A CRITICAL ANALYSIS OF THE INFORMATION TECHNOLOGY INFRASTRUCTURE OUTSOURCE DEAL BETWEEN TRANS HEX OPERATIONS AND COMMSCO

By

FERRANDI W. MAKKA

Submitted in partial fulfilment of the requirements for the degree of

Magister in Business Administration

at the NMMU Business School

Research supervisor: Wendy Groenewald

NOVEMBER 2005
DECLARATION

"I, Ferrandi Warren Makka, hereby declare that:

- the work in this research paper is my own original work;

- all sources used or referred to have been documented and recognised; and

- this research paper has not been previously submitted in full or partial fulfilment of the requirements for an equivalent or higher qualification at any other recognised education institution."

___________________                                                          __________
FERRANDI W. MAKKA           DATE
30 November 2005

TO WHOM IT MAY CONCERN

RE: CONFIDENTIALITY CLAUSE

This work is of strategic importance.

It will be appreciated if the contents of this research paper remain confidential and are not circulated for a period of five years.

Sincerely,

__________

F.W. MAKKA
Abstract

Introduction: The outsourcing market for information technology services has been transformed over the last few years. Outsourcing, once inspired primarily by cost reductions, now forms part of overall company strategies in order to improve focus.

Intent: The purpose of this research project is to conduct a critical analysis of the outsourcing of information technology infrastructure. In particular, this paper will focus on the process followed and on adherence to good corporate governance and business ethics.

This dissertation addresses (i) the strategic reasons for outsourcing, (ii) reasons for not outsourcing, (iii) the different types of models available, (iv) the outsourcing process to follow, and (v) the risks associated with outsourcing. These five aspects were all empirically tested in Trans Hex.

Findings: The main findings were that (i) no recognized formal process had been followed; (ii) the risk profile of the outsourcing company changed and (iii) a post-outsourcing review is required to determine whether the process is working as planned and to identify opportunities for improvement.

Conclusion: A new approach is needed to improve the viability and success of outsourcing information technology infrastructure. Based on the present findings it is argued that a holistic approach to information technology infrastructure outsourcing should be adopted which combines several outsourcing processes into a company-specific outsourcing process framework.
ACKNOWLEDGEMENTS

This dissertation is the product of the cooperative efforts of a large number of people, known and unknown. My grateful thanks to all of them.

In recognition of their assistance, I wish to acknowledge the forbearance of my significant other, children and parents. Many colleagues, students, lecturers, friends, authors and proofreaders, too, have contributed intentionally and unintentionally to the completion of this thesis. I wish to thank them also.
# TABLE OF CONTENTS

DECLARATION i  
CONFIDENTIALITY CLAUSE ii  
ABSTRACT iii  
ACKNOWLEDGEMENTS iv  
TABLE OF CONTENTS v  
LIST OF FIGURES viii  
LIST OF TABLES ix  
LIST OF CHARTS x  
LIST OF APPENDICES xi  

## CHAPTER 1  
PROBLEM DEFINITION AND DEFINITION OF CONCEPTS  
1.1 Introduction .......................................................... 1  
1.2 Background .......................................................... 1  
1.3 Statement of Problem ............................................. 3  
1.4 Project constraints ................................................. 4  
1.5 Limitations .......................................................... 4  
1.6 Definition of concepts ........................................... 5  
1.7 Assumptions .......................................................... 6  
1.8 The significance of the research ................................ 6  
1.9 An overview of related literature ................................ 7  
1.10 Research design .................................................... 9  
1.11 Outline of the thesis ............................................. 10  
1.12 Summary .......................................................... 11  

## CHAPTER 2  
LITERATURE REVIEW  
THE FIVE CRITICAL ASPECTS OF OUTSOURCING  
2.1 Introduction .......................................................... 13  
2.2 Reasons to outsource .............................................. 13  
2.3 Reasons not to outsource .......................................... 15  
2.4 The scope and reach of outsourcing ............................ 16  
2.5 Outsourceable functions .......................................... 16  
2.6 Outsourceable resources .......................................... 17  
2.7 Outsourceable assets ............................................... 17  
2.8 Outsourcing Models ............................................... 18  
2.8.1 The Outsourcing Value Pyramid ............................ 18  
2.8.2 Utility Computing: A different paradigm ................. 19  
2.8.3 Onsite/Offshore Model ......................................... 20  
2.8.4 Pure Offshore Model ........................................... 20  
2.8.5 Offsite/Offshore Model ........................................ 20  
2.8.6 Three Offshore Models, as per the TowerGroup ........ 21  
2.8.7 Selective Outsourcing Model ................................. 21
CHAPTER 5
ANALYSIS AND INTERPRETATION OF RESULTS
5.1 Introduction ................................................................. 73
5.2 Outsource awareness ..................................................... 73
5.3 Outsourced assets .......................................................... 74
5.4 Strategic reasons to outsource .......................................... 75
5.5 Strategic reasons why not to outsource .......................... 78
5.6 The adopted model ........................................................ 81
5.6.1 Offshore versus onshore ............................................. 81
5.6.2 Capital expenditure versus Operational expenditure .... 81
5.6.3 Traditional outsourcing versus ASP versus utility computing 82
5.7 The outsource process followed ...................................... 83
5.8 Risks mitigated ............................................................. 87
5.9 Views on the service provider ......................................... 87
5.10 Conclusion ................................................................. 89

CHAPTER 6
CONCLUSIONS AND RECOMMENDATIONS
6.1 Introduction .................................................................. 90
6.2 Problems and limitations ............................................... 90
6.3 Summary of the study .................................................... 90
6.4 Recommendations ........................................................ 91
6.5 Opportunities for further research ................................. 93
6.6 Conclusions ................................................................. 94

REFERENCES ........................................................................ 95
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 2.1</td>
<td>Objectives for strategic outsourcing</td>
<td>14</td>
</tr>
<tr>
<td>Figure 2.2</td>
<td>Reasons for outsourcing</td>
<td>14</td>
</tr>
<tr>
<td>Figure 2.3</td>
<td>Reasons why not to outsource</td>
<td>15</td>
</tr>
<tr>
<td>Figure 2.4</td>
<td>Information technologies outsourced</td>
<td>17</td>
</tr>
<tr>
<td>Figure 2.5</td>
<td>Outsourceable assets</td>
<td>18</td>
</tr>
<tr>
<td>Figure 2.6</td>
<td>The outsourcing value pyramid</td>
<td>19</td>
</tr>
<tr>
<td>Figure 2.7</td>
<td>Three models of offshore outsourcing</td>
<td>21</td>
</tr>
<tr>
<td>Figure 2.8</td>
<td>Preferred outsourcing models</td>
<td>22</td>
</tr>
<tr>
<td>Figure 2.9</td>
<td>Generic outsourcing process model</td>
<td>24</td>
</tr>
<tr>
<td>Figure 2.10</td>
<td>A process to identify an outside service provider</td>
<td>25</td>
</tr>
<tr>
<td>Figure 2.11</td>
<td>Proposed outsourcing evaluation process</td>
<td>27</td>
</tr>
<tr>
<td>Figure 2.12</td>
<td>Holistic view of risk management</td>
<td>28</td>
</tr>
<tr>
<td>Figure 2.13</td>
<td>Integration of risk management processes</td>
<td>28</td>
</tr>
<tr>
<td>Figure 3.1</td>
<td>Risks benchmarked</td>
<td>37</td>
</tr>
<tr>
<td>Figure 3.2</td>
<td>Risk control scores</td>
<td>38</td>
</tr>
<tr>
<td>Figure 4.1</td>
<td>Sample design</td>
<td>47</td>
</tr>
<tr>
<td>Figure 4.2</td>
<td>Krejcie and Morgan Population Representation</td>
<td>51</td>
</tr>
</tbody>
</table>
## LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 2.1</td>
<td>Taylor’s risk management matrix</td>
<td>29</td>
</tr>
<tr>
<td>Table 2.2</td>
<td>Kopp’s risk management matrix</td>
<td>29</td>
</tr>
<tr>
<td>Table 3.1</td>
<td>Key risk and control areas</td>
<td>35</td>
</tr>
<tr>
<td>Table 4.1</td>
<td>Three different types of questions</td>
<td>55</td>
</tr>
<tr>
<td>Table 4.2</td>
<td>Combination of questions</td>
<td>58</td>
</tr>
<tr>
<td>Table 4.3</td>
<td>Responses according to division employed</td>
<td>69</td>
</tr>
</tbody>
</table>
LIST OF CHARTS

Chart 4.1  Representation according to division  70
Chart 4.2  Responses according to the number of years employed  70
<table>
<thead>
<tr>
<th>Appendix</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>COVER LETTER</td>
<td>100</td>
</tr>
<tr>
<td>B</td>
<td>QUESTIONNAIRE</td>
<td>101</td>
</tr>
<tr>
<td>C</td>
<td>QUESTIONNAIRE SPLIT-HALF</td>
<td>102</td>
</tr>
<tr>
<td>D</td>
<td>DEFINITIONS FOR QUESTIONNAIRE</td>
<td>103</td>
</tr>
<tr>
<td>E</td>
<td>INTERVIEW QUESTIONS</td>
<td>104</td>
</tr>
<tr>
<td>F.1</td>
<td>SURVEY RESULTS</td>
<td>105</td>
</tr>
<tr>
<td>F.2</td>
<td>RANKING RESULTS</td>
<td>106</td>
</tr>
</tbody>
</table>
CHAPTER 1

PROBLEM DEFINITION AND DEFINITION OF CONCEPTS

1.1 Introduction

Outsourcing is a generic term used for what companies do that contract out certain business functions or processes to external suppliers. Zhu, Hsu and Lilie (2001:374) define outsourcing “as the process of transferring responsibility for a specific business function from an employee group to a non-employee group”.

The present author, having been in the Information Technology industry for the past twenty years, noticed how outsourcing built momentum in the 1990s when most major companies started focusing on their core business and business processes. Companies started to outsource their information technology infrastructure and services primarily as a means of cost reduction.

Hendry (1997:22) argues that managers followed strategies propagated by management gurus to de-layer, downsize and outsource as essential ways to reduce costs.

1.2 Background

According to BMI-T experts the South African IT Services market is forecasted to grow substantially from 2004 to 2009, reaching R27,5m of which the “…IT services outsourcing market, together with deploy and support foundation markets …” will generate the largest amount of revenue. (BMI-T, 2005:10)

Businesses are continually trying to cut costs while increasing revenue. This drove up outsourcing initiatives in many small, medium and large companies. (Power, Boifazi & Desouza, 2004:37)

Complementary services can be acquired from an outside contractor, especially a contractor that can create advantage, and is willing to share this through
open-book transparency with the outsourcing company. (Juma’h & Wood, 2000:266)

Juma’h and Wood (2000:266) argue that outsourcing may be motivated from a need to secure direct or indirect benefits or a combination of both. Direct services, they believe, are obtained when the outside contractor provides the same or better service for the same or less cost than could be achieved internally by the company. They argue that if this is not possible, the services should be retained in-house unless significant indirect benefits are obtained. These indirect benefits could be achieved by reapplying the internal resources to more productive or competitive functions in the company.

Zhu et al. (2001:373) reported that PriceWaterhouseCoopers (1998) found that outsourcing eventually moves to a phase where it generates greater shareholder value.

But how does a company come to a conclusion whether it should outsource or not? As with many other problems and solutions, there is no “one size fits all” approach. Some companies might decide to outsource the complete information technology function, while others might decide to outsource only a particular component or function.

Power et al. (2004:37) argue that outsourcing is often used as the ideal way for companies to reduce costs, focus on core business processes, improve services, enhance skills, reduce time-to-market and increase overall competitive advantage.

Whatever the reason, the ultimate goal of outsourcing should be to bring strategic benefits to the business.

It has always been accepted within the Trans Hex Group that the information technology infrastructure was not outsourceable because (i) Trans Hex would incur unnecessary additional costs and (ii) it would be unprofitable for a service
provider. Trans Hex prides itself as a low cost producer of carats, and therefore any high cost projects like outsourcing would normally have been shelved.

1.3 Statement of Problem

An internal audit performed by PriceWaterhouseCoopers, reported for the year ending 31 March 2004, reflected a number of risks which the company should address.

In October 2004 the Trans Hex Audit committee requested M&I Group Services to conduct an information technology risk assessment and a review of information security. KPMG facilitated this workshop and reported that the overall level of information technology risk was rated as high at Trans Hex. In order to manage these risks KPMG proposed that better controls should be implemented. (KPMG, 2005:3)

The results of both risk audits were presented to the Trans Hex Audit committee. They subsequently proposed to outsource the information technology infrastructure services of Trans Hex.

While there are many reasons why companies outsource, there are just as many outsourcing options from which to choose a right fit for a company. Picking a correct model or fit is highly important for the company, as a poorly planned outsourcing arrangement could result in increased risks, diminished service value and escalating costs.

This warrants the present research which focuses on “A critical analysis of the information technology infrastructure outsourcing deal between Trans Hex Operations and CommsCo”, with the aim to determine:

(i) How to successfully outsource a business function to a service company.
(ii) How to adhere to good corporate governance and sound business ethics.
1.4 Project constraints

Several constraints were introduced to make the research project manageable and practical. The restrictions deliberately imposed on the study were the following:

(i) The study did not attempt to predict the success of the outsourcing.
(ii) The study was limited to Trans Hex Operations (Pty) Ltd.
(iii) Data collection was restricted to executive management.
(iv) Data collection was accomplished within a 24-hour period.
(v) Electronic data collection was used where possible to reduce errors.
(vi) Structured interviews were held with two executive members.

1.4.1 Constraints at organisational level

The research included the Trans Hex Head Office in Parow and two mines, Baken and Ventersdorp, in the Northern Cape and the Northwest Province respectively.

1.4.2 Constraints at employee level

The study included executive management only. The exclusion of certain aspects, however, does not necessarily imply a lack of need for researching them.

1.5 Limitations

Restrictions beyond the control of the researcher included the following:

(i) The researcher did not determine the number of employees to participate in the study; Trans Hex management did.
(ii) The study took place during working hours, hence the length of time required to complete the questionnaire had to be kept to a minimum.
(iii) Since the contract has not been finalised, the researcher is not yet in a position to analyse the document.
(iv) Since the process has not been finalised, the researcher is not yet in a position to analyse the success of the project.
1.6 Definition of concepts

1.6.1 Outsourcing
Outsourcing involves “access to applications, technology, and labour, without the burden of ownership.” It “encompasses a wide range of services, from labour-intensive business processes and tasks as simple as data entry to complex application development and integration.” (Abderdeen, 2005)

1.6.2 IT - Information Technology
“Any equipment or interconnected system or subsystem of equipment, that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. The term information technology includes computers, ancillary equipment, software, firmware and similar procedures, services (including support services), and related resources.” (Kudos, 2005)

1.6.3 PIX firewall
PIX is an acronym for Private Internet Exchange. A PIX firewall is a Cisco network security device that can be configured to shun/enable IP addresses and ports between networks. (Cisco, 2005)

1.6.4 SLA - Service Level Agreement
This refers to a formal agreement between a service provider and customers to provide a certain level of service. Penalty clauses might apply if the SLA is not met. (Naude, 2005)

1.6.5 Model
A representation of a set of components of a process, system, or subject area, generally developed for understanding, analysis, improvement, and/or replacement of the process. A representation of information, activities, relationships, and constraints. (ICH, 2005)
1.6.6 ASP – Application Service Provider

An application service provider (ASP) is a company that offers individuals or enterprises access over the Internet to application programs and related services that would otherwise have to be located in their own personal or enterprise computers. (Anonymous, 2005a)

1.6.7 PDA – Personal Digital Assistant

A handheld computer that serves as an organizer for personal information. It generally includes at least a name and address database, to-do list and note taker. (Anonymous, 2005b)

1.6.8 ERP – Enterprise Resource Planning

According to Schwalbe (2004:446) it is a system that attempts to integrate several business functions such as finance, sales, logistics and human resources across an enterprise into a single computer system which can serve all the different partners’ needs.

1.6.9 SAP

An acronym for an enterprise resource planning system called Systems, Applications and Products in Data Processing. (Jupitermedia, 2005)

1.7 Assumptions

The only assumption made is that the outsourced services will continue to be contracted out to a service provider, whether it is CommsCo or another, for the foreseeable future.

