://www.thebalance.com/establishing-trustworthiness-in-qualitative-research-2297042> [31 May 2017]
- Domingues, M.L., Reis, V. and Macário, R., 2015. A comprehensive framework for measuring performance in a third-party logistics provider. *Transportation Research Procedia*, 10, pp.662-672.

- Dumitrache, C., Kherbash, O. and Mocan, M.L., 2016. Improving Key Performance Indicators in Romanian Large Transport Companies. *Procedia-Social and Behavioral Sciences*, 221, pp.211-217.
- Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K. & Kyngäs, H. (2014) 'Qualitative content analysis', *SAGE open*, 4(1): 1-10
- Ennouri, W., 2013. Risks management: new literature review. *Polish journal of management studies*, 8, pp.288-297.
- Ertugut, R., 2012. The future of supply chain and logistics management in the strategic organizations: contractor companies and new generation suppliers. *Procedia-Social and Behavioral Sciences*, 46, pp.4221-4225.
- Fabianová, J. and Ridzonová, Z., 2015. Risk Analysis of the Logistics Outsourcing. *The International Journal of Transport & Logistics*, 15, p.1.
- Fernandopulle, S. (2015). Buyer and Supplier Relationship, [online], available: <https://www.linkedin.com/pulse/buyer-supplier-relationship-shiny-fernandopulle> [31 May 2017]
- Giertl, G., Potkany, M. and Gejdos, M., 2015. Evaluation of Outsourcing Efficiency Through Costs For Its Use. *Procedia Economics and Finance*, 26, pp.1080-1085.
- Gil, J.C.S. and McNeil, S., 2015. Supply chain outsourcing in response to manmade and natural disasters in Colombia, a humanitarian logistics perspective. *Procedia Engineering*, 107, pp.110-121.
- Goertz, G. & Mahoney, J. (2012) *A Tale of two Cultures: Qualitative and Quantitative Research in the Social Sciences*, 1st ed., Oxfordshire: Princeton University Press.
- Goodrich, R. (2013). What is Contract Management? [online], available: <http://www.businessnewsdaily.com/4813-contract-management.html> [31 May 2017]
- Rani, C.D.S., Cheema, C.C.D.G.S., Singh, A.K.G.E.A., Kumar, K.O.S.M.M., Divesh, G.E.S.K.E., Randhir, K.E.A.S.E. and Singh, S.D.A.K., *Advancements in Engineering and Technology*.

- Gürcan, Ö.F., Beyca, Ö.F., Arslan, Ç.Y. and Eldemir, F., 2016. Third party logistics (3PL) provider selection with AHP application. *Procedia-Social and Behavioral Sciences*, 235, pp.226-234.
- Hair, J. F. (2015). *Essentials of Business Research Methods*, 2nd ed., New York: ME Sharpe
- Hale, J. (2011). The 3 Basic Types of Descriptive Research Methods, [online], available: <https://psychcentral.com/blog/archives/2011/09/27/the-3-basic-types-of-descriptive-research-methods/> [25 October 2017]
- Hila, C.M. and DUMITRAȘCU, O., 2014. Outsourcing within a Supply Chain Management Framework. In *Proceedings of the 8th International Management Conference– Management Challenges for Sustainable Development: November 6th–7th* (pp. 328-336).
- Ho, W., He, T., Lee, C.K.M. and Emrouznejad, A., 2012. Strategic logistics outsourcing: An integrated QFD and fuzzy AHP approach. *Expert Systems with Applications*, 39(12), pp.10841-10850.
- Hrusecká, D., Macurová, L., Juricková, E. and Kozáková, L., 2015. The Analysis of the Use of Outsourcing Services in Logistics by Czech Manufacturing Companies. *Journal of Competitiveness*, 7(3).
- Iqbal, Z. and Dad, A.M., 2013. Outsourcing: A review of trends, winners & losers and future directions. *International Journal of Business and Social Science*, 4(8).
- Jayaram, J. and Tan, K.C., 2010. Supply chain integration with third-party logistics providers. *International Journal of Production Economics*, 125(2), pp.262-271.
- Katkar, R.S. and Pawar, M.S., Finding the Relation between Make or Buy Decisions and Capacity for Profitability and Technology in Batch Type of Manufacturing Industries.
- Kayakutlu, G. and Buyukozkan, G., 2011. Assessing performance factors for a 3PL in a value chain. *International Journal of Production Economics*, 131(2), pp.441-452.
- Kherbach, O. and Mocan, M.L., 2016. The importance of logistics and supply chain management in the enhancement of Romanian SMEs. *Procedia-Social and Behavioral Sciences*, 221, pp.405-413.

