

UNIVERSITY OF TAMPERE  
School of Management

## **THE KINGS OF A CASTLE IN THE AIR**

A CONSTRUCTIVE STUDY ON AN ACCOUNTING PROCESS  
IN A LARGE TRADITIONAL MANUFACTURING COMPANY

Accounting and Finance  
Master's Thesis,  
April 2013  
Supervisor: Dr. Salme Näsi

Niko Koivuniemi

## ABSTRACT

University of Tampere                      School of Management, Accounting and Finance

Author:    NIKO KOIVUNIEMI

Title of the Research:                      The Kings of a Castle in the Air – A Constructive Study on an Accounting Process in a Large Traditional Manufacturing Company

Master's Thesis:                              88 Pages, 2 Appendices

Publication Date:                              April 2013

Key Words:                                      accounting process, business development, enterprise risk management, business process management, internal environment, reporting structures

---

Business processes are getting more and more complicated as the business world itself grows in versatility and complexity. Managing them is a core task in today's enterprises. At the heart of business processes is the accounting process, linking the monetary and real worlds. Accounting processes in a company get often overlooked, leading consequently to poor outcomes in real processes. The need for systematic accounting process development is thus well founded.

The research studies ManuCorp, a large public listed company in the traditional manufacturing industry. The accounting process under study is that of operations responsible for sourcing Re-ABC, one of the main raw materials used in ManuCorp's production process. Re-ABC is a good raw material for production but it is by its nature a difficult material to handle with a short shelf life and requires refining before it can be introduced to the production process, the refining process generating by-products that the company cannot use and has to sell to third parties. ManuCorp senior management has been reluctant to control Re-ABC operations' development, letting it thus form naturally over time. This development has led to the situation where the accounting process itself is performing poorly, and a need for change is apparent.

The accounting process is studied from three different dimensions: internal environment, process responsibilities and reporting. Enterprise Risk Management theory along with Business Process Management and Business Process Re-Engineering approaches are used to analyse the prevalent accounting process from those three dimensions in creating a new construction that addresses the shortcomings found in the prevalent process. Process-related risks are assessed in the prevalent process along with such key concepts of Enterprise Risk Management as segregation of duties and division of power. The new construction establishes stronger cross-functional accountability and responsibility, strengthens the concept of responsibility accounting in reporting and comments on how the proposed construction could be implemented.

The research proves Enterprise Risk Management, an accounting and auditing theory and Business Process Management, an engineering and management approach work well together when conducting constructive research on an accounting process. Furthermore, the research contests that such concepts as cross-functional accountability, empowerment of stakeholders, clear lines of responsibility and harmonized reporting structures are concepts that can and should be improved and kept at high level in all accounting processes.

# CONTENTS

1	INTRODUCTION.....	1
1.1	Describing the Research Area.....	2
1.1.1	Initiation for Research .....	5
1.1.2	Academic Relevance of the Study.....	5
1.2	Objective of the Study and its Limitations and Restrictions .....	8
1.3	Definitions .....	10
1.4	Structure of the Study .....	12
2	THEORETICAL FRAMEWORK AND METHODOLOGY .....	13
2.1	Enterprise Risk Management.....	15
2.1.1	COSO-ERM Framework .....	16
2.1.2	Internal Environment.....	19
2.1.3	Event Identification .....	20
2.1.4	Risk Assessment.....	21
2.2	Business Process Management .....	22
2.2.1	Organizing for Improvement and Understanding the Process.....	24
2.2.2	Streamlining the Process and Implementation, Measurement and Control.....	26
2.2.3	Business Process Re-Engineering .....	27
2.2.4	Process Modelling and Level of Detail .....	29
2.3	Conducting the Study.....	31
2.3.1	Data Gathering.....	32
2.3.2	Analysis and Synthesis .....	34
3	THE CURRENT ACCOUNTING PROCESS.....	36
3.1	Internal Environment .....	37
3.1.1	Thoughts on the Prevalent Internal Environment.....	37
3.1.2	Handling Deliveries of Inferior Quality Raw Material .....	38
3.1.3	Re-sales of Purchased Goods .....	40
3.2	Responsibilities .....	42
3.2.1	Segregation of Duties .....	43
3.2.2	Competencies and Tasks Conducted .....	45
3.2.3	Perceptions of Power and Absence of it.....	47
3.3	Reporting Structure.....	48
3.3.1	Clarity, Visibility and Responsibility .....	52
3.3.2	Possible Risks Leading to Poor Operative and Strategic Decisions.....	53
4	DEVELOPING THE NEW ACCOUNTING PROCESS .....	55
4.1	Internal Environment .....	56
4.1.1	Operational Limits for Goods Acceptance Process.....	56
4.1.2	Re-sales of Purchased Goods .....	57
4.1.3	Monitoring the Internal Environment.....	59
4.2	Responsibilities.....	59
4.2.1	Segregation of Duties .....	61
4.2.2	Matching Core Competencies with Core Tasks .....	63