1.8 The significance of the research

Organisations, whether government or private sector businesses, do outsource deals all the time. Trans Hex Operations (Pty) Ltd had outsourced a number of its information technology functions, which included the hosting of its website, the rental and supply of its PIX firewall, a Service Level Agreement and Maintenance contract on its Application, Exchange and File and Print servers and ad-hoc consulting (time and materials). These services have all been
cancelled and put into one basket at a single service provider, namely CommsCo. This is a first in the history of Trans Hex, a company formed in 1963. (Zacharias, 2005)

The uniqueness of this event warrants a critical analysis of the processes followed which ultimately led to the information technology infrastructure services being procured by CommsCo.

The contribution of this research will be fivefold. Firstly, an analysis will be done on how the outsourcing deal came about. Secondly, a look will be taken at the strategic reasons for outsourcing and at reasons why not to outsource. Thirdly, the different outsourcing models available will be considered to determine how Trans Hex came up with a suitable one. Fourthly, the outsourcing process will be analysed. Fifthly, a risk analysis will be done to determine whether and how these risks are mitigated.

1.9 An overview of related literature

Globalisation is just one of many reasons why companies experience ever more intense competition. The majority of these companies have the same strategic priority and that is to become more focused on service, quality, and operational excellence. In today’s technology-based business world, accomplishment of companies will partly depend on their ability to become more effective in the use of its information technology and systems. Paradoxically, whilst companies are getting more dependent on information technology, they are also more likely to use outsourcers to design and manage this critical resource. (Ripin & Sayles, 1999:3)

Executives, particularly senior managers, are almost all in agreement that numerous advantages exist in outsourcing components of their companies’ information technology. This is particularly true because of the increasing costs, intimidating future requirements and the scarcity of expertise – “all favour letting experienced outsiders bear the brunt of managing this ‘bear’”. (Ripin & Sayles, 1999:4)
Most senior executives believe that it makes sense to outsource the information technology function for three reasons. *Firstly*, they appear to view the entire information technology function as a non-core activity. *Secondly*, they believe that third party vendors possess economies of scale and *thirdly*, they are of the opinion that third party vendors have the technical expertise to provide information technology services more efficiently than internal information technology departments. (Lacity & Hirchheim, 1995a:218)

Lacity and Hirchheim (1995a:218) argue that outsourcing information technology is quite different from any other outsourced resource of a company. They have identified six characteristics associated with information technology which make it different from any other outsourcing candidates which are:

(i) Information technology evolves quickly and all the time.
(ii) The underlying economies of information technology change quickly.
(iii) The penetration of information technology to all business functions is ubiquitous.
(iv) The switching costs to alternative information technology service providers are high.
(v) The customers’ inexperience with information technology outsourcing.
(vi) Information technology management practices rather than economies of scale lead to cost efficiency.

Lacity and Hirchheim (1995a:223) state that there are primarily only three main models in the outsourcing arena which are:

(i) **Total outsourcing**
Since it fails to capitalise on the inherent cost advantages of internal information technology departments, it presents a poor information technology strategy.

(ii) **Total insourcing**
Also a poor strategy, the company is locked into a specified vendor and would struggle to find alternative sourcing options at short notice.
(iii) **Selective sourcing**

This is the strategy of the future. It capitalises on the inherent advantage of both the internal information technology department’s as well as the external vendors’ inherent cost advantages.

According to Lacity and Hirchheim (1995a:225), future arrangements will most certainly be performance-based, where companies’ payments to vendors will be based on the vendors’ actual delivery of the benefits articulated in the contract.

The literature review, which will be dealt with in much more detail in Chapter 2, covers five aspects:

(i) The strategic reasons for outsourcing.

(ii) The reasons not to outsource.

(iii) The different types of models available.

(iv) The process to follow.

(v) The risks associated with outsourcing.

The outsourcing transaction between Trans Hex Operations (Pty) Ltd and CommsCo Inc will be analysed based on the literature review.

### 1.10 Research design

The methodology used during the research was as follows:

#### 1.10.1 Literature review

The identification and definition of some of the critical principles and/or guidelines fundamental to an outsourcing project were obtained from the literature review. These were used to critically analyze the outsourcing of the infrastructure between Trans Hex and CommsCo.

#### 1.10.2 Empirical study

The empirical study consisted of four parts:

##### 1.10.2.1 Interviews

Structured interviews were held with executive team members.
1.10.2.2 Survey
A survey was conducted amongst executive management within Trans Hex Group, using a questionnaire compiled by the author.

1.10.2.3 Data analysis
The procedure used in interpreting and analyzing the data was through data input. It was presented in tabular and graph form using Microsoft Excel 2003.

1.10.2.4 Ethical aspect
The researcher obtained permission from the Group Financial Manager, Mr. Stephen Robinson, and the Company Secretary, Mr. George Zacharias, of Trans Hex Group, to conduct this research.

1.11 Outline of the thesis
The thesis includes the following chapters:

Chapter 1: Problem definition and definition of concepts
The aim of chapter one is to give the reader an understanding of the relevance of the research and the overall goals of the study. In addition, the most important concepts are defined to ensure consistency to the reader.

Chapter 2: Literature review
This chapter focuses on the literature review on which the empirical study is based. It ends with conclusions reached on the basis of the literature reviewed.

Chapter 3: The company scenario
This chapter documents a brief overview of the company and its core business and explains the scenarios that ultimately lead to the outsourcing of the information technology infrastructure transaction between Trans Hex and CommsCo.
Chapter 4: The empirical study, methods used and the data analysis
This chapter documents the design and methodology followed during the researcher’s fieldwork. The instruments used in the measurement of the key aspects are discussed and the sample design and sampling process are explained. The rationale behind the researcher’s selection of data analysis procedures as well as the actual procedures is described.

Chapter 5: Analysis and interpretation of results of the empirical study
This chapter documents the results of the fieldwork described in Chapter 4 and describes the main results obtained.

Chapter 6: Conclusions and recommendations
The main findings obtained during the study are discussed in this final chapter. It also shows the connection between the results shown in Chapter 5 and the literature reviewed in Chapter 2. In addition, this chapter provides conclusions and recommendations to the questions posed in the “Statement of problem” as per Chapter 1, Section 1.3.

1.12 Summary
Traditional outsourcing has been with us for a very long time, sourcing out functions such as legal, payroll and marketing. Information technology outsourcing, on the other hand, only really gained momentum in the 1990s when companies started a drive to focus on what they believed their core businesses or business processes were. But Ripin and Sayles (1999) believe that management fools itself when it categorizes the design and management of company information technology systems as not being “core” functions of the business. Instead Ripin and Sayles (1999) say; while management opts to reengineer and change the emphasis to business process management, these very strategies often have information technology systems as its foundation.
There are many different reasons why companies outsource their information technology function, and Trans Hex is no exception. But Trans Hex’s primary reason was to mitigate and share its risks, reported by the external auditors over a three year period, with an outsource service provider.

While the researcher will not attempt to predict the success of the outsource transaction, a critical analysis will be performed on this transaction in terms of the five aspects reported in Section 1.9.
2.1 Introduction

In this chapter, the five aspects, which are: (i) the strategic reasons for outsourcing; (ii) the reasons not to outsource; (iii) the different types of models available; (iv) the process to follow; and (v) the risks associated with outsourcing will be described. These will then be used as a theoretical base to analyse the outsourcing transaction between Trans Hex and its outsourcing partner, CommsCo.

2.2 Reasons to outsource

The trend to decide on outsourcing is still very much based on the wish to reduce information technology spending. When CSC (2004) did a survey 2003 “of the top executives of Europe’s 250 biggest businesses”, most of them agreed on using outsourcing to achieve six business goals: “(i) improving company focus; (ii) improving service delivery; (iii) reducing and controlling costs; (iv) converting fixed to variable costs; (v) freeing resources for other purposes; and (vi) deploying standard solutions”. Reducing and controlling costs were easily the most important of these objectives, as it topped the list in all three time periods: five years ago, in 2003, and for the next three years. Figure 2.1 shows the results of the survey.

The majority of executives indicated that the goal most often not reached is “improving business and information technology flexibility.”
Hurley and Schaumann (1997:127) explored some of the main reasons why companies outsource, and while the prospect of long-term cost reduction is most talked-about, it is not the most dominant one. The survey done by Hurley and Schaumann (1997:127) indicate that improved access to needed skills scored the highest amongst the reasons cited for outsourcing. Cost considerations were well down the list, following factors such as service, focus on business and access to technology. (Figure 2.2)

Hurley and Schaumann’s findings are echoed by Zhu et al. (2001:373) who found that while companies in the United States of America chose cost savings
as the primary reason for outsourcing (fifty nine per cent), other reasons were improvement of services (fifty four per cent), the ability to focus on core business (forty six per cent) and the ability to access external expertise (forty per cent).

2.3 Reasons not to outsource

The researcher, through networking in the information technology industry, observed that while some companies are continuing to pursue outsourcing, others have already opted out of the information technology outsourcing, with some trying to end their outsourcing contract. They cite cost escalations, loss of control and diminishing service quality as their primary reasons.

Hurley and Schaumann (1997:127) observed that the primary inhibitor to outsourcing was the potential of escalating long-term costs, a risk very few companies were prepared to take. The relinquish of control and loss of independence were also high on the list, as can be observed in Figure 2.3.

![Figure 2.3: Reason why not to outsource](image)

2.4 The scope and reach of outsourcing

The present author is of the opinion that every non-core function within a company is an opportunity for outsourcing. As far as information technology is concerned, either the whole or selected parts of the infrastructure and/or the human resources might be outsourced. It entirely depends on the requirements of the company. We shall now look at some of the outsourcable functions, resources and assets pertaining to information technology.

2.5 Outsourceable functions

It is the company doing the outsourcing that decides which functions it wants to outsource. This may include the complete or parts of the architectural design of the entire infrastructure and the actual building thereof. Decisions as far as make and model of equipment may be left to the service provider, while the outsourcer merely reviews the progress and outcomes of the project. The author is of the opinion that services such as monitoring performance and proactively detecting errors may all be part of the outsourcing, and that capacity planning, maintenance of the infrastructure, and support services are also outsourcable functions.

Hurley and Schaumann (1997:128) found that of all the information technology functions which have been outsourced in corporate Australia, the most common task to be outsourced is hardware maintenance, followed by data centre operations, as can be seen from Figure 2.4.
2.6  Outsourceable resources

People, although one of the major assets of any company, are also outsourceable. The researcher believes that the way in which the transfer of staff is handled is a critical factor to the success of the entire outsource project.

2.7  Outsourceable assets

It can be assumed that every asset within the information technology department, whether it be operational assets like desktops, laptops, PDA’s, printers, servers, etc. or network equipment like switches, routers, cabling, etc. and software assets like operating systems, Office suites, ERP systems, etc., is outsourceable. In terms of critical equipment, the experience of the researcher shows that it is normally kept offsite with the outside service provider, with costs, as part of service level agreements. According to Figure 2.5, network assets have the highest chance of being outsourced.
2.8 Outsourcing Models

There are a vast number of outsourcing models and their combinations available. These will be reviewed in order to see whether Trans Hex chose the appropriate model.

2.8.1 The Outsourcing Value Pyramid

During outsourcing processes, management will make decisions that have far-reaching consequences, as they have to address several critical issues to achieve success. These issues include identifying potential problems, managing perceptions, negotiating contracts, protecting the bottom line and, ultimately, coming up with a model that works for the company.

There are a number of outsourcing models available in the market. Accenture sees these models “represented by a value pyramid (Figure 2.6), with technology infrastructure in the bottom layers, followed by business applications and business processes, and, at the top, business transformation outsourcing. The business transformation outsourcing model embraces all the other layers, but goes way beyond the simple transfer of assets and functions.” (Blennerhassett, 2005:4)
2.8.2 Utility Computing: A different paradigm

During the year 2000 Application Service Providers (ASPs) emerged as the ultimate solution to cost savings and better performance, but their downfall was that they could not convince their users of this claim. Traditional outsourcing, although it has its own dissatisfied customers, continues to attract new clients.

According to Eriksen (2005), utility computing starts by asking what the user wants, whereas the ASP and traditional outsourcing models start with the existing information technology infrastructure and ask how they might do it better. He argues that utility computing is information technology-based functionality on demand, while the other two are information technology resources, infrastructure, and/or applications for lease.

Eriksen (2005) explains that the true utility computing service provider builds information technology architecture from the ground up, taking advantage of shared resources. He argues that because of the sharing factor, there will be a “magnitude of cost saving over owning the infrastructure and applications yourself”. In addition, he says, utility computing costs are scalable, in that users only pay for what they use.
Eriksen (2005) goes on to reveal that increased responsiveness is the most compelling benefit of utility computing. He explains that a utility computing service provider’s income is dependent on delivering the functionality users need, when they need it. In addition he says that in a utility computing model the barriers to switching between service providers drop considerably. Because of the latter, Eriksen (2005) argues that service providers will be significantly more responsive than internal information technology departments, outsourcers, and ASPs alike. Hence, “customer satisfaction becomes the only metric that matters, dispensing with the need to develop a shopping list of information technology performance metrics as in outsourcing and ASP contracts.”

2.8.3 Onsite/Offshore Model

Under this model - and this depends upon the specific set of services involved and scale of the project - the outsource service provider will put in place a combination of onsite and offshore technical resources that will become a virtual extension of the customer’s team. One finds that, on an average, seventy percent of the total effort is done offshore while thirty percent is done at the customer’s site. In most cases an onsite coordinator or a small team from the service provider will be located at the customer’s site to synchronize between the offshore team and the customer. (Team Fullestop, 2005)

2.8.4 Pure Offshore Model

Under this model, the entire project is carried out offshore. The outsource service provider will not have any onsite presence. The customer interacts directly with the offshore team. (Team Fullestop, 2005)

2.8.5 Offsite/Offshore Model

Under this model, the outsource service provider will have its own office either on or fairly close to the customer’s site. A technical support team from this office will coordinate between the customer and the offshore team. (Team Fullestop, 2005)

The ultimate reason for companies choosing this offshore model is its cost advantage. Another advantage is that coordinating and discussing requirements and deliverables happens with a dedicated member of the team. This model
proves to be by far the most successful one among the different models that have emerged. (Team Fullestop, 2005)

2.8.6 Three Offshore Models, as per the TowerGroup

According to the TowerGroup there are three offshore models for outsourcing which are (i) vendor direct; (ii) captive direct; and (iii) vendor indirect. Figure 2.7 explains these models in terms of what is being outsourced, why the model is chosen and why a particular model should not be chosen, i.e. it lists the risks pertaining to each model.

![Three Models of Offshore Outsourcing](image)

**Figure 2.7: Three models of offshore outsourcing**

Kopp (2004)

2.8.7 Selective Outsourcing Model

In the selective outsourcing model, companies choose which part of a process they want to outsource. This allows for a budget-stretched company like Trans Hex to meet its business commitments. Figure 2.8 explains.
Chadha and Kumail (2004) explain that in dual-shore development the outsourced service partner performs part of the work process onsite and part of it offshore. They believe this model best suited for companies that fall in Quadrants B and D in the output matrix (see Figure 5). They argue that the lack of consistency in output units will force Quadrant B companies to engage vendors on-site.

As appears from their model, companies with a high level of input and output are best positioned to outsource their entire work processes offshore. In contrast they say Quadrant C companies will engage vendors onsite before outsourcing work or moving into a dual-shore development model.

### 2.8.8 Capital expenditure model versus operational expenditure model

Whichever model is chosen, it will always be because it benefits the company, since the company’s financial position might improve by transforming capital expenditure into operational expenditure or vice-versa. In the case of Trans Hex refreshing its entire information technology infrastructure to achieve (for example) improved business efficiency, the traditional solution would be to apply for capital expenditure.
If this is outsourced to a service provider, in our case CommsCo, the investment in the infrastructure can be provided as part of the overall solution; hence it would become operational expenditure.

2.9 The Outsourcing Process

Although there are many different approaches to outsourcing, the processes that lead to outsourcing do not differ too substantially. All the processes address issues like a business case, review of the proposed benefits, request for proposal, vendor selection, due diligence, contract execution and monitoring the outsourced service supplier.