- Kim, Y., 2011. The pilot study in qualitative inquiry: Identifying issues and learning lessons for culturally competent research. *Qualitative Social Work*, 10(2), pp.190-206.
- Konsta, K. and Plomaritou, E., 2012. Key performance indicators (KPIs) and shipping companies performance evaluation: the case of Greek tanker shipping companies. *International Journal of Business and Management*, 7(10), p.142.
- LaFrance, J. (2016). Fundamentals of Qualitative Research, [online], available: http://www.aihec.org/ourstories/docs/BehavioralHealth/2016/FundamentalsQualitativeResearch_LaFrance.pdf [24 September 2016]
- Lakri, S. and Dallery, Y., 2014, September. Measurement and management of supply chain performance: a benchmarking study. In *IFIP International Conference on Advances in Production Management Systems* (pp. 433-440). Springer, Berlin, Heidelberg.
- Lee, R. (2015). How Contract Management Improves Supplier Relationships, [online], available: <http://www.esourcingforum.com/archives/2015/01/29/how-contract-management-improves-supplier-relationships/> [31 May 2017]
- Li-jun, Z., 2012. Research on analysis and control of enterprise logistics outsourcing risks. *Energy Procedia*, 17, pp.1268-1273.
- Liu, C., Huo, B., Liu, S. and Zhao, X., 2015. Effect of information sharing and process coordination on logistics outsourcing. *Industrial Management & Data Systems*, 115(1), pp.41-63.
- Liu, C.L. and Lyons, A.C., 2011. An analysis of third-party logistics performance and service provision. *Transportation Research Part E: Logistics and Transportation Review*, 47(4), pp.547-570.
- Marshall, C. (2016). Face-to-Face Interviews - Advantages and Disadvantages, [online], available: <https://www.linkedin.com/pulse/face-to-face-interviews-advantages-disadvantages-charlie-marshall> [31 May 2017]
- Meier, H., Lagemann, H., Morlock, F. and Rathmann, C., 2013. Key performance indicators for assessing the planning and delivery of industrial services. *Procedia Cirp*, 11, pp.99-104.

- Mertens, D. M. (2014). *Research and Evaluation in Education and Psychology: Integrating Diversity with Quantitative, Qualitative, and Mixed Methods*, 4th ed., Los Angeles: Sage Publications
- Michaels, N. (2014). *Reinventing Win-Win-Win Business Relationships*, [online], available: http://www.huffingtonpost.com/nancy-michaels/reinventing-winwinwin-bus_b_6291030.html [31 May 2017]
- Moon, K., Brewer, T.D., Januchowski-Hartley, S.R., Adams, V.M. and Blackman, D.A., 2016. A guideline to improve qualitative social science publishing in ecology and conservation journals. *Ecology and Society*, 21(3).
- Morales-Fusco, P., Saurí, S., Lekka, A.M. and Karousos, I., 2016. Assessing customs performance in the Mediterranean ports. KPI selection and Best practices identification as part of the MEDNET project. *Transportation research procedia*, 18, pp.374-383.
- Murray, M. (2016). *Supply Chain Performance Metrics*, [online], available: <https://www.thebalance.com/supply-chain-performance-metrics-2221392> [31 May 2017]
- Neeraja, B., Mehta, M. and Chandani, A., 2014. Supply chain and logistics for the present day business. *Procedia Economics and Finance*, 11, pp.665-675.
- Neves, L.W.D.A., Hamacher, S. and Scavarda, L.F., 2014. Outsourcing from the perspectives of TCE and RBV: A multiple case study. *Production*, 24(3), pp.687-699.
- Ngonela, D.W., Mwaniki, C. and Namusonye, P.G., 2014. Drivers of Logistics Outsourcing Practices in Tea Processing Firms in Bomet County. *Journal of Economics and Finance*, 4(1), pp.47-57.
- Peng, J., 2012. Selection of logistics outsourcing service suppliers based on AHP. *Energy Procedia*, 17, pp.595-601.
- Pidun, T. and Felden, C., 2013, January. The role of performance measurement systems between assessment tool and knowledge repository. In *System Sciences (HICSS), 2013 46th Hawaii International Conference on* (pp. 3426-3435). IEEE.