4.2.3	Empowering Financial Services .....	65
4.3	Reporting Structure .....	67
4.3.1	Re-Allocation of Operational Costs .....	68
4.3.2	Analysing the Profitability of Re-ABC Operations.....	70
4.4	Thoughts on Change Implementation.....	71
5	DISCUSSION AND CONCLUSIONS.....	74
5.1	Summarizing the Study.....	74
5.1.1	What Characteristics Does the Prevalent Accounting Process Have? .....	75
5.1.2	How Should the New Accounting Process Be Formed? .....	77
5.1.3	Weak Market Test for the Proposed Construction .....	80
5.2	Academic Contribution of the Study .....	80
5.3	Critique of the Study and Implications for Future Research .....	82
5.4	Final Remarks .....	83
	REFERENCES .....	85
	APPENDICES .....	89

*Parts of Sections 3.2.1 and 4.2.1 are hidden due to confidentiality reasons.*

## FIGURES

Figure 1. Theoretical framework of the study .....	14
Figure 2. COSO-ERM Cube .....	18
Figure 3. Essential components of the COSO-ERM Cube for this research.....	19
Figure 4. Business process management model proposed by Harrington (1995) .....	24
Figure 5. Business process management approach used for this study .....	24
Figure 6. Example of a process map flowchart .....	30
Figure 7. ManuCorp reporting unit structure.....	32
Figure 8. Prevalent goods acceptance process.....	39
Figure 9. Reporting structure in countries 4 and 5 .....	49
Figure 10. Reporting structure in countries 1 and 2 .....	50
Figure 11. Reporting structure in countries 3 (left) and 6 .....	51
Figure 12. Proposed goods acceptance process.....	57
Figure 13. Proposed outsourced re-sales function linking with Re-ABC operations.....	58
Figure 14. Reporting responsibilities of proposed Re-ABC controlling team .....	61
Figure 15. Purchase process in the proposed accounting process .....	62
Figure 16. Proposed local organisation structures.....	64
Figure 17. Proposed new organisation structure .....	65
Figure 18. Relation of financial services function and Re-ABC operations .....	67
Figure 19. New reporting structure in all countries.....	68
Figure 20. Accounting process improvement schematic developed in this study.....	82

## TABLES

Table 1. Re-ABC operations in different countries.....	3
Table 2. Re-ABC Sales Margin to third parties in 2012 .....	4
Table 3. Items reported under Re-ABC operations in different countries.....	51
Table 4. Profit Centre responsables in Countries 4 and 5 .....	52
Table 5. Division of tasks in the proposed process .....	66
Table 6. Example of production-based re-allocation costs and profits between countries	70
Table 7. Proposed general implementation schedule .....	72

# 1 INTRODUCTION

Risk management is ever-growingly important for all modern enterprises. While all companies agree that they should be effective in managing their risk, not many can actually execute effective risk management. Enterprise Risk Management introduces a wholesome way for a company to manage different internal and external risks in its operations. It is a relatively new approach<sup>1</sup>, albeit having its roots in the Treadway Commission's work in the early 1990s. (COSO 2004; Moeller 2007)

Business Processes are at the core of all business activities. The effective design and execution of business processes is paramount in today's complex and challenging business world. Focusing on business processes is nowadays a widely accepted industrial attitude. An approach to managing the often complicated and intertwined business processes came in the form of Business Process Management, first appearing in academic literature in the 1980s. Business Process Re-Engineering, developed from Business Process Management and focusing on creation of new structures, came about in the early 1990s. (Brocke vom and Sinnl 2011; Mansar and Reijers, 2007)