2.9.1 Outsourcing process models

Alcatel’s (2004) white paper reduced the outsourcing process to ten basic steps, as depicted in Figure 2.9. Alcatel (2004) believes that the process starts with an initial consideration of outsourcing as a possibility. The desired outcomes, potential scope and benefits are then identified and reviewed by the executive team. The next step would be to choose a service provider to do a feasibility study, at which point the scope is further developed and a business case built. The executives review the business case again, after which either a number of service providers are selected to refine the scope and costs, or a request for quotations is issued to selected vendors. A service provider is then selected who commences due diligence and contract negotiations. Transition and communication planning starts next, followed by execution of the contract. Finally the service provider is monitored, and the contract may be changed to allow for improvements.
Hurley and Schaumann (1997:130) argue that once a mandatory predetermined set of rules and guidelines have been established, the most critical factor to success is choosing the outsource service provider. While different companies employ different approaches, the most common single method for selecting an outsource service provider is through competitive bidding. There is however a tendency for companies to give preferential consideration to outsource service providers with whom they have already had a relationship, and to the ones on a pre-defined short list. Figure 2.10 demonstrates this point.
Zhu et al. (2001:374-378) argue that there are four stages in outsourcing: planning, developing, implementing and surviving. These are briefly discussed below:

(i) The planning stage
The decision to outsource should start with a sound business plan. This plan should at the very least adequately identify all costs associated with the current method of doing business and all costs that are anticipated once outsourcing is deployed.

(ii) The developing stage
Once a decision has been made to outsource, a vendor agreement should be negotiated and signed by both parties. Zhu et al. (2001: 374-378) believe that a successful outsourcing process starts with a solid contract. The agreement should be clearly understood by both parties before signing the contract. Both parties should have their legal departments review the agreement. The agreement should at least include items such as services to be provided, compensation, terms of payment, ways to make changes and, most importantly, an escape clause for each party.
The intended business relationship between the seller and buyer should be clearly defined well before signing the vendor agreement. Items that should be considered are risks assumed by each party, liability assumed by each party and the management of the process or function being outsourced. Zhu et al. (2001:375) report that Ernst & Young found considerable consistency in the attributes amongst successful outsourcing relationships and these are the following:

(i) They establish measurable goals and objectives.
(ii) They ensure that both parties benefit from the relationship.
(iii) They maintain mutual respect and willingness to learn from each other.
(iv) They involve senior management support.
(v) They use a joint, multi-level-relationship management approach.
(vi) They continually track and measure performance and provide feedback.

Misinformation regarding an outsourcing agreement can be damaging to both the company and its employees. The only way to counter this is to develop an aggressive communications plan which provides timely, detailed and accurate information in a structured manner.

(iii) The implementation stage
A transition plan should be documented which identifies all tasks, step-by-step, that must be performed to accomplish a successful transition. As tasks are completed this document should be updated so that it can serve as a progress report as well as provide an accurate audit trial.

(iv) The surviving stage
An outsourcing effort is only completed once a post-outsourcing review has been done. This review should not focus on how the process occurred, but rather on the accomplishments of the process. The objectives in the business plan should be compared to what has been achieved and whether the original objectives have been met. Comparisons of pre- and post outsourcing costs should be made to check whether the anticipated cost savings were realised.
addition, a review of the post-outsourcing processes should be conducted to
determine if these processes are working as planned and to identify areas of
improvement or change. The results of the post-outsourcing review should be
made available to all parties involved.

Lacity and Hirchheim (1995b:230) proposes an evaluation process based on
the lessons learned from previous outsourcing success and failures. They argue
that their process is value-laden for two reasons:

Firstly, because the process is a prescription for potential outsourcing
customers, and not outsourcing vendors. They say that it is assumed that
vendors are capable of protecting their own interests, while potential clients
might need assistance. Secondly, they argue that the evaluation process
assumes that the potential clients wish to make rational financial outsourcing
decisions.

Using the abovementioned, they developed an outsourcing decision tree as
depicted in Figure 2.11. The tree starts with the request for proposals from
desired vendors. These proposals are subsequently compared with the internal
information technology proposal or bid. If the vendor’s bid is more desirable,
then you have to determine the reasons why. They believe if the company could
return similar results with the same resources, then the outsourcing should not
continue and the function be kept internal. Failing so, the company should
negotiate a contract with the vendor which would realize its expectations.

Figure 2.11: Proposed outsourcing evaluation process
2.10 The Risks Associated with Outsourcing

2.10.1 Holistic View

Figure 2.12 is an enterprise risk management approach adopted by TowerGroup. Self-explanatory, it shows the risks from bottom up, from transacting, to information control and policing through policies and procedures. Top down shows that risk matrixes are required for compliance.

![Figure 2.12: Holistic view of risk management](image)

Kopp (2004)

2.10.2 Integrated Risk Management Processes

Figure 2.13 shows how all the processes, external and internal, are integrated, and how and at what level these risks should be managed.

![Figure 2.13: Integration of risk management processes](image)

Kopp (2004)
2.10.3 Risk Management Matrix

Tables 2.1 and 2.2 list the risks involved in outsourcing together with the controls to mitigate these risks.

**Table 2.1: Taylor’s risk management matrix**

<table>
<thead>
<tr>
<th>Risk</th>
<th>Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The outsourcer’s future situation might change</td>
<td>Termination clause in contract</td>
</tr>
<tr>
<td>Available information is skewed to the outsource “success” stories</td>
<td>Networking – dig for the truth</td>
</tr>
<tr>
<td>Outsource service supplier fails to meet expectation</td>
<td>Due diligence before signing contract</td>
</tr>
</tbody>
</table>

(Sheila Taylor, CRM, General Manager – Southern Ontario, *Condar Consulting Inc.*, 2004)

**Table 2.2: Kopp’s risk management matrix**

<table>
<thead>
<tr>
<th>Risk</th>
<th>Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data security and privacy, plus risk to intellectual property</td>
<td>Build security, data privacy, and resilience into due diligence and information technology governance</td>
</tr>
<tr>
<td>Internal risk related to loss of employee morale</td>
<td>Build human dimension into contract: Insist on turnover guarantees</td>
</tr>
<tr>
<td>Different legal and cultural standards</td>
<td>Insure against risks</td>
</tr>
<tr>
<td>Resilience of infrastructure</td>
<td>Run pilot operations until confident of the deliverables</td>
</tr>
<tr>
<td>Unexpected costs in the absence of airtight due diligence</td>
<td>“Best-of-breed” due diligence - Willing to spend the time and the money, or to sink the Project if It doesn't make sense / can't find the right partner(s)</td>
</tr>
<tr>
<td>Keeping track of regulatory changes, work status, contract changes, scope creep, communications</td>
<td>Establish fluid lines of communication with vendor</td>
</tr>
<tr>
<td>Confidentiality</td>
<td>Need a non-disclosure agreement</td>
</tr>
<tr>
<td>Access to information</td>
<td>Need strict access and change control, online change logs</td>
</tr>
<tr>
<td>Outsourced service supplier may pass information to third party (that can be damaging)</td>
<td>Liability insurance</td>
</tr>
<tr>
<td>Sustainability and reputation of company</td>
<td>Obtain and analyse financial results over five-year period</td>
</tr>
<tr>
<td>Expertise of staff</td>
<td>Obtain qualifications and expertise records</td>
</tr>
<tr>
<td>Security in terms of backups</td>
<td>Tested disaster recovery plans</td>
</tr>
<tr>
<td>Loss of connectivity</td>
<td>Tested disaster recovery plans</td>
</tr>
<tr>
<td>Security in terms of hacking and cracking</td>
<td>Security by strategic plan in terms of intrusion detection systems, firewalls, routers, switches, etc.</td>
</tr>
<tr>
<td>Lock-in through contractual obligations</td>
<td>Need clearly defined exit strategy</td>
</tr>
</tbody>
</table>

Kopp (2004)

### 2.11 Conclusion

This chapter focused on the literature review on the basis of which the empirical study took place.

In this chapter, the five aspects: (i) the strategic reasons for outsourcing; (ii) the reasons not to outsource; (iii) the different types of models available; (iv) the process to follow; and (v) the risks associated with outsourcing - were researched. This information forms the basis of the empirical study.
The following chapter will describe the events that occurred in the company and that ultimately led to the outsourcing of the information technology infrastructure.
CHAPTER 3

THE COMPANY SCENARIO

3.1 Trans Hex’s core business

Trans Hex operates on properties adjacent to the Orange River, on the border of Namibia and further inland in the Saxendrift area, and holds a number of sea concessions on the west coast of South Africa. The company also established an Angolan office in 2002; it currently has four joint-venture operations in the northern parts of Angola.

The mining, exploration and marketing of high-quality alluvial diamonds are the core business activities of the Trans Hex Group.

3.2 Background

By 2004, Trans Hex had run almost its entire information technology infrastructure past its “end-of-life” dates. The operating systems and most of the desktop software programs were all outdated and were no longer supported by the suppliers. The company’s business application, SAP, was also running on these outdated technologies. To add oil to fire, the information technology department was understaffed, with very little resilience. All of these became a major risk to the company, as business continuity was now seriously under pressure.

The information technology department highlighted these shortcomings and risks to senior management and proposed mitigation measures. After numerous meetings and discussions, an official audit was launched. The audit had to cover the entire information technology environment, identify the risks and make recommendations. For this purpose PriceWaterhouseCoopers Inc and KPMG were employed.
3.3 Internal and external audit findings and recommendations

3.3.1 PriceWaterhouseCoopers Inc

An internal audit control was performed by PriceWaterhouseCoopers Inc which specifically focused on the company’s enterprise resource system, SAP, and the information technology operations and maintenance. Their audit control report for the year ending 31 March 2004 reflected a number of risks which the company should address. (PriceWaterhouseCoopers Internal Control Report, Final Audit, for the year ended 31 March 2005, Reference HZ/da, 23 June 2005.)

3.3.1.1 As far as SAP was concerned, PriceWaterhouseCoopers Inc highlighted the following three risks and recommended mitigation controls:

(i) Users with wide access in SAP

They identified a number of users with *wide* access in SAP, which gave them access to sensitive areas in the system. The access they found was not in conjunction with the users’ job profile.

It was recommended that the access should be refined to remove unnecessary access to sensitive areas, and that monitoring controls should be implemented whereby financial transactions processed by users could be monitored to ensure good corporate governance.

(ii) Anomalies in change of control procedure

In order to make changes in a production environment, a strict set of rules should be adhered to. The auditors reported that some of these rules had been bypassed. They recommended revising the change of control procedure to a workable solution which should be adhered to consistently.

(iii) Inadequate release strategy configuration (SAP)

One of the key controls in the purchasing cycle is the required approval of all purchase requisitions. While auditing the release strategies a number of loopholes (or gaps) were identified within the purchase order release strategies. Any of these weaknesses could result in the execution of purchase orders /
requisitions without the required approval. Additional risks were identified in the configurable controls of the procurement cycle. All of these risks were subsequently raised to a high priority level and recommended to be eliminated immediately.

3.3.1.2 As far as the information technology environment was concerned, PriceWaterhouseCoopers Inc found a number of controls within the operations and maintenance of information technology environment that could be improved in order to contribute to a well-controlled environment. These areas included:

(i) Formal testing of backups was not performed.
(ii) Intruder detection procedures were not performed.
(iii) Maintenance agreements / contracts were not in place for the equipment in the data centre (uninterruptible power supply, air conditioner, etc.).
(iv) The uninterruptible power supply had not been tested.

3.3.1.3 The auditors reported that the findings described above posed the following risks to Trans Hex:

(i) There was a risk that systems might be unavailable for an extended period of time in the event of a disaster, if the backups were not adequate for restoration of the database.
(ii) Equipment might not function as expected when a disaster necessitated its use.

The auditors recommended that the relevant controls be implemented or incorporated into an outsourcing agreement.

3.3.2 M&I Group Services and KPMG

In October 2004 the Trans Hex Audit committee requested M&I Group Services to conduct an information technology risk assessment and a review of information security. The risk assessment was conducted using KPMG’s Information Technology Risk Management Benchmarking methodology which
assesses the level of risk and then benchmarks it against the level of risk and control in other similar organisations. The information technology security review was conducted using automated tools which were run on the Trans Hex network. The findings, documented in the KPMG report *IT Audit Risk Assessment Benchmarking Review, October 2005*, are discussed below.

### 3.3.2.1 Objectives and scope

The objectives of the review, as set out by KPMG, were as follows:

(i) To identify Trans Hex’s key information technology risks.

(ii) To assess the level of information technology risk after considering controls that were currently in place.

(iii) To benchmark Trans Hex’s level of information technology risk against a population of similar organisations.

(iv) To provide recommendations of areas that required improvement of controls in order to reduce the risk exposure.

The key risk and control areas included in their scope are given in Table 3.1.

<table>
<thead>
<tr>
<th>Key risk areas</th>
<th>Key control areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependence on IT internal staff</td>
<td>Management of IT</td>
</tr>
<tr>
<td>Dependence on third parties</td>
<td>Project and change management</td>
</tr>
<tr>
<td>Information technology skills and resources</td>
<td>Information technology operations</td>
</tr>
<tr>
<td>Information technology reliability</td>
<td>Security of information and systems</td>
</tr>
<tr>
<td>Changes in information technology</td>
<td>Continuity of systems</td>
</tr>
<tr>
<td>Legislative and regulatory environment</td>
<td>Controls assurance</td>
</tr>
<tr>
<td>Business focus</td>
<td>Senior management</td>
</tr>
<tr>
<td>Information assets</td>
<td>Systems</td>
</tr>
</tbody>
</table>
KPMG argued that their experience had shown that all information technology risks and controls could be grouped into these categories.

The benchmark information which is set out below in Figure 3.1 was based on a population of organisations in the mining sector across the globe with similar turnover to Trans Hex. These are the criteria applied because the risk profile may differ for different industries and for different size organisations.

### 3.3.2.2 Information technology risks

A workshop facilitated by KPMG had a very broad representation from across the business, which enabled KPMG to arrive at ratings that bear a true reflection of the whole business. The ratings for Trans Hex were based on principles that are consistent with those applied to the other organisations in the benchmark database.

Overall the level of information technology risk was rated as high for Trans Hex (4 on a 1-5 scale, with 5 being high risk), as can be observed from the risk ratings graph in Figure 3.1. KPMG reported that the risk ratings were a function of the industry and information technology environment in which Trans Hex operated and were in themselves no cause for concern. However, they confirmed that it is where there are no adequate controls in place that the group is exposed.

The following is an explanation of the graph (see Figure 3.1) below:

- The four quartiles on the graph represent the spread of scores in the population against which Trans Hex was benchmarked.
- The first quartile represents the scores of the top twenty five per cent of the population for which the scores ranged between just over three and five for business focus.
- The fourth quartile represents the scores of the bottom twenty five per cent of the population for which the scores ranged between one and two for business focus.
The black line is Trans Hex's ratings and shows that the Group’s ratings fall into the top two quartiles for all but two of the risk categories.

According to KPMG, Trans Hex’s high risk ratings would imply that, in order to manage its risk adequately, the control ratings (discussed below) should generally be at least four to mitigate these risks. KPMG found that relative to the benchmark population, Trans Hex was operating at a high level of IT risk; the risk, as mentioned above, is determined largely by the industry a company operates in and by the nature and structure of the current information technology environment.

Figure 3.1: Risks benchmarked
KPMG, *IT Audit Risk Assessment Benchmarking Review*, October 2005

### 3.3.2.3 Information technology controls

KPMG summarised the control ratings for Trans Hex in Figure 3.2. The scores were averaged for a number of detailed control areas that had been separately assessed, and then the averages were recorded in this graph. The quartiles operate on the same basis as the risk graph in Figure 3.1 (1 = weak control, 5 = strong control).

Observe from Figure 3.2 that the control scores are generally low. Relative to the population, most of the scores fall into the bottom two quartiles which confirm that the information technology controls that Trans Hex had in place are
weaker than those implemented by other organisations in the same industry. In addition, these scores are also considerably less than the risk ratings for Trans Hex which were generally at four. This indicates that not only was the level of control weak relative to the industry, but it also highlights that the company was not adequately managing its risk since the controls were not adequate to mitigate the risks.

![Figure 3.2: Risk control scores](image)

KPMG, *IT Audit Risk Assessment Benchmarking Review*, October 2005

### 3.3.2.4 Recommendations

Based on the risk assessment, KPMG concluded that the following five recommendations were key recommendations in reducing Trans Hex’s risk exposure:

(i) *Trans Hex needs to define its IT strategy*

This would include decisions such as:

- How the information technology department is represented at board level.
- What the structure of the information technology department should be and the services offered.
- A strategy on in-house versus outsourced information technology services.
They also recommended that certain of the information technology processes should be formalised, in particular:

- Information technology cost management.
- Performance reporting.
- Human resources.

This they believed was the most critical recommendation as it impacted the other recommendations below.

(ii) Project and change management to be formalised
The change management procedures regarding information technology needed to be formalised so that requested changes could be prioritised and evaluated in terms of a business case.