- Pinheiro, J.P.C., 2011. Key Performance Indicators applied to Construction: Sector Performance and Benchmarking. *Unpublished Thesis*, Universidade Tecnica de Lisboa.
- Portney, L. G. & Watkins, M. P. (2015). Foundations of clinical research: applications to practice, 4th ed., Philadelphia: FA Davis.
- Qu, S.Q. and Dumay, J., 2011. The qualitative research interview. *Qualitative research in accounting & management*, 8(3), pp.238-264.
- Rajesh, R., Ganesh, K. and Pugazhendhi, S., 2013. Drivers for logistics outsourcing and factor analysis for selection of 3PL provider. *International Journal of Business Excellence*, 6(1), pp.37-58.
- Rajesh, R., Pugazhendhi, S., Ganesh, K., Muralidharan, C. and Sathiamoorthy, R., 2011. Influence of 3PL service offerings on client performance in India. *Transportation Research Part E: Logistics and Transportation Review*, 47(2), pp.149-165.
- Rasinger, S. M. (2013) Quantitative Research in Linguistics: An Introduction, 2nd ed., London: Bloomsbury Publishing
- Reeves Jr, K.A., Caliskan, F. and Ozcan, O., 2010. Outsourcing distribution and logistics services within the automotive supplier industry. *Transportation Research Part E: Logistics and Transportation Review*, 46(3), pp.459-468.
- Ritchie, J., Lewis, J., Nicholls, C. M. & Ormston, R. (2013) Qualitative Research Practice: A Guide for Social Science Students and Researchers, 2nd ed., London: Sage Publications Ltd
- Rohleder, P. & Lyons, A.C. (2014) Qualitative Research in Clinical and Health Psychology, 1st ed., London: Palgrave Macmillan
- Sainani, K.L., 2014. Explanatory versus predictive modeling. *PM&R*, 6(9), pp.841-844.
- Salaria, N., 2012. Meaning of the term descriptive survey research method. *International journal of transformations in business management*, 1(6), pp.161-175.

- Schmidt, C., Li, W., Thiede, S., Kornfeld, B., Kara, S. and Herrmann, C., 2016. Implementing Key Performance Indicators for energy efficiency in manufacturing. *Procedia CIRP*, 57, pp.758-763.
- Schultze, U. and Avital, M., 2011. Designing interviews to generate rich data for information systems research. *Information and Organization*, 21(1), pp.1-16.
- Sekaran, U & Bougie, R. (2013) *Research Methods for Business: A Skill-Building Approach*, 6th ed., London: John Wiley & Sons Ltd.
- Shi, Y., Zhang, A., Arthanari, T., Liu, Y. and Cheng, T.C.E., 2016. Third-party purchase: An empirical study of third-party logistics providers in China. *International Journal of Production Economics*, 171, pp.189-200.
- Silverman, D. (2013) *Doing Qualitative Research: A practical Handbook*, 4th ed., London: Sage Publications Limited.
- Srbotic, A. and Ruzzier, M., 2012. Logistics outsourcing: lessons from case studies. *Managing Global Transitions*, 10(2), p.205.
- Srivastava, M., Srivastava, A. and Rai, S.K., 2013. Review of Various Supply Chain Performance Measurement Frameworks: A Proposed Framework for ITES Industry. *Global Journal of Management and Business Studies*, 3(9), pp.999-1006.
- Stefanovic, N., 2014. Proactive supply chain performance management with predictive analytics. *The Scientific World Journal*, 2014.
- Stojanović, Đ., 2012. Paradoxes and opportunities in logistic outsourcing research. *PROMET-Traffic & Transportation*, 24(6), pp.525-533.
- Tarasewicz, R., 2016. Integrated Approach to Supply Chain Performance Measurement—Results of the Study on Polish Market. *Transportation Research Procedia*, 14, pp.1433-1442.
- Tayauova, G., 2012. Advantages and disadvantages of outsourcing: analysis of outsourcing practices of Kazakhstan banks. *Procedia-Social and Behavioral Sciences*, 41, pp.188-195.