The role of accounting processes has increased significantly over time. The increase in importance of accounting processes was already identified some 30 years ago, for example by Burchell, Clubb, Hopwood, Hughes and Nahapet (1980, 5; 9-19). The purpose of an accounting process is to produce true and correct financial figures for investors and other outside stakeholders (financial accounting) and provide internal stakeholders key information about the company's operations (management accounting). Often management accounting is merely seen as a passive management tool, producing numbers and figures for strategy formation, when such information is needed. As the demand for accounting in this narrow view is only intermittent, the accounting processes themselves are sometimes left neglected. Taking the preceding into consideration, developing and improving accounting processes is something that is well worth research. (Skærbæk and Tryggestad 2010, Quattrone and Hopper 2005)

---

<sup>1</sup> Enterprise Risk Management was introduced in its current form in 2004. See sections 1.3 and 2.1 for further detail.

This study is analysing an accounting process in an operational area of a public listed company. The main focus of the study is to discover problematic areas in the prevalent process and on creating a new model based on the findings. Core parts in both processes are then modelled with process maps, tables and other graphical presentations.

The study builds its theory and methodology on acknowledged and established theories and approaches: Enterprise Risk Management, Business Process Management and Business Process Re-Engineering. A short introduction to these approaches is made in section 1.3, with a more comprehensive review in chapter 2.

The study is critically assessing an accounting process construction, with its main targets being analysing the current situation and building a new construction for implementation. As Kasanen, Lukka and Siitonen (1993, 244) state:

*Constructions refer, in general terms, to entities which produce solutions to explicit problems. By developing a construction, something that differs profoundly from anything which existed before is created: constructions tend to create new reality. ... The constructive approach is a research procedure for producing constructions.*

## **1.1 Describing the Research Area**

This section describes and defines the research area, as well as presenting the initiation for the research and assessing the academic relevance of the study.

The research uses ManuCorp, a large public listed company as its study case. ManuCorp is a multi-national corporation in the traditional manufacturing industry. It has more than 10,000 employees and is one of the largest operators in its field. ManuCorp is a well-established company, with its roots reaching more than a century back in time.

ManuCorp has been using Re-ABC as raw material in its production process for some twenty years now. The importance of Re-ABC has been growing in the recent years due to growing environmental awareness and rising prices of traditional raw materials. This has led the company to shift more focus on the sustainability of its operations.

Renewability, recyclability and sustainability have been developed into core focal points in ManuCorp's outspoken strategy.

Re-ABC is a recycled raw material resource. It is of such nature that a sizeable percentage of sourced material cannot be used by the company itself but instead it has to be refined and different by-products have to be disposed of, usually by selling or giving them for free to third parties, depending on the by-product and its current market demand. Also, a notable amount of sourced and/or sorted material is moved between different production units of ManuCorp, located in five different European countries.

Re-ABC operations themselves cover six countries, one of which has no production facilities. The countries are referred to in this research as countries 1 through 6. Countries 1 and 2 have one production unit and relatively large-scale Re-ABC operations. Country 3 has smaller scale Re-ABC operations and also one production unit. Country 4 has several production units and the scale of operations is large. Country 5 has one production unit but has no domestic operational staff. The reason for this is that countries 4 and 5 form together one region in which there are several production facilities and of whose operations are run from country 4. The size of Re-ABC operations is by far the largest in this region. Country 6 has no production facilities. (See Table 1)

<i>Re-ABC countries</i>		
<i>Country</i>	<i>Production facilities</i>	<i>Scale of Re-ABC operations</i>
<i>1</i>	One	Large
<i>2</i>	One	Large
<i>3</i>	One	Small
<i>4</i>	Several	1 region, large
<i>5</i>	One	
<i>6</i>	None	Small

*Table 1. Re-ABC operations in different countries*

ManuCorp's accounting process in Re-ABC related operations has been somewhat underperforming from its creation. The main problem has derived from the fact that the responsibility for creation and definition of booking rules, responsibilities and strategy was assigned to the same organisation that is equally in charge of sourcing the material, a team comprised of supply chain specialists with limited financial knowledge. This has led

to a situation where the acting organisation has been in charge of monitoring its own doings in a non-existing control environment, with little input from the rest of the company in a process that was also initially designed by the organisation itself. For instance, the re-selling of by-products has no clear process description and solutions to problems in material management and/or reporting are created ad hoc.