KPMG also found that there was a lot of processing of information happening outside of SAP, not subject to the IT control environment. A decision regarding this “end user computing” would need to be made as part of the overall information technology strategy, but if end user computing continued to its current extent in the company, guidelines (aligned with the information technology strategy) should be issued to bring some structure and formalisation to this environment.

KPMG highlighted that the informal way in which enhancements to systems and projects in general were run, made it more difficult to govern and control projects. They recommended that a formalised approach for enhancements and project management should be adopted to introduce a greater level of governance and to reduce risk in this area.

(iii) Security of information to be controlled
The audit found that there was no formalised and robust information security administration process in place for the group. They recommended that the company should focus on the security of its information, given the risk in this
area, and should implement information security processes that were robust and sustainable.

(iv) Business continuity should be planned
KPMG found that current backup strategies did not include all critical business information, such as the geological data (Geographic Information Systems). They recommended that these strategies needed modification to ensure that they include all critical information.

In addition, they found that there was no business continuity plan in place for the company. In particular, there was no continuity plan in place which set out the steps to be followed in the event of the head office building not being available. They recommended a business continuity plan to be developed immediately which should cover all key processes within the business and should be maintained and tested on a periodic basis.

(v) Security to be tightened up
KPMG also completed a detailed review of the IT security related controls at Trans Hex. Below are some of the key findings:

- There were no smoke detectors, nor any fire detection and suppression system within the data centre; this increased the risk of a fire causing major damage in the data centre.
- No additional controls had been implemented to secure laptops and other high risk workstations. Trans Hex had not performed a review of its data to ensure that high risk data were appropriately controlled and secured.
- The Windows NT environment faced two issues. Windows NT had reached its end of life at Microsoft; during 2004 only major security-related patches would be released, the following year no support or patches would be available. Trans Hex needed to implement a plan to upgrade its infrastructure and SAP servers within the next few months.
- The management of the PIX firewall was outsourced to Trans Hex’s internet provider. This placed the control of access into Trans Hex’s network in the
hands of a third party and was not recommended without adequate logging and monitoring, which was not in place.

These issues illustrate the lack of strategy and of formalisation of processes which have been referred to above and in KPMG’s view required urgent attention to reduce the company’s risk exposure.

### 3.3.2.5 KPMG’s conclusion

Overall, KPMG found the information technology environment at Trans Hex to be less formalised and structured than one would expect, given the company’s risk profile. A number of the issues raised relate to the lack of an information technology strategy that would both guide and drive the decision-making relating to information technology and that would also create additional focus on governance issues.

It was the view of KPMG that the current structure and level of resourcing in the information technology department were not adequate to mitigate the company’s risk. The information technology strategy, based on the business requirements, should set out the envisioned structure and direction of the department, ensuring that it is properly aligned with business strategy and that information technology is able to adequately support the needs of the business. They found that this was not the case, not due to the lack of performance of the information technology personnel who operated in a pressurised environment, but due more to the informal structure and the positioning of information technology within the business.

### 3.4 Outsource initiated

All these negative audit reports were subsequently presented to the Trans Hex Audit committee, which includes non-executive directors. A mandate was given to the Group Financial Manager to mitigate all information technology risks. Subsequently, the company embarked on the outsourcing route.
After numerous meetings and negotiations, a new information technology strategy was formed. This was accepted by senior management and subsequently presented to the Board for approval. The strategy got the green light from the Board of Directors, and Trans Hex commenced with the outsourcing process.

The information technology infrastructure was outsourced to CommsCo, and new technologies and services are currently in place. All the technical mundane work is now being done by CommsCo while the Trans Hex information technology staff, freed up from this work, now focuses on matters that are adding value to business.

3.5 Conclusion
This chapter documented a brief overview of the company and its core business, and addressed the scenarios that ultimately led to outsourcing of the information technology infrastructure in a transaction between Trans Hex and CommsCo. It also briefly touched on where the company is within the outsourcing process.

The following chapter will focus on the methodology followed during the research which includes but is not limited to sampling, surveys, interviews and presenting biographical details of the respondents.
CHAPTER 4

THE EMPIRICAL STUDY: THE METHODS USED

4.1 Introduction

In Chapter 2, the five aspects of outsourcing, which will be used to do “A critical analysis of the information technology infrastructure outsource deal between Trans Hex and CommsCo”, were discussed. These aspects will be used as part of the empirical research.

The purpose of this chapter is to describe the research methods used in order to find the solution to the problem defined in Chapter 1, Section 1.3.

4.2 Research design

4.2.1 Introduction

According to Aaker, Kumar and Day (2004:73) research design is the detailed blueprint used to guide the implementation of a research study towards the realisation of its objectives. The research design is therefore crucial and requires careful preparation as it represents the procedure to follow when conducting the experiment while at the same time trying to overcome the difficulties that would distort the results.

To this end, the author reports on the findings of a literature review of text concerned with experimental methodology which has guided the research design of his study.

4.2.2 Fundamentals of research design

Goddard and Melville (2001:2) state that research is about answering unanswered questions or creating that which does not exist, and not merely a process of collecting data as is sometimes suggested. Research as described by Leedy (1997:5) is a process through which researchers attempt to achieve
systematically and with support of data the answer to a question, the resolution to a problem or a greater understanding of a phenomenon.

The process which is being followed to achieve the required result is called *research methodology* (Leedy, 1997:5). Different kinds of research methodologies are used to address different kinds of research questions (Hague, 1993:9). Hague also states that each research method consists of a number of different stages, of which all are followed through systematically.

### 4.2.3 Different methodologies

Birley and Moreland (1998:31) argue that research methodologies can be classified in a number of different ways. There are writers who only distinguish between qualitative and quantitative and interventionist and non-interventionist methodologies.

Hague (1993:10-21) identifies six principal research methodologies which are briefly described as follows:

1. **Philosophical research**
   This type of research primarily focuses on language, its interpretations, structure and meaning.

2. **Historical research**
   This type of research begins when some event, development or experience in the past is questioned.

3. **Descriptive research**
   This type of research sets out to seek accurate and adequate descriptions of activities, objects, processes and persons.

4. **Experimental research**
   This is your typical “What if” analysis method. The primary focus of this type of research is to identify causal connections.
(v) **Phenomenological research**
This type of research in general begins with the proposition that any situation, circumstance or event offers, in itself, a potential for enquiry.

(vi) **Practical research**
This type of research describes an area of research which results in a product such as a painting, musical composition, etc which constitutes the main evidence of the research process.

Goddard and Melville (2001:8-10) identify or categorise four research methodologies in addition to those of Hague (1993); briefly they are:

(vii) **Creative research**
This type of research in essence involves the development of new theories, new procedure and new inventions. It includes both practical and theoretical research.

(viii) **Ex post facto research**
“Ex post facto” - meaning “after the fact” - research looks back at effects and tries to figure out the causes from these effects.

(ix) **Action research**
Goddard and Melville (2001:9) quote that “there is nothing as practical as a good theory”. This statement forms the basis for action research.

(x) **Expository research**
This type of research is based on existing information and primarily focuses on “review-type” reports.

4.3 **Experimental design**
With all these different methodologies in mind, the researcher decided to use the experimental or empirical methodology for the purpose of this dissertation. This allowed the author to control the situation so that one item of interest could be isolated and studied.
Derived from the words “experiment” and “observation”, *empirical* is defined as indicative of an activity that uses direct or indirect observation as its test of reality. (Wikimedia, 2005)

The researcher therefore attempted to accumulate evidence for or against this literature review, and to describe and analyse the results accurately.

### 4.3.1 Conducting the empirical study

The empirical study was done by means of an e-mail survey and one-on-one interviews. The questionnaire developed for this purpose served as the ultimate measuring tool. On return of the questionnaire, all the data was entered into a spreadsheet and the results were analysed.

The sampling procedures, the questionnaire, the e-mail survey, the interviews and the research response are discussed in detail below.

### 4.3.2 Sample

As defined by Allison, Owen, Rothwell, O’Sullivan, Sauners and Rice (1996: 30), “sample” refers to a group of subjects from whom you actually intend to collect information by means of interviewing, measuring, etc.

The subjects for the present sample survey were restricted to Trans Hex’s Executive Management only. Since these were the people who made the decisions, the opinion seems justified that by including any additional people in the sample the results might become skewed.

### 4.3.3 Target population

Allison *et al.* (1996:30) argue that the population is the larger collection of *all* the subjects, from which the researcher’s sample is drawn, and to which the researcher wishes to apply his conclusions.
According to them there exist really two populations within the researcher’s survey, and understanding how these populations relate to each other is the key to obtaining a sample that is representative of the population.

The *target population*, they say, is the population from which you would like to obtain a sample and to which you would like to apply your conclusions.

The *study population*, they say, simply consists of subjects whose characteristics are similar to those of the subjects in the sample.

By selecting the executive management team, this research made sure that the characteristics reflect those present in the target population. With this selection the aim was to ensure that the subjects in the sample are part of the target population; Figure 4.1 demonstrates this.

![Figure 4.1: Sample design](image)

Allison *et al.* (1996:31)

### 4.4 Sample design

#### 4.4.1 Population and samples

According to Goddard and Melville (2001:34) a population is any group that is the subject of research. Since it is often not practical or necessary to study the entire population, general findings are made on a subset of the population, called a sample, which is studied.
Moore (1987:34,35) argues that population refers to the people or objects under observation, while a sample is merely a group selected from this population.

4.4.2 Sampling methods

According to Leedy (1997:204) sampling can be divided into two major categories: (i) nonprobability sampling and (ii) probability sampling. These two are split by way of representing the population. The two major categories are divided into smaller categories which are briefly discussed below:

(i) Nonprobability sampling

By using this type of sampling, the researcher has no way of forecasting, estimating or guaranteeing that each element in the population will be represented in the sample (Leedy, 1997:204). Nonprobability sampling is divided into two sub-categories: convenience or accidental sampling and quota sampling.

- **Convenience or accidental sampling**

  Leedy (1997:204) argues that, during convenience sampling, no attempt is made to obtain a representative population; instead, units are taken as they arrive on the scene, while no attempt is being made to control bias. According to Leedy (1997:204), convenience sampling may be appropriate for less demanding kinds of data.

- **Quota sampling**

  This type of sampling is a variant of convenience sampling, in that it selects respondents in the same ratio as they are found in the general population. It is also a rather unregulated type of sampling with no limitations except the size of each category. (Leedy, 1997:205)

(ii) Probability sampling

By using this type of sampling, the researcher is able to specify in advance that each segment of the population will be represented in the sample. This is achieved by selecting a sample from the chosen target population by a process called randomization. (Leedy, 1997:205)
• Randomization
Applying this process means that the researcher selects a sample from the population in such a manner that the characteristic of each unit of the sample approximates the characteristics of the total population. (Leedy, 1997:205)

There are a number of methods of random sampling, among which are the roulette wheel method, the lottery method, the computer method and the table of numbers method. (Leedy, 1997:205,206)

Although Hague (1996:41-43) does not categorise his sampling methods into major categories and subcategories, he identified a few other sampling methods as described below:

(iii) Cluster sampling
This type of sampling divides the population into subgroups called clusters. The idea with cluster sampling is to have the various characteristics that the population might have represented in each cluster.

(iv) Judgmental sampling
Although very similar to quota sampling, no subgroups and no quotas are present; instead, subjects are included in the survey in such a manner that they are thought to be representative of the population.

(v) Stratified sampling
Derived from the word strata, this type of sampling is used when the population is thought to consist of smaller subgroups which are thought to have an effect on the data to be collected. With stratified sampling the idea is that the sample units in any particular stratum are as alike as possible.

The researcher decided to use cluster and stratified sampling, since it was believed that by using this design, a fair representation of the population and the data to be collected would be achieved.
By using cluster sampling Trans Hex Operations (Pty) Ltd was divided into areas of management: executive, general and production management.

By definition, stratified sampling is so called because the sample units in any stratum are as alike as possible; this is thought to be the case with executive management.

The author is aware that according to Allison et al. (1996:91) when subjects fail to respond, the sample ceases to be representative of the population. All subjects in the sample were therefore urged to respond, by using follow-up reminders.

By choosing the combination of the two methods of cluster and stratified sampling, the author tried to eliminate the possibility of bias.

4.4.3 Sample size

According to Leedy, (1997:210) the basic rule says that “the larger the sample, the better”. However this rule is of no real help if the researcher has a practical decision to make with respect to a unique situation. Goddard and Melville (2001:35) state that the sample must be large enough to correctly represent a population.

Krejcie and Morgan (1970:30,608) show the sample sizes required to adequately represent different populations. (see Figure 4.2)
It was determined that the population to be studied in Trans Hex is thirteen. According to Figure 4.2 a hundred per cent sample size is recommended, hence all thirteen executives were included in the sample. It is believed that this will adequately address the sample size. Moore (1987:35) argues that by varying the sample size one will get different degrees of accuracy. The number thirteen is also based on Goddard and Melville (2001:35) who state that the sample should be large enough to correctly represent the population.

4.4.4 Sample error

According to DSS Research (2001) every survey contains some form of error. A sampling error that might be encountered in the present survey is response bias. This happens when respondents deliberately misrepresent information when they are not certain of the facts.

In order to eliminate this error, the researcher supplied the subjects with explanations on certain issues. (see Appendix D)
4.4.5 Sample bias

It is the duty of the researcher to ensure that an unbiased sample is selected from the target population. Goddard and Melville (2001:36) argue that a sample is biased if it represents only a specific subgroup of the population or if particular subgroups are over- or underrepresented in it.

The present survey was limited to the executive management team only, and therefore the results may to some extent be biased.

4.5 Data collection methods

It was decided to use e-mail and one-on-one interviews as the two methods of data collection.

4.5.1 E-mail

This type of method was used because of the zero cost involved, and since it could reach the population easier and faster. A clear and unambiguous questionnaire was designed. The participants were given 24 hours to respond, after which a reminder was sent to expedite participation. All participants were assured anonymity to promote openness.

4.5.2 One-on-one interviews

Although this is a time-consuming method, certain sensitive issues like ethics and reasons for the selected outsource entity were best dealt with in one-on-one interviews. A series of structured interviews were held with a number of executives, to ask questions that required a considered answer and to obtain a cross-functional perspective on the outsourcing initiative. Questions included enter and exit strategies, contract development, personnel issues and critical success factors, with a strong emphasis on what characteristics influenced the outsource decision (see Appendix E). All interviewees were assured anonymity to promote openness. Interviews were held through personal meetings which lasted at most 30 minutes. Transcripts were sent to each of the respondents for review and approval.
4.6 Questionnaire design

Hague (1993:11) argues that questionnaires are vehicles by which people are interviewed. It provides the interviewer with a form on which to record answers. Without the form, he argues, the interview would have no structure.

Leedy (1997:191) argues that the questionnaire is a commonplace instrument for observing data beyond the physical reach of the observer.

According to Allison et al. (1996:69) some of the advantages of questionnaires are:

(i) Their accuracy.
(ii) Quick access to dispersed respondents.
(iii) The wide coverage in terms of topics and respondents.

Hague (1993:12) states that questionnaires primarily fulfil four purposes, which are:

(i) To draw accurate information from the respondent by asking the right question of the right person.
(ii) To give structure to the interview so that it follows sequentially and logically.
(iii) To provide a standard format on which facts, comments and attitudes can be recorded.
(iv) To facilitate data processing.

The literature review from Chapter 2 served as the input for developing the questionnaire (see Appendix B). The set of questions used in the questionnaire is the product of an in-depth study of the literature review and a reiterative process of verification and validation. The questionnaire used in this study was designed to accomplish the specific objectives of the research questions at hand. The specifics around the development of the questionnaire and covering letter are discussed below:
4.6.1 Questionnaire type

4.6.1.1 Qualitative
Allison et al. (1996:70) write that qualitative research is sometimes sufficient to give all the information needed where a convincing study might be made without any laborious numerical analysis. He also states that qualitative research is frequently used as a preliminary step towards quantitative data and that the methods used for data collection are usually observation and interviews.

4.6.1.2 Quantitative
Allison et al. (1996:70) argue that quantitative data are frequently gathered by using items of choice of predetermined responses for easy analysis, whereas qualitative research prevents prediction of the categories into which the data can be placed for analysis.

This research focused on quantitative research which assisted in collecting data that were placed in different categories and scales for easy analysis.