- Ternovyi, D. (2015). How to Mitigate IT Outsourcing Risk Factors, [online], available: <http://igniteoutsourcing.com/publications/how-to-mitigate-it-outsourcing-risk-factors/> [31 May 2017]
- Tristan, (2015). Africa Inhibited by Ineffective Transport Systems, [online], available: <http://www.transportworldafrica.co.za/2015/10/09/africa-inhibited-by-ineffective-transport-systems/> [28 January 2018]
- Tsai, M.C., Lai, K.H., Lloyd, A.E. and Lin, H.J., 2012. The dark side of logistics outsourcing—Unraveling the potential risks leading to failed relationships. *Transportation Research Part E: Logistics and Transportation Review*, 48(1), pp.178-189.
- Tuckman, B. W. & Harper, B. E. (2012) *Conducting Educational Research*, 6th ed., Maryland: Rowman & Littlefield Publishers Inc.
- Vaxevanou, A. and Konstantopoulos, N., 2015. Basic principles the philosophy of outsourcing. *Procedia-Social and Behavioral Sciences*, 175, pp.567-571.
- Wachira, W., Brookes, M. and Haines, R., 2016. Contextualizing Outsourcing and Development from a Theoretical and Practical Perspective. *Int. J. of Multidisciplinary and Current research*, 4.
- Waithaka, P. and Waiganjo, E., 2015. Role of buyer supplier relationship on supply chain performance in kenya's state corporations: A case study of kenya tea development agency. *International Journal of Academic Research in Business and Social Sciences*, 5(4), pp.104-121.
- Wan, S.P., Wang, F., Lin, L.L. and Dong, J.Y., 2015. An intuitionistic fuzzy linear programming method for logistics outsourcing provider selection. *Knowledge-Based Systems*, 82, pp.80-94.
- Wheeler, R. (2014). Reactive v. Proactive Risk Management, [online], available: <https://www.linkedin.com/pulse/20140606191247-122485689-reactive-v-proactive-risk-management> [31 May 2017]

- Yang, Q. and Zhao, X., 2016. Are logistics outsourcing partners more integrated in a more volatile environment?. *International Journal of Production Economics*, 171, pp.211-220.
- Yang, X., 2014. Status of Third Party Logistics—A Comprehensive Review. *Journal of Logistics Management*, 3(1), pp.17-20.
- Yao, Y. and Li, Y., 2014. Analysis of Performance Appraisal System of the Daphne Company Based on KPI. *Studies in Asian Social Science*, 1(2), p.84.
- Yeung, K., Zhou, H., Yeung, A.C. and Cheng, T.C.E., 2012. The impact of third-party logistics providers' capabilities on exporters' performance. *International Journal of production economics*, 135(2), pp.741-753.
- Zikmund, W.G., Babin, B.J., Carr, J.C. and Griffin, M., 2013. *Business research methods*. Cengage Learning.

Appendix A: Interview Guide

Interview Time: _____
Date: _____
Company: _____
Position: _____

I. Introduction

The following discussion is related to the research instrument that will be adopted for this study, the interview. It will comprise of 15 questions and will be administered face-to-face with the individuals working in both the Supply Chain and National Distribution departments of Defy Appliances. As stated previously in section 3.15 of the Research Methodology Chapter, there will be no questions relating to gender, ethnicity, religion and age in order to eliminate bias. Furthermore, participation in this study is completely voluntary as participants can choose to withdraw from it at any given time without any consequences attached.

II. Section A

The questions that are asked in this section are done so in order to attain relevant information that will assist with the answering of the research objectives which were stated in chapter 1; section 1.4 of this study. There are certain questions that will be asked to the participants relating to each research objective. This is explained over the ensuing paragraphs.

- **Research Objective 1: An Insight into Logistics Outsourcing**

1. What do you understand by the term outsourcing?
2. How would you differentiate between the make-or-buy decision?
3. What do you think are the drivers or motivating factors that induce a company to resort to outsourcing?
4. Can you please explain some advantages and disadvantages of outsourcing?
5. With regards to logistics outsourcing; what steps or procedures would you put forward to ensure that it is undertaken successfully?