This situation is a surprise itself, for the size of Re-ABC operations are the equivalent of approximately 7% of ManuCorp's turnover and 7% of that is sales to third parties yearly. Re-ABC operations form part of the company's European operations for which the strategy chosen on company level has been to achieve cost effectiveness in all fields and unprofitable operations should be either remodelled or shut down. In this light, it is puzzling that Re-ABC operations were let to continue as is for three to four years without practically any interference while even their *sales to third party customers have had a negative sales margin*, showing variable costs being 14,55% higher than turnover (see Table 2).

<i>Sales Margin, Sales to External Customers 2012</i>			
	<i>Sales</i>	<i>Variable Costs</i>	<i>Sales Margin</i>
Country 1	75,68	-89,97	-14,28
Country 2	14,29	-16,24	-1,95
Countries 4 & 5	10,03	-8,35	1,68
<b>Grand Total</b>	<b>100,00</b>	<b>-114,55</b>	<b>-14,55</b>

*Table 2. Re-ABC Sales Margin to third parties in 2012  
Countries 3 and 6 have no sales to third parties.*

In 2011, reviewing all Re-ABC operations was given priority and a separate Business Controller position was created to analyse the current situation and to come up with actions for improvement. The newly appointed Business Controller, transferring from ManuCorp's in-house Internal Audit department, started his work in January 2012.<sup>2</sup>

---

<sup>2</sup> See Appendix 2 for the prevalent Re-ABC organisation chart

### 1.1.1 Initiation for Research

*...because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win... (John F. Kennedy, 12 September 1962)<sup>3</sup>*

The initiation for research came in the form of the company's need for thorough analysis of the current Re-ABC accounting process and for a well-grounded proposal for the new accounting process and responsibilities within it. The aim of this study is to fulfil this need with the addition of adding an academic perspective in the analysis.

The first thought of a need for a study of this kind arose in September 2012, after realizing that the current accounting process's need of an overhaul was more significant than first expected. The first step would be to improve clarity and visibility of financial management reporting. This would include identifying problem areas in the prevalent accounting process's reporting. The second step would be to analyse and restructure responsibilities in core processes.

The researcher has been working in the Financial Services function of ManuCorp, being able to study Re-ABC operations for a year. The research work moves the researcher to the Business Control function of the company, being this way able to maintain a level of objectivity during the research while being an integral part of the change process.

### 1.1.2 Academic Relevance of the Study

The study faces similar challenges to other case studies regarding its theoretical contribution and academic relevance. The theoretical contribution of the study is discussed further in section 5.2. This sub-section gives a short review of the overall academic relevance of a study of this kind.

---

<sup>3</sup> The quote is an extract of John F. Kennedy's famous 'Moon Speech', held in Rice University Stadium in Houston, Texas. It serves as a good depiction of the urge with which a thorough change to Re-ABC operations is wanted in the company under study. <http://er.jsc.nasa.gov/seh/ricetalk.htm>. Accessed 26 December 2012.

*Theory building from case studies is an increasingly popular and relevant research strategy that forms the basis of a disproportionately large number of influential studies. But like the adherents of any research method, its adherents face some predictable challenges, some of which have, ironically, emerged precisely because research relying on rich qualitative data is becoming more common. The good news is that these often very legitimate challenges can be mitigated through precise language and thoughtful research design: careful justification of theory building ... rich presentation of evidence in tables and appendixes, and clear statement of theoretical arguments. The result is fresh theory that bridges well from rich qualitative evidence to mainstream deductive research. This is the hallmark of building from case studies. (Eisenhardt and Graebner 2007, 30)*

The above justification by Eisenhardt and Graebner for theory-building case studies is well-written and built on a solid ground. The importance of justifying the theoretical contribution of the research as well as the need for thorough presentation of empirical findings and conclusions drawn from the data highlighted by them is something all researchers conducting case studies should reflect upon: Am I grounding my theoretical contribution on a solid enough set of data? Have I really taken everything into consideration and, if not, have I justified well enough leaving something out?