4.6.2 Questionnaire structure
According to Hague (1993:21) researchers recognise three different kinds of interviews, which in turn require three different kinds of questionnaires. These are:

4.6.2.1 Structured
With structured interviews, the questionnaires set out the exact wording of the questions and the order in which they will be asked. These are the foundation for large quantity surveys.
4.6.2.2 Semi-structured
These types of interviews use questionnaires with a mixture of questions with predefined answers as well as those where the respondent is free to comment as he likes.

4.6.2.3 Unstructured
A checklist of questions is used rather than a formal questionnaire. This is also referred to as an informal or depth interview.

Because the type of information under research could be answered with predefined answers, the researcher developed a structured questionnaire to collect the appropriate data.

4.6.3 Response format

4.6.3.1 Behavioral, attitudinal and classification questions
Semi-structured questionnaires are made up of three different kinds of questions, depending on the type of information which is being collected. Hague (1993:29) classifies these as per Table 4.1:

Table 4.1: Three different type of questions (Hague, 1993:30)

<table>
<thead>
<tr>
<th>Type of question</th>
<th>Information sought</th>
<th>Types of surveys where used</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Behavioural</td>
<td>Factual information on what the respondent is, does or owns.</td>
<td>To find out market size, market share, etc.</td>
</tr>
<tr>
<td>(ii) Attitudinal</td>
<td>What people think of things. Their image and ratings of things.</td>
<td>Image and attitude surveys, to build market share, etc</td>
</tr>
<tr>
<td>(iii) Classification</td>
<td>Information that can be used to group respondents</td>
<td>All surveys</td>
</tr>
</tbody>
</table>
4.6.3.2 Open-ended and closed questions

Hague (1993:38) argues that there is a further variation on behavioural, attitudinal and classification questions in that they can be open-ended or closed.

4.6.3.2.1 Open-ended questions

*Open-ended questions* allow the respondent to give any answer. Although questions may be asked in an open-ended manner, the researcher may have given some thought to the possible answers and listed a number of alternatives on the questionnaire. This is known as an *open-ended* question with a *closed* answer. (Hague, 1993:38)

4.6.3.2.2 Closed questions

In *closed questions* the replies have been anticipated so that the respondent is asked to choose one or other of the fixed response categories. (Hague, 1993:39)

Hague (1993:54) argues that closed questions have three main advantages to the researcher in that they:

(i) Save time during the interview because completing the questions merely means circles around the answers.

(ii) Assist the respondent as the thinking around the reply has already been carried out.

(iii) Make data analysis easier since dealing with open-ended responses is not required.

4.6.3.2.3 Scales

Hague identified a third style of question as a separate type, and although it is a special type of closed question it is known as a *scale*. (Hague, 1993:39) He explains that scales are questions in which a limited choice of responses has been chosen to measure attitude, an intention or some aspect of the respondent’s behaviour. (Hague, 1993:55) The scales are divided into five different categories (Hague, 1993:55):
(i) **Verbal rating scales**
Respondents choose a word or phrase on a scale to show the level of their feelings.

(ii) **Numerical rating scales**
In this kind of response the respondent is asked to give a numerical “score” rather than a semantic response.

(iii) **The use of adjectives**
Adjectives are used in a mixture of both positive and negative (and they are not required to be opposites) from which the respondent is asked to indicate the words best describing an entity such as a service, company, product, etc.

(iv) **The use of positioning statements**
These are the type of questions which require a simple agree or disagree. Respondents should be able to easily identify with the statements.

(v) **Ranking questions**
This type of scale is used to find out what is most important to a respondent. He will be presented with a list of factors and be asked to rank them in importance. As a general rule the respondent should only be asked to rank the top three as the lower he gets, the more they tend to merge in his mind and the harder it becomes to assign a rank.

Table 4.2 shows the combinations of types of questions with responses which could be employed in a questionnaire.
Table 4.2: Combination of questions (Hague, 1993:38)

<table>
<thead>
<tr>
<th>Type of question</th>
<th>Open-ended question</th>
<th>Closed question</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Behavioural</td>
<td>Free response</td>
<td>Fixed response</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fixed response</td>
</tr>
<tr>
<td>(ii) Attitudinal</td>
<td>Free response</td>
<td>Fixed response</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fixed response</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scalar response</td>
</tr>
<tr>
<td>(iii) Classification</td>
<td>Free response</td>
<td>Fixed response</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fixed response</td>
</tr>
</tbody>
</table>

In this project, use was made of classification questions to obtain the biographical data from the respondents. Closed questions were used in the rest of the questionnaire, together with two ranking questions. One verbal rating scale was used to determine user satisfaction.

4.6.4 Framing the questionnaire

Hague (1993:40) states that a successful questionnaire takes a respondent through the interview in such a way that he finds it easy to give accurate answers to the questions. Questionnaires, he argues, often do not bring the desired results, because the designer fails to see the questions from the point of view of the respondent.

Hague (1993:40) argued that bad questionnaires are those where the designer has thought about what is wanted from the survey but there has been very little consideration given to the respondent. This, he says, leads to questions that are too long, are unintelligible, and are too complicated.

4.6.5 Fundamentals of a questionnaire

Hague (1993:40) identified eight rules for the framing of a questionnaire:

(i)  *Think about the objectives of the survey*

The researcher should study the proposal, i.e. the statement of what is to be achieved and the methods involved, and list the objectives appropriate to the interview program. This ensures that the survey covers the required points and
also initiates a rough topic list which will eventually be converted into more precise questions. (Hague, 1993:42)

(ii)  *Think about how the interview will be carried out*
Careful consideration should be given to the way in which the interview will be carried out, as this has a definite bearing on the framing of the questions. So, for example, face-to-face interviews can be undertaken by an experienced researcher who can cope with much more difficult questions than would have to be used in a self-completion questionnaire. (Hague, 1993:43)

(iii)  *Think about the knowledge and interest of the respondent*
According to Hague (1993:44) the questions must be directed to a population in such a way that they lie within the scope, interest and experience of the respondents.

(iv)  *Think about the introduction*
Since the introduction is the first part of the questionnaire a respondent will see and read, it should *firstly* be made interesting and *secondly* clearly explain what it is all about. It is advisable to ensure the respondent of confidentiality and that there will be no follow-up pressure. (Hague, 1993:45)

(v)  *Think about the order of the questions*
Another important characteristic of a questionnaire is the sequence of the questions. Hague (1993:45) argues that the flow should be logically following from one question to the next; this will assist the respondent in collecting his thoughts in a sensible and logical way. Hague (1993:45) continues and argues that the body of the question itself should follow an obvious path to assist the thought process of the respondent. Another aspect Hague (1993:45) argues is that questions should start with those which are relatively easy to answer while more difficult or threatening ones should be left to the end.

(vi)  *Think about the type of questions*
It is important to frame the questionnaires in such a way that they don’t have long-winded questions. Researchers should also avoid questionnaires that are
made up entirely of closed questions and scales, since respondents might get frustrated if they are not able to express their own opinions beyond the fixed choices of responses with which they are presented. This in its totality might negatively influence the quality of the responses. (Hague, 1993:46)

(vii) *Think about the possible answer at the same time as you think about the questions*

When framing the questionnaire the researcher should have his mind focused on the respondent and think about the possible answer he might receive. This process will help tighten up and positively influence the shape of the questions. (Hague, 1993:46)

(viii) *Think about the data that will be processed*

As mentioned earlier, the data analysis could be a tedious and laborious exercise, especially if quite a lot of the questions have been directed towards free-ranging responses to open-ended questions. (Allison *et al.*, 1996:70)

### 4.6.6 Framing the questions

After deciding which style of question will be asked, i.e. open, closed or scales, the researcher frames the words to be asked. (Hague, 1993:63)

Hague explains that the four most important questions the researcher should ask himself when drafting a question are:

(i) Will the question be understood the way the researcher intends?

(ii) In how many possible ways could this question be interpreted by the respondent?

(iii) Is there a possibility that the question might annoy or offend the respondent?

(iv) Is there not perhaps a better way to phrase the question?

Leedy (1997:192) states that the language in the question must be unmistakably clear. Communication is a deceptive skill, he says, and the researcher should bear in mind that what may be clear to him, might be
meaningless jargon to another person. Therefore he argued that questionnaires should be designed to fulfil the specific research objective.

Hague (1993:64-71) explains that there are a number of do’s and don’ts in wording questions. The aim of the researcher is to get clarity and this can be achieved by the following simple rules:

(i)  *Ensure that your questions are without any bias*

One of the obvious ways of creating bias is presenting a question in such a fashion that the researcher leads the respondent into the answer. Another aspect is to consistently use the same descriptive word throughout, e.g. “good” and “not good” instead of “quite poor”.

(ii) *Avoid jargon and shorthand*

The researcher should not assume that the respondents will understand words that are common usage to the researcher.

(iii) *Avoid sophisticated and uncommon words*

The researcher should use terminology that is comfortable and familiar to the respondent.

(iv) *Use unambiguous words*

The researcher might know what he refers to when using words such as “usually” and “frequently”, but this might not be the case with the respondents; hence the researcher should avoid such wording at all costs.

(v)  *Ensure that the questions are as short as possible*

The researcher should avoid long questions as these may confuse the respondent.

(vi) *Ensure that the question is as simple as possible*

The researcher should avoid questions which include multiple ideas. Such questions will confuse the respondent causing an unintelligible answer to be given.
(vii) *Ensure that the questions are very specific*
Sometimes the researcher has to lengthen the question to provide memory cues. However, this must be pinned to a specific, be it a date, place or name, as this will reduce the chances of “over-claiming” in the responses.

(viii) *Ensure that the questions and answers do not conflict*
A danger occurs when trying to make a question clearer than necessary, thereby confusing the result.

(ix) *Minimize the number of key words*
Questions with a number of meaningful words could confuse the respondent, leaving the researcher unsure which word swayed the respondent.

(x) *Stay clear from questions with a negative in them*
Generally it is more difficult to understand questions framed in a negative manner.

(xi) *Stay clear from hypothetical questions*
Since there is a conditional process in a hypothesis it influences the respondents’ actions in the long run, causing such results to be unreliable.

(xii) *Avoid offering fixed alternatives which could both be valid*
It might irritate the respondent to feel that he is being forced into a situation that does not reflect reality. A typical example would be the question whether an item is either sweet or sour, when in fact it could be sweet-sour.

(xiii) *Keep questions within the respondents’ capabilities*
The researcher should know his target population and avoid questions where he perceives the respondents will lack the capability to answer. For example, it is senseless to ask operational personnel about strategic
issues of a company when you very well know that these are the issues only senior management will know.

(xiv) **Desensitise questions by opting for response bands**
Since data most often are grouped into bands once analysed, it makes sense to collect them in the same format. Data collection on sensitive issue such as age and private companies’ turnovers should therefore ideally take place using response bands.

(xv) **Ensure that the questions are easy for the respondents to answer**
This emphasises the point that instead of asking for a specific numerical value a band could be used. For example, instead of asking how much the company spent on technology, supply a number of ranges from which the respondents can choose.

(xvi) **Allow for “other” in fixed response questions**
The researcher should always make provision for responses other than those listed on the questionnaire.

(xvii) **Make sure that fixed responses do not overlap**
Although categories in a fixed-response question should be sequential, they should not overlap.

(xviii) **Consider “softening” knowledge-based questions**
When it requires of the researcher to ask a respondent about exact dates or prices, it is good practice to soften the question with something like “Can you recall offhand….”.

(xix) **Consider using projective questions where the subject is sensitive**
In certain cases respondents might not or do not want to admit to their actions or behaviour. During such occasions it is advisable to generalize the question by moving beyond the respondent and into a wider frame of reference.
4.6.7 Pre-testing the questionnaire

The questionnaire was pre-tested to ensure that the expectations of the researcher in terms of the data that is required from the questionnaire were met. Pre-testing was done by means of one-on-one interviews with two executives and by completion of the questionnaire by another two executives.

The questions were logically arranged according to the outsourcing process flow. The flow and the transition from one topic to another were tested, discussed and changed to suit. The executives removed a few of the questions deemed irrelevant and another few to be used only during the one-on-one interviews. This resulted in a clear questionnaire with a logical flow of all the questions.

The length of each section of the questionnaire was timed to ensure that minimum time is spent on it, because the survey took place during office hours. It was determined so that it takes no more than 7 minutes to complete. If a questionnaire takes too much time, respondents might lose interest and abandon completing the questionnaire.

Since the outsourcing contract is in its infant stage, it captured the interest of all respondents and subsequently got a seventy three per cent response rate.

As part of the pre-testing procedure the researcher also allowed two other professionals within the company to screen the questionnaire. They were asked to comment on issues like the use of technical jargon and difficulties with phrasing. Their valid comments were used to reword and rephrase the questions accordingly.

4.6.8 Measuring the questionnaire

According to Leedy (1997:32) validity and reliability “govern the acquisition of data and the skillfulness with which you design the research and create instruments of measurement as an integral part of it”. This implies to the
researcher that the questionnaire must at all times adhere to these two attributes.

### 4.6.8.1 Validity

*Validity*, Leedy (1997:32) argues, is concerned with the dependability and effectiveness of the measuring instrument.

Although there are several types of validity, Leedy (1997:33,34) gives the six most common types as:

1. **Face validity**
   This type of validity relies on the subjective judgment of the researcher.

2. **Criterion validity**
   This type of validity is determined by relating the performance of one measure to that of another measure.

3. **Content validity**
   This denotes the accuracy to which an instrument measures the content being studied.

4. **Construct validity**
   This type of validity is concerned with the degree to which the construct itself is being measured.

5. **Internal validity**
   As Leedy (1997:32) puts it: “the freedom from bias in forming conclusions in view of data”.

6. **External validity**
   This type of validity describes whether conclusions drawn from a sample can be generalised.
Leedy (1997:34) argues that validity looks at the end results of the measurement. Hence, once all the data have been collected and analysed, the researcher should ascertain whether he is really measuring what he thinks he is measuring.

4.6.8.2 Reliability

In brief, Leedy (1997:35) describes reliability as “the consistency with which a measuring instrument performs”.

He points out that there are a number of methods used to establish reliability, three of which are:

(i) **Test-retest**
This method compares the results of two administrators using the same measuring instrument, separated by a time interval.

(ii) **Cronbach’s alpha coefficient**
This method involves correlating every test item with one another. A score of 0.70 is acceptable but the higher the score, the better the evidence that the items in the instrument are measuring the same trait.

(iii) **Recording the same behaviours in the same situation**
This method seeks to establish interrogator reliability. Two or more observers of the same situation must record the same behaviours. An acceptable percentage is agreed upon.

Goddard and Melville (2001:46) report two additional reliability tests, which are:

(iv) **The equivalent forms approach**
Each question on the original questionnaire is rephrased so that the researcher ends up with two questionnaires that “look different” but actually ask the same questions.
(v) The split-half approach.
A modification of the equivalent forms method; the two questionnaires are combined into one document.

Because of the time constraints involved, the split-half approach was used in the present research in order to test reliability, by using two answers of the same respondents. The questionnaire consisted of pairs of the same questions but phrased differently and at different positions (see Appendix C). The results from the reliability test came back as eighty six per cent.

Respondents were also asked whether the questionnaire was difficult and time consuming to complete. All respondents except one replied that they faced no difficulties in completing the questionnaire.

It was therefore concluded that the more valid and reliable the measuring instrument is - in this case, the questionnaire - the more likely it is that the researcher will get more credible results from the data collected, and therefore produce a more credible solution to his problem.

4.6.9 Covering letter to questionnaire
Allison et al. (1996:91) believe that the respondents to a questionnaire need an explanation why they should cooperate by completing it. This, they say, normally calls for a covering letter. Questionnaires within a company may only require a few introductory lines at the beginning of the questionnaire itself. They believed that the potential respondent should be given reasons why he should comply and should also be assured confidentiality. They also argue that the return date and time should be on the questionnaire rather than the covering letter. And, very importantly, those who cooperated should be thanked.

In the present case, a covering letter (Appendix A) accompanied the questionnaire (Appendix B), explaining briefly the aim of the research. Because of the urgency of the results, the return date was put on both the covering letter and the questionnaire. The respondents were assured of the confidentiality of
their questionnaires. As an incentive participants were promised the results of the survey which they duly received once it was processed.

4.6.10 Survey management

4.6.10.1 Administering the survey questionnaire

The questionnaires, together with covering letters explaining the objectives of the survey, were sent with a built-in electronic reminder to each of the thirteen selected subjects via electronic mail. As the questionnaires returned, the predefined subject list was updated. Additional follow-up mails were sent to those who did not reply within the first four hours.

It should be reiterated that when working with a smaller pool of respondents, the results could be biased. However, including additional persons in the sample who did not have the required knowledge of the outsourcing initiative could skew the results.