The above questions are all concerned with the first research objective by providing an insight as to what logistics outsourcing is as well as the differentiation between the make or buy decision. The questions relating to RO 1 also cater for the motivating factors behind logistics outsourcing and conclude with the steps in the logistics outsourcing process. The information gleaned from these questions can be used to assist companies in implementing logistics outsourcing.

- **Research Objective 2: Performance Measurement**

6. What do you understand by the concept of performance measurement?
7. What do you understand by the concept of Key Performance Indicator appraisal?
8. How do you think performance measurement adds value to Defy's operations?
9. How do you think that Defy can improve its buyer-supplier relationships with its 3PL providers via KPI appraisal?

The questions pertaining to the second research objective deal predominantly with the concept of performance measurement and briefly allude to KPI appraisal. The answers provided by the participants will allow the researcher to understand how Defy's operations can be improved via performance measurement and how Defy's relationships with its 3PL providers can be enhanced with KPI appraisal.

- **Research Objective 3: Key Performance Indicators**

10. Concerning logistics outsourcing, what do you think are the most significant key performance indicators to examine the performance of Defy's 3PL providers? Please list these.
11. The list of KPIs provided in the previous question, can you please elaborate as to why you selected these specific KPIs?
12. During my review of literature on KPI appraisal, I have identified the most common KPIs regarding logistics outsourcing. From the list provided below, can you please rank each KPI in order of importance?

- On-time Delivery
- Cost
- Quality

- Flexibility
- Innovation

These questions above are all relating to the third research objective; the issue of KPI appraisal. Information garnered from these questions will highlight exactly what KPIs can be used to gauge the performance of Defy's 3PL providers. In addition to this, the participants will also rank certain KPIs that were gathered from the literature review.

- **Research Objective 4: The dangers of logistics outsourcing**

13. What do you think are the potential dangers of Defy outsourcing its logistics functions?
Can you please list these dangers?
14. The list of dangers provided in the previous question? Can you please explain as to why you have selected these specific dangers?
15. What remedial actions do you suggest putting forward in order to mitigate these dangers of outsourcing?

These questions above pertain to the risks or dangers associated with logistics outsourcing. The participants are asked about the potential dangers that Defy could experience in their endeavour to outsource their logistics needs to 3PL providers. Afterwards, the participants are then required to provide remedial actions or solutions to counteract these dangers whilst outsourcing to 3PL providers.

The end. Thank you for your participation.

Appendix B: Informed Consent Document

I, **Yatheal Jeebodh (212503074)**, am currently registered for studies at the University of KwaZulu-Natal (Westville Campus) leading to the qualification: Master of Commerce in Supply Chain Management. One of the requirements to be met for the awarding of this degree is that I should undertake approved research leading to the submission of a dissertation. The approved topic which I have chosen is:

The Utilization of Key Performance Indicator Appraisal for Logistics Outsourcing: A Case of Defy Appliances

Please note that this investigation is being conducted in my personal capacity. Should you need to contact me regarding any aspect of this research, you can do so either by e-mail on Yatheal.Jeebodh@arcelik.com or telephonically on 031 460 9624 / 071 611 6740.

My academic supervisor is **Mrs Jayrusha Ramasamy-Gurayah**, an academic supervisor employed within the University. She can be contacted by e-mail on gurayahj@ukzn.ac.za or telephonically on 031 260 8713 for further enquiries.

Information gathered in this study will include data retrieved from the interview that I request you to participate in. Please note that only summary data will be included in the report and that your name will not be published in this research. Your anonymity and confidentiality is of the utmost importance and will be maintained throughout the study as all the information gathered from this interview is purely for academic and research purposes. I assure you that there are no implications or dangers arising from your participation in this research.

Please note that I intend to collect information by means of a personal, face-to-face interview and that in order to facilitate the gathering of information in an accurate and efficient manner, I intend to make an audio recording of the interview. Should you not wish to consent to the making of such a recording, please make a note to this effect on the following page.

Your participation in the interview is completely voluntary. You also have the right to withdraw at any time during the study without any consequences. This interview will take approximately 30-45 minutes to complete. I appreciate your participation, as it would help me to complete this research project.

This page must be returned to the interviewer prior to the commencement of the interview.

Please complete the section below:

I hereby confirm that I understand the contents of this document, the nature of the research and that I consent to participating in this research.

I understand that I am at liberty to withdraw from the research at any time, should I so desire, without any consequences attached.