There are two distinct factors that speak for the importance and relevance of this study. As Kasanen et al. write (1993, 244), there are many master's theses done using constructive methods, resulting in a solution for a real world business problem. Just with a quick Google search, one can find several constructive case studies done in the recent years. However, with business processes being various in size and form there is room left and a need for more case research. Furthermore, the opportunity to have access to sensitive information and have an impact on an operational field of a large public listed company is something that speaks for the relevance of this study. Kasanen et al. write that a well-designed and well-conducted study with a good theoretical connection gives both practical and theoretical contribution. It is reasonable to assume that this statement stands true still after 20 years of its making. (Kasanen et al. 1993)

Secondly, there are no studies that systematically combine Enterprise Risk Management, Business Process Management and Business Process Re-Engineering when analysing existing structures. The studies that use Enterprise Risk Management as their theoretical framework usually tend to focus purely on controls and risk environment, creating new internal controls or analysing existing ones<sup>4</sup> but sometimes not realizing that the underlying problem might be in the process itself. On the other hand, studies utilizing BPM have often their focus only on developing new constructions, not necessarily analysing to a big extent the positives and negatives of the situations prevailing or taking into account the internal environment as defined in Enterprise Risk Management theory<sup>5</sup>.

The theoretical contribution this study makes is combining Business Process Management / Business Process Re-Engineering and Enterprise Risk Management approaches when analysing business processes (in this case an accounting process) and forming new constructions. Creating theoretical contribution by integrating several theories and approaches in a systematic way is named by Ridder, Hoon and McCandless (2009, 164-168) a *multiple lenses* approach. Ridder et al. argue that by using multiple lenses approach the researcher can render a phenomenon more plausibly than previous work and paint a more integrative picture of it.

The study argues that integrating Enterprise Risk Management, Business Process Management and Business Process Re-Engineering in accounting research is valid and purposeful. Furthermore, the results of this study should be applicable to other accounting processes facing similar issues as the object of this study, as the depictions of prevalent and new constructions can also be viewed on a more general level e.g. in terms of reporting structure and segregation of duties.

---

<sup>4</sup> See for instance: Heikkala, M-S. 2009. *Riskienhallinta: riskiraportoinnin ja riskienhallinnan kehittyminen - Case Kemira Oyj, Neste Oil Oyj, Aspo Oyj ja Finnlines Oyj*. Helsinki School of Economics. Available at: <http://epub.lib.aalto.fi/fi/ethesis/id/12059>. Accessed 21 October 2012.

<sup>5</sup> See for instance: Häkkänen, I. 2011. *Palveluprosessin kehittäminen autokaupassa*. Lappeenranta University of Technology. Available at: <http://www.doria.fi/bitstream/handle/10024/69784/nbnfi-fe201106101721.pdf?sequence=3>. Accessed 21 October 2012.

## 1.2 Objective of the Study and its Limitations and Restrictions

The study has two objectives. The first objective is *to analyse how the accounting process in question is formed in its prevalent state, with what advantages and shortcomings*. The strongest focus here is on three separate but interacting dimensions: *process responsibilities, internal environment and reporting*, derived from different key elements of COSO-ERM framework of Enterprise Risk Management.

The second objective is *to build a new accounting process construction that addresses the problems identified in the prevalent process*. To achieve the second objective, the study makes use of the analysis done on the prevalent accounting process and other empirical data that support the construction of the new process. On the question of how the new model should be built, a short commentary on how the proposed changes should be implemented is also made.

The study has two main research questions drawn from the study objectives presented above, the first one dividing into three and the latter one into four sub-questions. The research questions also serve as a chronological reference of how the study has been conducted. The first question is related to understanding how the current accounting process works: what are its strongpoints and weakest links. The second question is related to forming the new construction, resulting in a new model for the accounting process and, furthermore, commenting on how the change could be executed. *Implementing the proposed changes is out of scope for this study*. The research questions serve as a basis for outlining the structure of chapters 3 and 4. The research questions are as follows:

1. What characteristics does the prevalent accounting process have?
  - What is the current internal environment like?
  - How are the responsibilities divided in the current process?
  - What are the main risks in internal and external reporting structures in the current model and how can they lead to poor business and strategic decisions?
2. How should the new accounting process be formed?
  - What changes should be made to the internal environment?
  - How should the responsibilities be structured?
  - What changes should be done to the reporting structures?
  - How should the changes be implemented?

The research questions will be studied, as previously stated, in chapters 3 and 4. The questions will be discussed and answered in a concise form in chapter 5.

As mentioned above in section 1.2, the change implementation process itself is out of scope for this study. Therefore, the fifth phase of managing business processes as proposed by Harrington (1995)<sup>6</sup>, continuous improvement, will be out of scope. The study will take a stand as to how the new process should be implemented but on a technical level (what needs to be done and how) and not analyse the effects of the changes on psychological or organisational levels. For this analysis, there are well written research done<sup>7</sup>.