4.6.10.2 Response rate

Although the sample size was small, it represented the whole executive management. It was decided at the outset to set a high response rate of seventy per cent. This rate was chosen so that the rate of returns would be large enough to establish a representative and credible set of data.

From the thirteen executives, two were out of the country and in no position to answer the questionnaire. A total of nine questionnaires were returned of which eight were usable. The response rate was eighty three per cent of the eleven possible participants.

One questionnaire was returned unanswered. The respondent explained that the questions were too technical and detailed for him to express a valuable opinion, and on that basis he declined to complete the questionnaire. This proves that since pre-testing is only done on a selected few, questionnaires can still be difficult for other participants to complete.
This response rate is acceptable if one bears in mind that obtaining answers from surveys conducted amongst executives is problematic due to their busy schedules and focus on their jobs.

4.7 Presentation of data collected

Section A of the questionnaire required of the respondents to complete general biographical data, while section B covered the outsourcing transaction.

As for the presentation of the results obtained in the empirical study, the first data to be referred to are the general biographical details of the respondents, such as the number of responses per division, the number of years the respondents have been employed in the company, and how much of their time they have spent in their current positions. The biographical data results are presented below followed by a brief discussion of the data.

Table 4.3: Responses according to division employed.

<table>
<thead>
<tr>
<th>Division</th>
<th>Number</th>
<th>Questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine</td>
<td>1</td>
<td>Accepted</td>
</tr>
<tr>
<td>General</td>
<td>1</td>
<td>Accepted</td>
</tr>
<tr>
<td>Projects</td>
<td>2</td>
<td>Accepted</td>
</tr>
<tr>
<td>New Business</td>
<td>1</td>
<td>Unusable</td>
</tr>
<tr>
<td>Corporate</td>
<td>1</td>
<td>Accepted</td>
</tr>
<tr>
<td>LOR</td>
<td>1</td>
<td>Accepted</td>
</tr>
<tr>
<td>Financial</td>
<td>1</td>
<td>Accepted</td>
</tr>
<tr>
<td>HR</td>
<td>1</td>
<td>Accepted</td>
</tr>
<tr>
<td><strong>Total Respondents</strong></td>
<td><strong>9</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: Survey questionnaire, Section A
From Table 4.3 and Chart 4.1 it can be observed that the respondents constitute a fair spread over the different divisions of the company, with Projects representing the highest number of respondents.

Chart 4.2 depicts the number of years the respondents have been employed in the company, and the number of years they have occupied their current position:

- Seventy five per cent of the respondents have been in the company’s employment for less than five years
- Eighty eight per cent of the respondents have been in their current position for less than five years
- Twenty five per cent and twelve per cent of the respondents have been employed by the company and in their current positions respectively, for between six and ten years.

The data collected also indicate that the company has a fairly young executive team, with only twelve per cent of the respondents having been in their current position for more than five years.

4.8 Conclusion

The primary aim of this chapter was to document the research methodology that was used during the study as well as the quantitative analysis of biographical details of the respondents.

During the discussion of the methodology, special attention was given to the population and the selection of the sample. The sample had to be representative of the population without being biased. Although there are ways to eliminate bias, the sample size was of such a nature that these methodologies were deemed unnecessary, since a whole subgroup was selected consisting of thirteen subjects. This was thought to be fairly representative of the population. Much thought was given to the method of data collection and it was decided to use e-mail and one-on-one interviews as the preferred methods. The development of the questionnaire was another serious consideration. Since the way in which questions are designed and asked could influence the expected results, it was decided to restrict the questionnaire to closed questions and scale ratings. Using the split-half methodology, it was possible to do a reliability test on the closed questions which returned satisfying results.

The designs described in this chapter enabled the researcher to develop a survey plan; it is summarised below.
<table>
<thead>
<tr>
<th>Survey Title</th>
<th>A critical analysis of the information technology infrastructure outsource deal between Trans Hex Operations (Pty) Ltd and CommsCo.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aims of the survey</td>
<td>To obtain information on the information technology outsourcing deal between Trans Hex and CommsCo from the identified population of the company, in order to determine (i) if it was strategically the right thing to do, (ii) if good corporate governance and business ethics were followed, and (iii) the risk mitigation and sharing, thereby establishing the views of the company on the information technology outsourcing deal.</td>
</tr>
<tr>
<td>Location of the survey</td>
<td>Parow, Baken and Ventersdorp.</td>
</tr>
</tbody>
</table>

**Population and sample details**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Decision makers of Trans Hex Operations (Pty) Ltd.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sampling unit</td>
<td>The executive management team.</td>
</tr>
<tr>
<td>Target population</td>
<td>All executive management members.</td>
</tr>
<tr>
<td>Type of sample design to be used</td>
<td>Cluster and stratified.</td>
</tr>
<tr>
<td>Details of how subjects were selected</td>
<td>It was agreed with the Company Secretary, Industrial Relations Manager and Group Finance Manager that the survey should only target executive management.</td>
</tr>
</tbody>
</table>

**Questionnaire details**

<table>
<thead>
<tr>
<th>Interviews</th>
<th>The unstructured method was applied.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of questions</td>
<td>Questions asked were both open-ended and closed. The latter also included the sub-type <em>scales</em>.</td>
</tr>
<tr>
<td>Framing the questions</td>
<td>Questions were framed according to the principles set out by Hague (1998) (see section 4.6.5).</td>
</tr>
</tbody>
</table>

**Data collection and presentation**

<table>
<thead>
<tr>
<th>Collection</th>
<th>Done through e-mail and one-on-one interviews.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation</td>
<td>Excel was used to assist in the analysis of the results.</td>
</tr>
</tbody>
</table>
5.1 Introduction

In Chapter 4, the research methodology used throughout the study was discussed. Additionally, the biographical data obtained from Section A of the questionnaire was presented.

The purpose of this chapter is to use the information obtained from Section B of the questionnaire and to do “A critical analysis of the information technology infrastructure outsource deal between Trans Hex and CommsCo”.

The results obtained from Section B of the questionnaire are presented in this chapter. Section B was designed with the sole purpose of covering most of the literature review presented in Chapter 2. There are items not covered in the questionnaire, but these were asked during the one-on-one interviews.

A summary of the findings has been organised and presented in the same manner as that of the questionnaire. Although the same numbers were kept, the sequence of the questions was changed for ease of presentation. The tool used to calculate the presented outcomes was Microsoft Excel 2003, running on Windows XP Professional (SP2).

5.2 Outsource awareness

<table>
<thead>
<tr>
<th>RESULTS</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Were you aware that IT was going to be outsourced?</td>
<td>100 %</td>
<td>0 %</td>
</tr>
</tbody>
</table>

At hundred per cent it is quite clear that all the respondents were aware that Trans Hex was about to outsource its information technology infrastructure to
CommsCo. This is expected as the sample consisted of executive management.

The way in which the outsourcing company was selected is by no means industry standard. Processes described in the literature included steps like a request for proposals, and vendor selection. Even where companies already had relationships with their selected service provider and had predefined vendor lists, the process of vendor selection still took place through competitive bidding. Selecting a vendor is one of the critical success factors in an outsourcing initiative. (Hurley & Schaumann, 1997:30)

By doing follow-up interviews by telephone, it was determined that middle management staff were not aware of the forthcoming outsourcing deal, especially those on remote locations. An interview with the Company Secretary revealed that the outsourcing initiative was given more consideration because of its strategic implications, and therefore only discussed amongst the executive team. Because of the strategic nature, it was therefore never the intention of the company to involve middle and lower management on this issue.

5.3 Outsourced assets

In the literature review the researcher discussed which assets could be outsourced. By applying the Alcatel (2004) model (see Figure 2.9), information technology infrastructure, which falls under network assets, is a good candidate for outsourcing.
5.4 Strategic reasons to outsource

<table>
<thead>
<tr>
<th>QUESTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. Rank in importance the strategic reasons for Trans Hex outsourcing to CommsCo (Scale of 1 to 13; 13 is the lowest)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RANK</strong></td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>8</td>
</tr>
<tr>
<td>9</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>11</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>13</td>
</tr>
</tbody>
</table>

Although risk mitigation (number seven) was cited as the initial reason to outsource, most executives changed their minds and now agree that improving business and information flexibility is the primary reason why the company outsourced. Unfortunately, European executives indicated that the goal most often not reached is “improving business and IT flexibility.” (CSC, 2003)

Improving company focus came a close second to improving business and IT flexibility as a reason why the company chose to outsource. In general, outsourcing allows a company to focus on its strategic business issues and
allows the outsourced service supplier to concentrate on all the mundane operational details.

The small information technology department with its decreasing budget and limited resources had not been able to deliver according to company expectations. *Improvements in service delivery and quality of service* were therefore, not surprisingly, ranked third and fourth respectively by the executives. Power *et al.* (2004:42) argue that the client company must set realistic goals that will allow the outsourced service supplier to gradually improve delivery and quality over time, on objective metrics mutually agreed upon.

Executives ranked *cutting and controlling costs* well down the list and only as the fifth reason why the company should have outsourced. This is similar to those of European executives where they ranked reducing costs as only their fourth reason to outsource. (CSC, 2005). Hurley and Schaumann (1997:126) also found that while economic reasons are the most talked-about reason to outsource, they are not the dominant reasons. And while costs will always be a factor in any business case involving outsourcing arrangements, they are not the ultimate factor. Mclvor (2000:22) reported that a survey done by PA Consulting Group (1996) found that only five per cent of companies had achieved the desired cost benefits from outsourcing. It is primarily small companies which benefit through economies of scale. (Embleton, 1998:98)

Another top reason (which the executive driving the outsourcing process deemed as important) was to *free up the internal resources* from mundane high-tech work, and to redirect these individuals, according to their skills set, from non-core activities toward business activities that provide a better return in serving the company. Yet this reason was only ranked sixth overall by executives as a reason to outsource.

*Risk mitigation*, originally cited as the primary drive behind the outsourcing initiative, now slots in well down the list at seventh place.
Although *gaining access to new technologies* was the main reason of satisfaction with the new outsourcing entity, it was only ranked eighth as a reason why the company had decided to embark on the outsource initiative. Hurley and Schaumann (1997:126) reported that *The Economist*, and many other measurement bodies failed to find any increase in productivity in proportion to the increase in expenditure on information technology.

With the limited internal resources it was difficult to maintain a certain service level agreement, especially in terms of turnaround times. Yet *defined service levels* were ranked a mere ninth as a reason to outsource. This indicated to the present author that the company could do business as usual regardless of the service levels, and somehow accepted this kind of response.

Linder (2004:26) argues that *transformational outsourcing* as a strategy “seeks a rapid, sustainable, step-change improvement in enterprise level performance”. Linder (2004:26) found that transformational outsourcing can be used to catalyse change within the business. Yet the executives ranked *enabling business transformation* as low as tenth among reasons to outsource.

*Gaining access to skills and expertise* was the eleventh-ranked reason why the company should outsource. During a follow-up interview the author was assured that the internal skill-set was adequate but that additional staff was requested. By nature of specialization the outsourced service supplier filled this gap, bringing specialized skills and resilience to the table. However, the company faces a bigger risk of losing both internal and external skills and capabilities. Leavy (2004:23) argues that “hasty and near-sighted outsourcing may result in the loss of unintended transfer of critical learning opportunities”. He warns companies not to allow this to happen, since they will thereby cede the opportunity of skills development within their own company and find themselves heavily dependent on the outsourced service supplier. Juma’h and Wood (2000:267) argue that with an increase of outsourced functions, the value chain of the outsourcing company will change and outsourcing companies will become more dependent on the service provider.
The difficulty in managing the information technology function together with changing the fixed asset basis were at the bottom of the reasons why a company should consider outsourcing, ranked twelfth and thirteenth respectively by the respondents.

5.5 Strategic reasons why not to outsource

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>12. Rank in importance the risks in outsourcing the IT infrastructure to CommsCo (Scale of 1 to 13; 13 is the lowest)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESULTS</td>
<td>RANK</td>
</tr>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>13</td>
</tr>
</tbody>
</table>
Because of the sensitive nature of the business in which Trans Hex operates, *security issues*, ranked number one, carried the highest risks and were sighted as the most important reason why not to outsource. Since a service provider provides a service to a lot of customers, and employs a number of people, access to company information is possible. The best method to ensure protection of company data is to limit the outsourcing to a service-providing entity that can guarantee impeccable security. Confidentiality should be enforced through policies and procedures. Although there is no proven way to eliminate security risks, there are many ways to reduce it by following a tested methodology. Confidentiality should be negotiated within the outsourcing contract to ensure that security issues such as integrity, validity, authorisation and privacy are fulfilled.

The *lack of compliance with the contract* was cited as the second most important reason why executives believe the company should not have outsourced, followed closely by *excessive dependence on the outsourcer* in third. As internal information technology personnel were redeployed in different sections within the company, the dependence on the outsourcer increased. A similar situation arises when new technologies are introduced and the skills are only developed at the outsource service provider.

At number four, executives ranked the *unclear cost-benefit relationship* as another primary reason why the company should not have outsourced.

Another risk to outsourcing is the *potential of cost escalation*, and ranking it at number five, executives showed they are seriously concerned about this. Trans Hex is known throughout the industry as a “low cost producer” and any escalation in costs, like in any other company, influences the profits negatively.

The *possibility of lack of service delivery*, ranked sixth, is another reason why the company should not have outsourced. This has been strengthened by the number of non-delivery and disruptive incidents the company has had to endure over the last few months.
Hidden costs in the contract are cited as only the seventh ranked risk why the company should not have outsourced. This risk is in the present case mitigated by faith in the executives who manage the service provider; both are qualified chartered accountants and can be entrusted to ensure that no hidden costs remain within the outsourcing contract. Hendry (1997:23) argues that the negative effects of outsourcing and their associated costs are hard to measure, but they should not be ignored as they are the real hidden costs within an outsourcing initiative.

Executives ranked loss of control over the function eighth, well down the list of outsourcing risks, and it does not look as if executives are too concerned about this.

Executives also believed that the long-term commitment of the service provider is not a high risk and ranked it ninth. The Remgro group relationship mitigates this risk to a high extent. Remgro has a forty nine per cent stake in CommsCo and a thirty four per cent stake holding in Trans Hex.

At place ten, the competence of the service provider’s staff is also not considered to be a high risk why the company should not have outsourced. Experience thus far in this process has shown that the outsourced service supplier employs fairly highly skilled people.

Lack of flexibility is well down the list of risks and was ranked eleventh by the respondents. Hendry (1997:23) argues that early awareness of changes might touch a peripheral part of a business like information technology first, which might be important to the company as a whole; but since this function is outsourced this kind of awareness may be lost.

Irreversibility of the decision is also well down the list of risks. Ranking it second from the bottom at number twelve, executives do not see this as a major concern or risk. As was stated during a discussion, if they find that a decision previously made is to the detriment of the company, they will endeavour to correct (reverse) such a decision. However, Embleton (1998:99) argues that
once a process is handed over to the outsource service provider, it becomes extremely difficult and costly to bring it back in-house.

Although *cultural mismatch* was in the present case ranked bottom of the list (number thirteen) by the respondents, Hendry (1997:22) believes that unless service providers form part of the company culture, they may have the information to do the job efficiently but could operate in a cultural vacuum, which will degrade effectiveness.

5.6 The adopted model

5.6.1 Offshore versus onshore

The offshore model refers to the contracting-out of business functions or processes to companies in lower-cost, primarily developing countries. The inclination of companies towards foreign outsourcing is a continuation of longstanding practices of cost savings, primarily due to lower labour costs. However, the complexity of foreign legislation like tax laws, intellectual property and privacy remain a deterrent to offshore outsourcing. In addition, legislation is continuously changing; keeping up with these changes requires significant attention and makes offshoring risky.

Trans Hex opted for offsite/onshore outsourcing primarily because of the strong Remgro group connection. This model is less complex and offers fewer risks than offshoring. The offsite option addressed two of the high risks which are:

(i) Offsite location for its business application in case of disaster
(ii) A well-established data centre.

5.6.2 Capital expenditure versus Operational expenditure

CAPEX (acronym for capital expenditure) includes investments in network infrastructure, data centre infrastructure and software systems etc. OPEX (acronym for operational expenditures), on the other hand, has to do with the cost of labour for network management, enterprise resource planning systems and customer relationship management, software support, marketing etc.
Operational costs by their nature are in most cases higher than capital investments.