I understand that there are no risks posed to me resulting from my participation in this research.

I consent / do not consent to the making of an audio recording of any interview to be conducted. [Delete if not applicable]

Signature of Participant

Date

Appendix C: Ethical Clearance Document



22 May 2017

Mr Yatheal Jeebodh (212503074)
School of Management, IT & Governance
Westville Campus

Dear Mr Jeebodh,

Protocol reference number: HSS/0351/017M

Project title: The utilization of Key Performance Indicator Appraisal for Logistics Outsourcing – A case of Defy Appliances

Full Approval – Expedited Application

In response to your application received on 18 April 2017, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol have 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

Dr Sherruka Singh (Chair)

/ms

Cc Supervisor: Jayrusha Ramasamy-Gurusyah
Cc Academic Leader Research: Professor Brian McArthur
Cc School Administrator: Ms Angela Pearce

Humanities & Social Sciences Research Ethics Committee

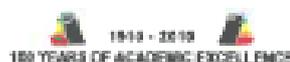
Dr Sherruka Singh (Chair)

Westville Campus, Govan Mbeki Building

Postal Address: Private Bag X54001, Durban 4000

Telephone: +27 (0) 31 260 3587/036344857 Facsimile: +27 (0) 31 260 4600 Email: vimhsc@ukzn.ac.za / vcchairs@ukzn.ac.za / vcclerk@ukzn.ac.za

Website: www.ukzn.ac.za



Flagship Campus Edgewood Howard College Medical School Pietermaritzburg Westville

Appendix D: Gatekeeper's Consent Form



www.defy.co.za

DEFY APPLIANCES (PTY) LTD
Reg. No. 2007/006710/07

135 Teakwood Road Jacobs, 4022
P.O. Box 12004, Jacobs, 4026, R.S.A.

T: +27 31 460 9711
F: +27 31 460 9998

DIRECTORS: L. Cokkuglu *; F.K. Bolukoglu *; H.H. Bulguru *; P. Sen *; M.R. Bolukoglu *; H. Kocan * (*Sukâh)

Gatekeeper's Consent

Permission is granted to **Yatheal Jeebodh (212503074)** to conduct research within Defy Appliances and to interview its employees in order to assist with the completion of his dissertation, entitled: **The Utilization of Key Performance Indicator Appraisal for Logistics Outsourcing: A Case of Defy Appliances.**

Signature of HR Representative:

Signature of HR Manager:

Signature of Supply Chain Manager:

Company Stamp:

Defy Appliances (Pty) Ltd
PO Box 12004
Jacobs, 4026
Tel: 031 460 9711



Arçelik A.Ş.

Appendix E: Turn-It-In Report

Last Submission for MCom			
ORIGINALITY REPORT			
8%	4%	4%	6%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS
PRIMARY SOURCES			
1	Submitted to University of KwaZulu-Natal Student Paper		2%
2	Li-jun, Zhou. "Research on Analysis and Control of Enterprise Logistics Outsourcing Risks", Energy Procedia, 2012. Publication		1%
3	www.researchgate.net Internet Source		<1%
4	Mohammed Badawy, A.A. Abd El-Aziz, Amira M. Idress, Hesham Hefny, Shrouk Hossam. "A survey on exploring key performance indicators", Future Computing and Informatics Journal, 2016 Publication		<1%
5	uir.unisa.ac.za Internet Source		<1%
6	webcache.googleusercontent.com Internet Source		<1%
7	www.ccsenet.org		

Declaration

I, **Yatheal Jeebodh (212503074)**, declare that:

- The research presented, except where otherwise indicated, is my original contribution.
- This research has not been submitted for any degree or examination at any other university.
- This research does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.
- This research does not contain other persons' writing, unless specifically acknowledged as being sourced from other researchers. Where other written sources have been quoted, then:
 - I. their words have been re-written but the general information attributed to them has been referenced:
 - II. where their exact words have been used, their writing has been placed inside quotation marks, and referenced.
- This research does not contain text, graphics or tables copied and pasted from the internet, unless specifically acknowledged, and the source being detailed in the research and in the references section.