The COSO-ERM framework will not be used in its entirety in the study. The study will not be analysing the internal controls in place. The scope of ERM in this study is internal environment analysis, event identification and risk assessment on the four dimensional levels: strategic, operations, reporting and compliance. Therefore, activities such as objective setting, risk response and information and communication will not be utilised. (COSO 2004)

As the researcher is an integral part of the change, and an accounting process construction with a new responsibility layout is introduced as the end result of the study, the study will be founded on the principle of emic level research that Eskola and Suoranta (2001, 17) bring to light: objectivity is achieved by recognising the subjectivity in one's approach. Hence, the study's partiality in some parts is recognized and commented when applicable.

---

<sup>6</sup> Harrington's business process management model is presented in section 2.2 on page 22.

<sup>7</sup> See for instance Dr. Kari Kerttula's doctoral dissertation (2009, see table of references).

### 1.3 Definitions

In this section the most critical concepts and terms are shortly defined.

#### *Business Process*

As Kagioglou, Cooper and Aouad (1998, 4) state, the term ‘process’ has different meanings to different people. It is important then that the term is defined for the purpose of this study. A process is defined by Talwar (1993, 25) as “*a sequence of pre-defined activities executed to achieve a pre-specified type or range of outcomes*”. Davenport and Short (1990, 14) emphasize the importance of the business aspect of a business process, stating that a business process is “*a set of logically-related tasks performed to achieve a defined business outcome*”. In light of the two preceding definitions, this study consolidates them and defines a business process as *a sequence of pre-defined logically related activities performed within a business entity in order to achieve a pre-defined business outcome*.

#### *Accounting Process*

In this study the accounting process of Re-ABC operations is the business process under study. Robert S. Kaplan, the renowned Harvard Business School professor states (2011, 367) that today’s accounting scholars have spent so much time studying markets and users of the accounting data that “*...they have distanced themselves from the accounting process itself*”. Also, with many different accounting platforms in place, the accounting process or, in other words, business processes in the finance area are ever-changing concepts (Rabhi, Yu and Dabous 2007, 185-186)<sup>8</sup>. This study uses the commonsensical understanding of an accounting process as the process reaching from identifying the transactions to reporting figures in financial and management accounting.

#### *Business Process Management (BPM)*

BPM is a way of analysing, modelling and implementing business processes. Elzinga, Horak and Chung-Yee (1995, 119) describe business process management as “*a*

---

<sup>8</sup> Rabhi et al. (2007) use the term ‘financial business process’ and define it as ‘inter-organizational business process in the finance area’.

*systematic, structured approach to analyse, improve, control, and manage processes with the aim of improving the quality of products and services.*” Lee and Dale (1998) also talk of the customer mindedness of BPM. In this case, the customer is identified as the Board of Executives and others responsible for and capable of making strategic decisions within the company.

#### *Business Process Re-Engineering (BPR)*

BPR can be thought of as the part of BPM that involves the analysis and change of a business process. BPR is then a business process focused aspect of change management, a way of designing and implementing changes at any level in an organisation. BPR is seen also as a change mechanism especially efficient in established organisations as it requires profound research and analysis on the prevalent situation. (Kagioglou et al. 1998; Telwan, 1993)

#### *Enterprise Risk Management (ERM)*

Managing risk has grown importance as the business world has developed into a more complex and dynamic environment. The traditional risk silo approach to risk management, has given way to a more holistic way of managing risk, the Enterprise Risk Management. The most common practical application of ERM, the balanced scorecard of its field, is the COSO-ERM framework. (Gordon, Loeb and Tseng 2009, 301-308; Mikes 2009, 23-27)

#### *The COSO-ERM Framework*

The COSO-ERM framework was developed by the Committee of the Sponsoring Organisations of the Treadway Commission (COSO) in 2004. COSO was originally established in 1985. It developed a risk assessment tool commonly dubbed as the COSO Cube in 1992<sup>9</sup>. COCSO-ERM is a development of those earlier efforts, taking into account new requirements brought on by the Sarbanes-Oxley act in the early 2000s. The main four objectives of the revamped ERM cube are strategic, operations, reporting and