Juma’h and Wood (2000:272) argue that the outsourcing charge is expected to be less than the company’s internal costs of managing the process. Hence it is expected that value is added to the contract by less expenditure than the increase in bought-in materials and services.

The company chose the OPEX model for its flexibility for replacing and purchasing of equipment. It is the intention of the company to refresh its information technology infrastructure every three years. The OPEX model makes this easier to execute, transferring the responsibility of disposing of the old assets to the outsource service provider.

5.6.3 Traditional outsourcing versus ASP versus utility computing

The company first approached the service supplier because of its strategy of seeking “economies of scale”, expecting to make use of the supplier’s better infrastructure. It turned out that the service supplier did not have sufficient resources, and the ASP strategy was subsequently abandoned.

Although utility computing looked like the ideal solution, especially with its lower costs, reduced complexity and increased responsiveness, the market in which this model exists is still relatively immature. This was a risk to the company and it subsequently abandoned this strategy as well.

Although traditional outsourcing returned mixed results in terms of successes and failures over the years, it was chosen as the best solution by the company, as this market is stable and well matured. This type of outsourcing has one particular risk in that it can be very disruptive to the business. In addition the paying client usually has limited leverage over costs.
5.7 The outsource process followed

<table>
<thead>
<tr>
<th>RESULTS</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. A decision to outsource should start with a sound business plan. Did the company have such a plan when it decided to outsource?</td>
<td>63%</td>
<td>37%</td>
</tr>
</tbody>
</table>

Although sixty three per cent of the population agreed that the company had a business plan in place when it decided to outsource, thirty seven per cent were sceptical and responded “no”. According to Zhu et al. (2001:374) a business plan should be in place that adequately identifies all costs associated with the current method of conducting business and all costs that are anticipated once outsourcing is deployed.

When asked whether a vendor agreement was in place before the outsourcing process started, it was revealed that no agreement was in place but that, instead, a letter of intent was signed and deemed sufficient to initiate the outsource process. It was ultimately approved by the board of directors.

<table>
<thead>
<tr>
<th>RESULTS</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Does the 80:20 rule apply? (80% of the benefit accrues from 20% of the effort)</td>
<td>88%</td>
<td>12%</td>
</tr>
</tbody>
</table>

The 80/20 rule, also called the Pareto Principle, says that twenty per cent of your activities will account for eighty per cent of your results; meaning that twenty per cent of the tasks which the company had outsourced will be performed by the service-provider company and should account for eighty per cent of the value of what they do. Eighty eight per cent of executives agreed that this is the case, while twelve per cent disagreed.
It would appear that the executives have a split view on this issue; however, seventy one per cent agreed that they had a transition plan in place, with twenty nine per cent disagreeing. Zhu *et al.* (2001:374) describes the transition plan as a document that identifies and details all the functions that must be performed to accomplish a successful transition.

Executives agreed hundred per cent that the outsource process was transparent, with thirty eight per cent who strongly agreed. However, the process was not open to the rest of Trans Hex employees for public scrutiny; neither was it subject to clear methods of challenge or amendment from them.

Although eighty eight per cent of the population agreed that both parties benefited from the outsource deal - with fifty per cent *strongly* agreeing - twelve per cent of the population disagreed.
The eighty eight per cent who agreed believed that Trans Hex benefited through:

(i) New technologies which were introduced, making personnel more effective and efficient.
(ii) The complement of much needed expertise and skills.
(iii) Freeing up its own personnel from mundane work, and having them redeployed in functions where a high business value is delivered.

The eighty eight per cent who agreed believed that CommsCo benefited through:

(i) The financial transaction.
(ii) Improved public perception.

The remaining twelve per cent believed that Trans Hex did not benefit from the transaction; instead, this faction believed that Trans Hex was disadvantaged by:

(i) The negative financial implications on its balance sheet.
(ii) The disruptions and poor delivery record thus far.

<table>
<thead>
<tr>
<th>RESULTS</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Do you agree that the outsourcing deal between CommsCo and Trans Hex was well communicated?</td>
<td>50 %</td>
<td>38 %</td>
<td>12 %</td>
<td>0 %</td>
</tr>
</tbody>
</table>

Eighty eight per cent of the population agreed that the outsourcing deal was well communicated; of these, fifty per cent strongly agreed. The remaining twelve per cent of the population disagreed, indicating that the deal was not communicated well.

It is imperative that an outsourcing deal be formally communicated to all stakeholders. Failing this, rumours will start which can impact at all levels of the company, instilling fear and creating a negative effect on the productivity of the personnel. Communication with personnel who will be directly affected by the outsourcing decision - typically, your information technology personnel - is
essential as these people will need to understand their roles and responsibilities in the process. The company should be open with personnel regarding a possible transfer to the outsource service supplier, a possibility of being retrenched or a possibility of being transferred to another department within the company. (Power et al., 2004:38)

A formal communication plan which includes the purpose of the outsourcing and key milestones together with time frames, should describe which processes are involved, and how often the company will be informed of what is happening within the outsourcing process. (Power et al., 2004:38)

<table>
<thead>
<tr>
<th>RESULTS</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Do you agree that Trans Hex has the skills to manage the outsource?</td>
<td>43 %</td>
<td>43 %</td>
<td>14 %</td>
<td>0 %</td>
</tr>
</tbody>
</table>

A majority of eighty six per cent of the population agreed that the company had the skills to manage the outsource deal while only fourteen per cent believed that Trans Hex lacked the necessary skills.

It was agreed by the executives that the person responsible for driving the outsourcing process should understand the company’s culture, processes, policies and procedures and be complemented with previous outsourcing experience. The chosen person managing the outsourcing process is a qualified and trained chartered account with all the necessary traits, including previous experience of outsourcing deals.
5.8 Risks mitigated

<table>
<thead>
<tr>
<th>RESULTS</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Risk was cited as the primary reason for outsourcing. Do you agree that this is enough reason to outsource?</td>
<td>12 %</td>
<td>63 %</td>
<td>25 %</td>
<td>0 %</td>
</tr>
</tbody>
</table>

The mitigation of all the information technology infrastructure risks was cited as the primary reason for outsourcing. Considered a strategic decision, executive management opted to outsource even though the decision entailed various risks and problems. The majority, an overwhelming seventy five per cent of the population, agreed that this was enough reason to outsource. Twenty five per cent disagreed, indicating there should have been more than just this one reason before the company could decide to outsource.

While not all the risks highlighted by the auditors were mitigated, the outsourcing brought additional but different risks to the company.

5.9 Views on the service provider

<table>
<thead>
<tr>
<th>RESULTS</th>
<th>Vendor</th>
<th>Partner</th>
<th>Service Provider</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. What do you consider our outsourcing entity (CommsCo) to be?</td>
<td>12 %</td>
<td>63 %</td>
<td>25 %</td>
<td>0 %</td>
</tr>
</tbody>
</table>

With question four the survey attempts to determine what views the respondents hold with regard to the type of relationship they have with the outsourcing entity.

At sixty three per cent, the majority of the respondents hold a positive view of the outsourcing entity by indicating that they see CommsCo as a partner. A
business partnership holds one clear advantage in that it brings complementary skills and resources together which are jointly utilised to increase shareholder value. Partnerships normally recognise the opportunities to work together for mutual benefit in a long-term relationship. To the contrary, Lacity and Hirchheim (1995b:242) argue “that the first step to a successful outsourcing arrangement is to realize that outsourcing vendors are not partners because profit motives are not shared.”

Twenty five per cent of the population holds the view that the outsource service supplier is a service provider. This is in fact CommsCo’s core competence, i.e. to provide a service. It is believed that by viewing CommsCo as a service provider, the respondents indicate a sense of distance, something on the side, something not part of the company. This view, as indicated by the remaining twelve per cent, appears to point towards a very cold relationship. This kind of relationship is anticipated between a business and a commodity supplier. Hence it is a relationship type that Trans Hex should try to avoid at all costs.

Zhu et al. (2001:375) argue that the business relationship between the outsourcer and the supplier should be clear to all parties prior to signing the outsourcing contract.

<table>
<thead>
<tr>
<th>RESULTS</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. Please mark your level of satisfaction with the outsourced service contractor (CommsCo)</td>
<td>75 %</td>
<td>25 %</td>
<td>0 %</td>
</tr>
</tbody>
</table>

Although this is still very early into the outsourcing transaction (five months), the researcher attempted to establish the level of satisfaction with the outsourced service supplier. Although a clear majority indicated their satisfaction, the survey determined that there was a sense of dissatisfaction amongst twenty five per cent of the population. During a follow-up interview, it was determined that this was because the dissatisfied population has had quite a few disruptive experiences over the last five months.
5.10 Conclusion

The purpose of this chapter was to analyse and interpret the results of the empirical study which was presented in tabular form. The analysis and interpretation were undertaken in terms of the objectives of the research as set out in Chapter 1. The evaluation was based on the literature review from Chapter 2 and the company scenario from Chapter 3.

The research showed that a group of executives together with the board of directors made the decision to outsource. The results show that the primary reason to outsource changed from risk mitigation to improving the business and information technology flexibility, while security issues were cited as the top reason why the company should not have outsourced. A “best-fit” was adopted by the company in the form of the onshore and OPEX models together with traditional outsourcing. The outsourcing process which the company followed was analysed and it was established that there is room for improvement. It was also established that although certain risks were mitigated, outsourcing brought additional risks.

Chapter 6 will focus on the conclusions and different recommendations based on the findings of Chapter 5. Problems and limitations encountered during the research together with further research opportunities will be discussed.
CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction
This last chapter will focus on the problems and limitations experienced during the research project, a summary of the findings, recommendations for improvement, opportunities for further research and finally a section to conclude.

6.2 Problems and limitations
The sensitivity of data within the company tended to be a problem, and special permission had to be obtained in a number of cases. To stay aboveboard, certain questions were removed from the original questionnaire, while others were only allowed to be asked in one-on-one interviews. These are embedded in the researched results. In addition the author was constrained to conduct his research with executive managers only.

6.3 Summary of the study
The problem identified in the study was the outsourcing deal between Trans Hex and CommsCo; this led to the critical analysis of the deal. The problem statement refers: A critical analysis of the information technology infrastructure outsource deal between Trans Hex Operations and CommsCo.

Although the process has been completed, a number of recommendations need to be made in order to meet some basic requirements for better corporate governance and sound business ethics.
The main findings from the research conducted can be summarised as follows:

(i) Executive management together with the board of directors made the decision to outsource.

(ii) The decision to outsource a function should be treated as a strategic decision that requires a sound business case and business plan, which should be in place before commencing outsourcing.

(iii) The business relationship between the outsourcer and outsource service supplier should be clear to both parties prior to signing the outsource contract.

(iv) Mitigation of risks is not enough reason to outsource; outsourcing should be used as a strategy towards improving company focus.

(v) Room exists for improving the outsource service provider selection process.

(vi) A transition plan should be prepared, executed and updated post de facto.

(vii) A post-outsourcing review should be conducted to determine whether the process is working as was planned and to identify opportunities for improvement.

(viii) A missed opportunity for startup companies.

6.4 Recommendations

The objective of this study was to determine what went right and what went wrong and which guidelines were followed during the outsource process. To achieve this, a literature review was performed and the company actions compared and analysed against it.

While eighty three per cent of the respondents are in agreement with what occurred within the outsourcing process, the views of the remaining seventeen per cent need to be addressed.

Based on the findings of this survey it can be argued that a holistic approach to information technology infrastructure outsourcing should be adopted which recognises and emphasises the combination of several outsourcing processes
to form a company-specific outsourcing process framework. Being aware of this framework, managers and companies are enabled to make informed decisions as well as recognise and address problems proactively.

A company should establish a dedicated outsourcing committee or team, using internal personnel who understand the company’s’ culture, processes, policies and procedures. It is critical that these candidates come from all cross-functional disciplines, including but not limited to finance, information technology, legal, operations, supply chain management and human resources. These candidates should be in a position to provide a comprehensive view of the business requirements.

The company must also ensure that it has a complete information technology infrastructure contract in place prior to commencing the outsourcing process. The contract should discourage any opportunistic behaviour from the vendor and encourage a balance of power between client and vendor, whilst using the limited resources to mutually benefit both parties. It is also imperative to have an exit strategy in place, both during the outsourcing contract and when the contract expires. This exit strategy should focus on issues including, but not limited to, access to resources, resilience and back-sourcing.

A formal outsourcing governance program should be developed at the beginning of the outsourcing initiative. This program should be revised and updated as the process goes along. Power et al. (2004:52) describe this program as the “glue” that holds the outsourcing relationship together. It includes descriptions of the outsourcing effort, key stakeholders, required skills, change control process, equipment and security, etc. Power et al. (2004:52) argue that the outsourcing governance program is an encapsulation of the entire outsourcing relationship. They believe that it will ensure that the strategies and business structures put in place are moulded into an objective manageable framework which can then be communicated to both client and vendor companies.
Most importantly, companies should not rush into any outsourcing agreement, but instead follow a systematic approach to outsourcing. While there are many different approaches and frameworks, Power et al. (2004:40) argue that the approach to follow when creating outsourcing functional requirements should include developing vendor evaluation requirements, preparing a clear request for proposal, evaluating vendor proposals and completing contract negotiations with the best vendor. A similar process is also depicted in the ten basic steps in the outsourcing process designed by Alcatel (2004). These steps include an executive review of the proposed outsource benefits, choice of a supplier for a feasibility study and business case, executive review of the business case, fine tuning of the business case and issuing a request for proposal, transition and communication planning, due diligence and contract negotiations, monitoring and changing the contract with improvements. Lacity and Hirchheim (1995b:230) not only propose a similar process; they also argue that if the company could return similar results with the same resources, then the outsourcing should not continue and the function be kept internal. It is believed that following such an approach is good corporate governance and sound business ethics.

The author is of the opinion that a huge opportunity existed to outsource the information technology infrastructure to a start-up company and in particular a black empowered one. The outsourcing initiative would have injected adequate capital into such a company and guaranteed it of long-term revenues.

6.5 Opportunities for further research

In summary, there are a few points discussed in this research document that can be beneficial if a manager or company faces a decision whether or not to outsource a business function. It will enable them to proactively determine where their company stands towards an outsourcing decision, not leaving them vulnerable to the pressures of outsource service providers. The critical analysis (of an outsourcing transaction) can provide a solid basis for further research. However, should the recommendations be applied and another study be conducted, then a similar survey could result in a different outcome.
More research is needed to create *new decision models* that would help managers and companies to systematically select the best outsourcing service provider. Additional research is also needed in *identifying reasons* other than costs to motivate strategic outsourcing. Studies that contribute to *changing the outsource-negative corporate mindset* towards using outsourcing as a strategy to increase shareholder value would be of great value for managers and companies alike. Future research is also needed to *identify and mitigate all risks* encompassed within outsourcing.

### 6.6 Conclusions

Based on the literature review, five aspects were identified which should all be heeded when commencing an outsource process. These aspects were empirically tested and investigated. Although cost-saving seems to be the overriding reason why companies initially believe they should outsource, other factors are eventually ranked higher.

In this research the question was addressed of how to successfully outsource a business function to an outsource service provider whilst adhering to good corporate governance and sound business ethics.

Since in the present case the information technology infrastructure has been outsourced for less than a year, it is too early to draw any meaningful conclusion about the long-term implications the deal will have on the company.
REFERENCES


ICH (2005), Glossary of Terms, Interoperability Clearinghouse, Internet: [www.ichnet.org/glossary.htm](http://www.ichnet.org/glossary.htm) [17 October 2005].


KPMG (2005), IT Audit Risk Assessment Benchmarking Review. Cape Town: KPMG.


Appendix A

MEMORANDUM

22 November 2005

Dear colleague,

A critical analysis of the outsource transaction

Trans Hex outsourced its information technology infrastructure to CommsCo. New technology and services are in place.

It has been agreed between George Zacharias, Thabo Nkoane and Stephen Robinson to approach senior management (Exco) for their views on this topic. It is believed that the researcher will get a fair view by selecting only Exco. Any further participation might skew the anticipated results. I estimate it will take less than ten minutes to complete the questionnaire.

You are assured of confidentiality regarding your personal details and views. None of these will be revealed to anyone.

The survey results will be used as part of my research project in obtaining my Master of Business Administration (MBA) degree at the Nelson Mandela Metropole University (NMMU).

All participants will receive a copy of the summarised findings.

To all of you who gave me the benefit of your views by returning the completed form, especially within the time frame, please accept my sincerest thanks.

Since I am pushed for time, kindly return the completed questionnaire by e-mail to myself by no later than today, 22 November 2005.