Signature: _____



Date: November 2017

Appendix B: Informed Consent Document

I, **Yatheal Jeebodh (212503074)**, am currently registered for studies at the University of KwaZulu-Natal (Westville Campus) leading to the qualification: Master of Commerce in Supply Chain Management. One of the requirements to be met for the awarding of this degree is that I should undertake approved research leading to the submission of a dissertation. The approved topic which I have chosen is:

**The Utilization of Key Performance
Indicator Appraisal for
Logistics Outsourcing:
A Case of Defy Appliances**

Please note that this investigation is being conducted in my personal capacity. Should you need to contact me regarding any aspect of this research, you can do so either by e-mail on Yatheal.Jeebodh@arcelik.com or telephonically on 031 460 9624 / 071 611 6740.

My academic supervisor is **Mrs Jayrisha Ramasamy-Gurayah**, an academic supervisor employed within the University. She can be contacted by e-mail on gurayahj@ukzn.ac.za or telephonically on 031 260 8713 for further enquiries.

Information gathered in this study will include data retrieved from the interview that I request you to participate in. Please note that only summary data will be included in the report and that your name will not be published in this research. Your anonymity and confidentiality is of the utmost importance and will be maintained throughout the study as all the information gathered from this interview is purely for academic and research purposes. I assure you that there are no implications or dangers arising from your participation in this research.

Please note that I intend to collect information by means of a personal, face-to-face interview and that in order to facilitate the gathering of information in an accurate and efficient manner, I intend to make an audio recording of the interview. Should you not wish to consent to the making of such a recording, please make a note to this effect on the following page.

Your participation in the interview is completely voluntary. You also have the right to withdraw at any time during the study without any consequences. This interview will take approximately 30-45 minutes to complete. I appreciate your participation, as it would help me to complete this research project.

This page must be returned to the interviewer prior to the commencement of the interview.

Please complete the section below:

I hereby confirm that I understand the contents of this document, the nature of the research and that I consent to participating in this research.

I understand that I am at liberty to withdraw from the research at any time, should I so desire, without any consequences attached.

I understand that there are no risks posed to me resulting from my participation in this research.

I consent / do not consent to the making of an audio recording of any interview to be conducted. [Delete if not applicable]

Signature of Participant

Date



www.defy.co.za

DEFY APPLIANCES (PTY) LTD
Reg. No. 2007/006715/07

135 Teakwood Road Jacobs, 4052
P.O. Box 12004, Jacobs, 4026, R.S.A

T: +27 31 460 9711
F: +27 31 460 9998

DIRECTORS: L Cakiroglu *; F K Ebiclioglu *; H H Bulgurlu *; P Sen *; M R Balcioglu *; H Kozan * (*Turkish)

Gatekeeper's Consent

Permission is granted to **Yatheal Jeebodh (212503074)** to conduct research within Defy Appliances and to interview its employees in order to assist with the completion of his dissertation, entitled: **The Utilization of Key Performance Indicator Appraisal for Logistics Outsourcing: A Case of Defy Appliances.**

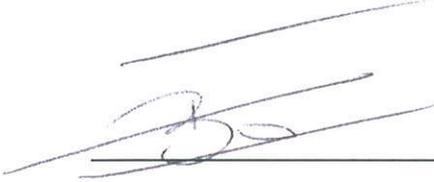
Signature of HR Representative:



Signature of HR Manager:



Signature of Supply Chain Manager:



Company Stamp:

Defy Appliances (Pty) Ltd
PO Box 12004
Jacobs, 4026
Tel: 031 460 9711



22 May 2017

Mr Yatheal Jeebodh (212503074)
School of Management, IT & Governance
Westville Campus

Dear Mr Jeebodh,

Protocol reference number: HSS/0351/017M

Project title: The utilization of Key Performance Indicator Appraisal for Logistics Outsourcing – A case of Defy Appliances

Full Approval – Expedited Application

In response to your application received on 18 April 2017, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol have 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

.....
Dr Shenuka Singh (Chair)

/ms

Cc Supervisor: Jayrasha Ramasamy-Gurayah
Cc Academic Leader Research: Professor Brian McArthur
Cc School Administrator: Ms Angela Pearce

Humanities & Social Sciences Research Ethics Committee

Dr 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 / snymam@ukzn.ac.za / mohunp@ukzn.ac.za

Website: www.ukzn.ac.za



1910 - 2010
100 YEARS OF ACADEMIC EXCELLENCE