---

<sup>9</sup> The COSO Cube and its derivative, the ERM Cube, are widely used and referenced. For a short introduction to the concept, visit the COSO website, <http://coso.org/aboutus.htm>. Accessed 21 October 2012.

compliance. The study uses three of these four dimensions, namely strategic, operations and reporting when analysing the prevalent accounting process and introducing the new one. (COSO 2004; Gordon, Loeb and Tseng 2009, 301-308; Mikes 2009, 23-27)

### *ManuCorp*

The organisation under study is referred to in this research as ‘ManuCorp’, due to confidentiality reasons and to highlight the study’s theoretical contribution and academic relevance in analysing and constructing accounting processes and defining its responsibilities in core processes in the traditional manufacturing industry as well as combining BPR/BPM and ERM in analysing prevalent processes and forming new constructions. ManuCorp is an established player in the traditional manufacturing industry. It is within the five biggest operators globally in its field.

### *Re-ABC*

Re-ABC is a renewable recycled resource used by ManuCorp as raw material in its production process. It is the main raw material in producing of some of ManuCorp’s main finished goods. The shelf life of the material is relatively short, resulting to high turnover in stocks. It is also of such nature that in most cases it has to be refined before it can be introduced into the production process. The refining process generates a number of by-products that cannot be used in the original production process or, in most cases, not by ManuCorp at all and thus have to be sold to third parties or be disposed of.

## **1.4 Structure of the Study**

The main structure of the study is divided in five chapters, chapters 1 and 2 being introductory chapters, introducing background information, research initiation, defining key concepts and presenting the theoretical framework and methodology of the study. Chapters 3 and 4 are empirical chapters, namely chapter 3 focusing on analysing the prevalent accounting process and chapter 4 introducing the new process as a response to problems identified in the prevalent construction. Chapter 5 is the discussion and conclusions chapter, summarizing empirical findings, discussing them shortly, critiquing the study, introducing further research possibilities and assessing the academic contribution of the study. Chapter 5 also contains final remarks of the researcher.

## **2 THEORETICAL FRAMEWORK AND METHODOLOGY**

As stated in chapter 1, this study follows the steps of constructive research. It looks at empirical data through a set of theoretical and methodological lenses defined in this chapter, with the aim of building a new construction on a solid theoretical basis. It is fair to point out that sometimes action-oriented research is dubbed constructive research as the differences are subtle and they both derive from the same main interventionist type of research, but it serves the purpose to shortly introduce the main arguments for dubbing this research constructive, rather than action-oriented. (Lukka 1999, 139-141; Jönsson and Lukka 2006)

Constructive research is also called interventionist research in academic literature (Näsi and Rohde 2006, 1110). Interventionist research was first introduced in linguistic and anthropological disciplines by Kenneth Pike in 1954 with the definition of emic and etic perspectives. The emic viewpoint results from studying human behaviour from within the system, while the etic viewpoint refers to studying it from the outside. This dichotomy of near versus far is what also separates interventionist research from mere non-academic investigation: a researcher must, after being an active actor in the real-time flow of life in the field, retreat to a theoretical etic level and objectively analyse the data gathered, mirroring it to existing theory and academic discussion in order to either create or strengthen new theory or test existing ones. Constructive/interventionist research, originally developed in Finland in the early 1990s and action-oriented research, first introduced by Kurt Lewin in the 1940s, are two commonly used research approaches in Scandinavia. Although seemingly close to each other, they have some differences between them. These differences are shortly discussed in the next paragraph. (Jönsson and Lukka 2006, 373-377, 385-394)

Constructive research is different in two ways to action-oriented research. Firstly, the state of intervention in action-oriented research is milder. Secondly, constructive research is more focused on creating new constructions, as suggested by its name, whereas action-oriented research puts emphasis on documenting and analysing the change process itself. Both these points speak in favour of choosing constructive approach for this study: As the researcher is a key player in the change process, in no way could the role be considered mild. Furthermore, this study will develop a new construction but will not follow the

actual execution phase, as stated in limitations of the study in section 1.5. (Lukka 1999, 139-141, 144-145)