Sincerely

Ferrandi W. Makka
MBA student, final year, NMMU.
Appendix B

IT Infrastructure Outsourcing Questionnaire

This questionnaire will assist in a research thesis "A critical analysis of the outsourcing of the IT infrastructure between Trans Hex and CommsCo."

The questionnaire focuses on the following four aspects of the outsource transaction which are:-

(1) the strategic reason for outsourcing,
(2) the different models chosen
(3) the process to follow, and
(4) the risks associated with outsourcing

Kindly return the completed questionnaire to me by no later than 22 November 2006.

Please indicate to what extent you agree with the following statement by highlighting the appropriate box. (Use the TW Colour).

Section A: Biographical Details

<table>
<thead>
<tr>
<th>Area</th>
<th>Biographical Details</th>
<th>Baken</th>
<th>Sax</th>
<th>Parow</th>
<th>Mont.Gard</th>
<th>LOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Male</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Years Employed</td>
<td>0-5</td>
<td>6-10</td>
<td>11-15</td>
<td>15+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years in current position</td>
<td>0-5</td>
<td>6-10</td>
<td>11-15</td>
<td>15+</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section B: Questionnaire

1. Were you aware that IT was going to be outsourced? YES NO

2. Risk was cited as the primary reason for outsourcing. Do you agree that this is a strong enough reason to outsource? Strongly Agree Agree Disagree Strongly Disagree

3. Do you agree that the outsource process was transparent? Strongly Agree Agree Disagree Strongly Disagree

4. What do you consider our outsourcing entity (CommsCo) to be? Vendor Partner Service Provider Other

5. A decision to outsource should start with a sound business plan. Did the company have such a plan when it decided to outsource? YES NO

6. Do you agree that both CommsCo and Trans Hex benefited from the outsourcing agreement? Strongly Agree Agree Disagree Strongly Disagree

7. Does the 80/20 rule apply? (20% of the benefit accrues from 20% of the effort) YES NO

8. Do you agree that the outsourcing deal between CommsCo and Trans Hex was well considered? Strongly Agree Agree Disagree Strongly Disagree

9. A transition plan documents all tasks that must be performed to accomplish a successful transition. Was such a plan in place? YES NO

10. Do you agree that Trans Hex has the skills to manage the outsource? Strongly Agree Agree Disagree Strongly Disagree

11. Rank in importance the strategic reasons for Trans Hex outsourcing to CommsCo (1 being the highest and 13 the lowest):

   - Reduce and control costs
   - Improve company focus
   - Improve service delivery
   - Improve business & IT flexibility
   - Free resources for other purposes
   - Gain access to skills
   - Function difficult to manage
   - Share risk / reward
   - Enable business transformation
   - Improve service quality
   - Defined service levels
   - Access to technology
   - Change fix asset basis

12. Rank in importance the risks in outsourcing the IT infrastructure to CommsCo (1 being the highest and 13 the lowest):

   - Excessive dependence on them
   - Compliance of CommsCo’s staff
   - Lack of compliance to contract
   - Unfair cost-benefit relationships
   - Hidden costs in the contract
   - Security issues
   - Irrevocability of the decision
   - Cultural mismatch
   - Potential cost escalation
   - Loss of control
   - Lack of flexibility
   - Long-term commitment
   - Lack of service delivery

13. Please mark your level of satisfaction with the outsourcing contractor (CommsCo) High Medium Low


Appendix C
Split-Half Questionnaire

This questionnaire will assist in a research thesis “A critical analysis of the outsourcing of the IT infrastructure between Trans Hex and CommaCo”.

The questionnaire focuses on the following four aspects of the outsourcing transaction which (1) the strategic reason for outsourcing, (2) the different models chosen (3) the process to followed, and (4) the risks associated with outsourcing.

Kindly return the completed questionnaire to me by no later than 22 November 2008.

Please indicate to what extent you agree with the following statement by highlighting the

<table>
<thead>
<tr>
<th>Section A: Biographical Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
</tr>
<tr>
<td>Years Employed</td>
</tr>
<tr>
<td>Years in current position</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section B: Questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Were you aware that IT was going to be outsourced?</td>
</tr>
<tr>
<td>2. Risk was cited as the primary reason for outsourcing. Do you agree that this is enough?</td>
</tr>
<tr>
<td>3. Do you agree that the outsourcing process was transparent?</td>
</tr>
<tr>
<td>4. What do you consider our outsourcing entity (CommaCo) to be?</td>
</tr>
<tr>
<td>5. A decision to outsource should start with a sound business plan. Did the company have such a plan when it decided to outsource?</td>
</tr>
<tr>
<td>6. Do you agree that both CommaCo and Trans Hex benefited from this outsourcing agreement?</td>
</tr>
<tr>
<td>7. Do you agree that the outsourcing agreement provides an opportunity to document all tasks that must be performed to accomplish a successful transition. Were such a plan in place?</td>
</tr>
<tr>
<td>8. Do you agree that the outsourcing agreement with CommaCo provided an opportunity to document all tasks that must be performed to accomplish a successful transition. Were such a plan in place?</td>
</tr>
<tr>
<td>9. Risk is not enough reason to outsource?</td>
</tr>
<tr>
<td>10. The outsourcing agreement is not likely to have any impact on the company?</td>
</tr>
<tr>
<td>11. The outsourcing agreement was not done in a transparent manner?</td>
</tr>
<tr>
<td>12. The outsourcing agreement was not done in a transparent manner?</td>
</tr>
<tr>
<td>13. The outsourcing agreement was not done in a transparent manner?</td>
</tr>
<tr>
<td>14. The outsourcing agreement was not done in a transparent manner?</td>
</tr>
<tr>
<td>15. The outsourcing agreement was not done in a transparent manner?</td>
</tr>
<tr>
<td>16. The outsourcing agreement was not done in a transparent manner?</td>
</tr>
<tr>
<td>17. The outsourcing agreement was not done in a transparent manner?</td>
</tr>
<tr>
<td>18. The outsourcing agreement was not done in a transparent manner?</td>
</tr>
<tr>
<td>19. The outsourcing agreement was not done in a transparent manner?</td>
</tr>
<tr>
<td>20. The outsourcing agreement was not done in a transparent manner?</td>
</tr>
<tr>
<td>21. Please rank your level of satisfaction with the outsourcing agreement (CommaCo)</td>
</tr>
<tr>
<td>22. Rank in importance the following costs (1 being the highest and 13 the lowest)</td>
</tr>
<tr>
<td>23. Rank in importance the following risks (1 being the highest and 13 the lowest)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve company focus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improve service delivery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improve business &amp; IT flexibility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free resources for other purposes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gain access to skills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Function difficult to manage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share risk / reward</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enable business transformation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improve service level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to technology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change IT asset base</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excessive dependence on them</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competence of CommaCo's staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of compliance to contract</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undue cost/benefit relationship</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hidden costs in the contract</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Security issues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irreversibility of the decision</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultural mismatch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potential cost escalation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of flexibility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long-term commitment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of service delivery</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

24. Please rank your level of satisfaction with the outsourcing contract (CommaCo)
Appendix D

Definitions of words and phrases used in the questionnaire

Outsource
Outsource and outsourcing are generic terms used when companies contract out certain business functions or processes to external suppliers.

Transparent
Transparency as used in the questionnaire means open for scrutiny and subject to clear methods of challenge or amendment.

Business plan
This plan should at the very least adequately identify all costs associated with the current method of doing business and all costs that are anticipated once outsourcing is deployed.

Transition plan
This plan documents all tasks, step-by-step, that must be performed to accomplish a successful transition. As tasks are completed this document should be updated so that it can serve as a progress report as well as provide an accurate audit trial.

80/20 rule
This rule this says that twenty per cent of your activities will account for eighty per cent of your results; meaning twenty per cent of your tasks will account for eighty per cent of the value of what you do.
# IT Infrastructure Outsourcing Interview Questions

This interview will assist in a research thesis "A critical analysis of the Information Technology infrastructure outsource deal between Trans Hex Operations and CommsCo".

The interview focuses on the following four aspects of the outsource transaction which are:
1. the strategic reason for outsourcing,
2. the different models chosen
3. the process to followed, and
4. the risks associated with outsourcing

<table>
<thead>
<tr>
<th>Interview Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The decision to outsource was taken by Senior Management. Do you agree that other</td>
</tr>
<tr>
<td>personnel should also have been involved in making the decision?</td>
</tr>
<tr>
<td>2. CommsCo was chosen as the outsourcing partner. Hence the transaction was never put</td>
</tr>
<tr>
<td>out on tender for competitive bidding. Do you agree that this was the best option?</td>
</tr>
<tr>
<td>3. When the outsourcing contract terminates, should the company consider outsourcing IT</td>
</tr>
<tr>
<td>again?</td>
</tr>
<tr>
<td>4. Was a vendor agreement (outsource contract) in place before the outsourcing process</td>
</tr>
<tr>
<td>started?</td>
</tr>
<tr>
<td>5. Does the vendor agreement (outsource contract) include an escape clause for each party?</td>
</tr>
<tr>
<td>6. Were measurable goals and objections established?</td>
</tr>
<tr>
<td>7. Onshore was chosen over Offshore. Do you agree that the right outsource model has been chosen?</td>
</tr>
<tr>
<td>8. Opex was chosen over Capex. Do you agree that the right outsource model has been chosen?</td>
</tr>
<tr>
<td>9. Outsourcing was chosen over ASP and Utility computing. Do you agree that this was the right model?</td>
</tr>
<tr>
<td>10. Are there penalties associated with unscheduled downtime of the network and other facilities e.g. servers, mail, internet?</td>
</tr>
<tr>
<td>11. Do you agree that all the risks identified in the external and internal audits, plus that of the risk assessment report have been mitigated?</td>
</tr>
</tbody>
</table>
Appendix F.1

**IT Infrastructure Outsourcing Questionnaire**

This questionnaire will assist in a research thesis "A critical analysis of the outsourcing of the IT infrastructure between Trans Hex and CommsCo".

The questionnaire focuses on the following four aspects of the outsourcing transaction which are:-
1. the strategic reason for outsourcing,
2. the different models chosen
3. the process to followed, and
4. the risks associated with outsourcing

Kindly return the completed questionnaire to me by no later than 22 November 2005.

Please indicate to what extent you agree with the following statement by highlighting the appropriate box. (Use the Fill Colour)

<table>
<thead>
<tr>
<th>Area</th>
<th>Baken</th>
<th>Sex</th>
<th>7</th>
<th>Mont Gard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Req</td>
<td>Bloodrift</td>
<td>1</td>
<td>Other</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td>8</td>
<td>Female</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Years Employed</strong></td>
<td>6</td>
<td>2</td>
<td>11-15</td>
<td>15+</td>
</tr>
<tr>
<td><strong>Years in current position</strong></td>
<td>7</td>
<td>1</td>
<td>11-15</td>
<td>15+</td>
</tr>
<tr>
<td><strong>Department/ Division</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Questionnaire**

1. Were you aware that IT was going to be outsourced?  
   8       NO

2. Risk was cited as the primary reason for outsourcing. Do you agree that this is enough reason to outsource?  
   1       5       2       Strongly Disagree

3. Do you agree that the outsource process was transparent?  
   3       5       Disagree       Strongly Disagree

4. What do you consider our outsourcing entity (CommsCo) to be?  
   1       5       2       Other

5. A decision to outsource should start with a sound business plan. Did the company have such a plan when it decided to outsource?  
   5       3

6. Do you agree that both CommsCo and Trans Hex benefited from this outsourcing agreement?  
   4       4       Disagree       Strongly Disagree

7. Does the 80/20 rule apply? (80% of the benefit accrues from 20% of the effort)  
   7       1

8. Do you agree that the outsource deal between CommsCo and Trans Hex was well communicated?  
   4       3       1       Strongly Disagree

9. A transition plan documents all tasks that must be performed to accomplish a successful transition. Was such a plan in place?  
   4       2

10. Do you agree that Trans Hex has the skills to manage the outsourcing?  
    3       3       1       Strongly Disagree
11. Rank in importance the strategic reasons for Trans Hex outsourcing to CommsCo (1 being the highest and 13 the lowest)

<table>
<thead>
<tr>
<th>RANK</th>
<th>REASON</th>
<th>RESULTS</th>
<th>SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Improve business &amp; IT flexibility</td>
<td>1 1 1 7 1 4 1 6</td>
<td>2.75</td>
</tr>
<tr>
<td>2</td>
<td>Improve company focus</td>
<td>2 7 8 2 1 2 2 1</td>
<td>3.13</td>
</tr>
<tr>
<td>3</td>
<td>Improve service delivery</td>
<td>4 6 5 5 1 3 5 2</td>
<td>3.88</td>
</tr>
<tr>
<td>4</td>
<td>Improve service quality</td>
<td>7 3 7 10 1 1 4 3</td>
<td>4.50</td>
</tr>
<tr>
<td>5</td>
<td>Reduce and control costs</td>
<td>11 2 6 1 1 9 3 10</td>
<td>5.38</td>
</tr>
<tr>
<td>6</td>
<td>Free resources for other purposes</td>
<td>5 13 4 3 1 10 7 11</td>
<td>6.75</td>
</tr>
<tr>
<td>7</td>
<td>Share risk / reward</td>
<td>13 12 3 4 1 5 8 9</td>
<td>6.88</td>
</tr>
<tr>
<td>8</td>
<td>Access to technology</td>
<td>3 5 9 12 1 6 13 7</td>
<td>7.00</td>
</tr>
<tr>
<td>9</td>
<td>Defined service levels</td>
<td>6 4 10 11 1 7 11 8</td>
<td>7.25</td>
</tr>
<tr>
<td>10</td>
<td>Enable business transformation</td>
<td>12 10 2 9 1 12 9 4</td>
<td>7.38</td>
</tr>
<tr>
<td>11</td>
<td>Gain access to skills</td>
<td>8 8 11 13 1 8 6 5</td>
<td>7.50</td>
</tr>
<tr>
<td>12</td>
<td>Function difficult to manage</td>
<td>10 11 12 8 1 11 10 12</td>
<td>9.38</td>
</tr>
<tr>
<td>13</td>
<td>Change fix asset basis</td>
<td>9 9 13 14 1 13 12 13</td>
<td>10.50</td>
</tr>
</tbody>
</table>

12. Rank in importance the potential risks in the outsourcing decision

<table>
<thead>
<tr>
<th>RANK</th>
<th>RISK</th>
<th>RESULTS</th>
<th>SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Security issues</td>
<td>1 1 1 9 1 7 6 6</td>
<td>1.00</td>
</tr>
<tr>
<td>2</td>
<td>Lack of compliance to contract</td>
<td>5 7 2 4 1 2 2 5</td>
<td>2.00</td>
</tr>
<tr>
<td>3</td>
<td>Excessive dependence on them</td>
<td>7 3 3 1 8 1 11</td>
<td>3.00</td>
</tr>
<tr>
<td>4</td>
<td>Unclear cost-benefit relationship</td>
<td>6 4 6 2 1 5 8 8</td>
<td>4.00</td>
</tr>
<tr>
<td>5</td>
<td>Potential cost escalation</td>
<td>3 9 4 3 10 12 4</td>
<td>5.00</td>
</tr>
<tr>
<td>6</td>
<td>Lack of service delivery</td>
<td>9 6 5 11 1 1 4 2</td>
<td>4.88</td>
</tr>
<tr>
<td>7</td>
<td>Hidden costs in the contract</td>
<td>4 8 7 1 1 9 9 7</td>
<td>5.75</td>
</tr>
<tr>
<td>8</td>
<td>Loss of control</td>
<td>11 11 9 6 1 11 3 3</td>
<td>6.88</td>
</tr>
<tr>
<td>9</td>
<td>Long-term commitment</td>
<td>8 5 10 8 1 6 5 12</td>
<td>6.88</td>
</tr>
<tr>
<td>10</td>
<td>Competence of CommsCo's staff</td>
<td>10 2 12 12 1 12 7 1</td>
<td>7.13</td>
</tr>
<tr>
<td>11</td>
<td>Lack of flexibility</td>
<td>12 10 8 7 1 3 13 9</td>
<td>7.88</td>
</tr>
<tr>
<td>12</td>
<td>Irreversibility of the decision</td>
<td>2 13 11 10 1 13 10 13</td>
<td>9.13</td>
</tr>
<tr>
<td>13</td>
<td>Cultural mismatch</td>
<td>13 12 13 13 1 4 11 10</td>
<td>9.63</td>
</tr>
</tbody>
</table>