The main pillar of the theoretical framework of the study is the Enterprise Risk Management theory. ERM is the theoretical lens through which empiria is viewed. Under ERM is defined a methodological approach that also contributes to theory, Business Process Management. BPM offers a framework for managing business processes, utilised in this study. Business Process Re-engineering is defined as a purely methodological part of BPM, offering practical hands-on approaches in modelling and rebuilding business processes. Process maps; flowchart type graphical depictions as well as tabular presentations will be created for core parts of the process. The study uses ERM and BPM in analysing the quality of reporting, assessing the internal environment, analysing core responsibilities and their links to executing persons' core competencies and identifying potential risks. These parts form the three main dimensions the empiria is analysed in: *Internal Environment, Responsibilities and Reporting*. In analysing internal and external reporting, responsibility accounting theory is also cited. A new construction is then built on the basis of findings on the prevalent accounting process (Figure 1). A comment is also made on how to implement the new accounting process. (COSO, 2004; Kagioglou et al. 1998; Lee and Dale, 1998; Nah, Lau and Kuang 2001)

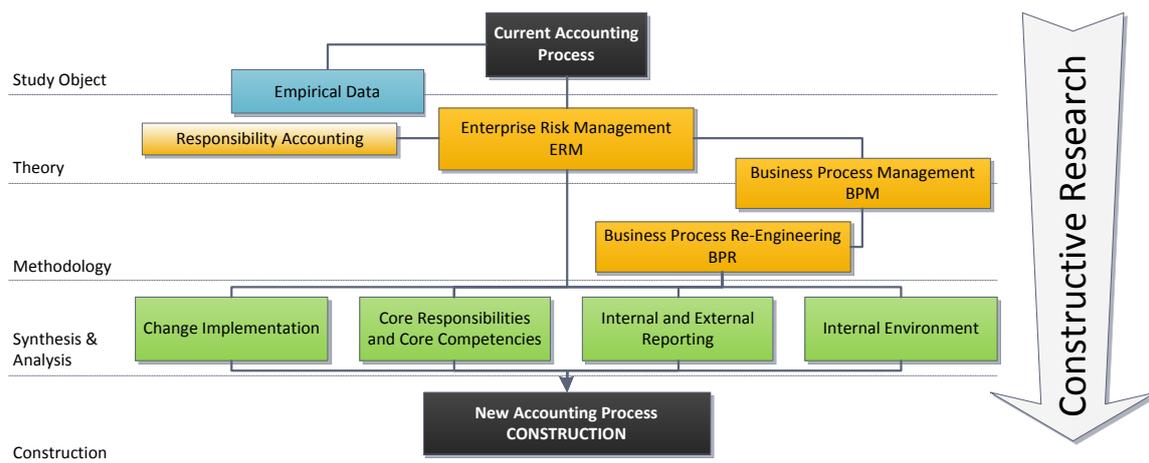


Figure 1. Theoretical framework of the study

The theories and approaches of this study are presented more thoroughly in the coming sections and subsections in this chapter. Enterprise Risk Management will be first presented, followed by Business Process Management and Business Process Re-

Engineering. Responsibility Accounting is cited in chapters 3 and 4 in sections referring to the *responsibilities* dimension.

## 2.1 Enterprise Risk Management

Enterprise Risk Management can be seen in the traditional sense as a way of avoiding mishaps and wrongdoings. In this sense one could imagine that conducting risk management would be the equivalent of standing guard in front of a bank's front door, seeing that no bags of money are being whisked away by people more prone to opportunism than others. There is, however, a more sophisticated way of seeing ERM. In that more sophisticated way, ERM can be seen as a way of analysing the whole process and enabling pursuing for the better while still being able to manage the shortcomings. Risk in its purest form is an equation of probability of an unwanted event multiplied by the magnitude of it. (Collier 2009)

Risk is omnipresent by its nature. Wherever there is activity, there is always risk. In a way, one can say that there are no arbitrages in the real world. With the sophisticated way of understanding risk management as balancing between conformance and performance, risk becomes a performance-inhibiting factor whose relevance should be analysed and proper actions taken. (Collier 2009, Mikes 2009, COSO 2004)

Mikes (2009) sees risk management fall into four ideal categories or archetypes: Risk Silo Management, integrated risk management, risk-based management and holistic risk management. The main difference between these four corporate approaches to risk management is the way from which risks are viewed. Risk silo management starts from the assumption that quantifying different risks and then analysing them in an objective, quantitative way leads to best possible risk management. Indeed, when looking at the banking industry, this is the way how, for instance, the risk in their investment portfolios is managed. However, for the object of this study, as indeed for the purpose of this study, quantifying different risks in this manner would not be ideal. The second and third archetypes are also very much related to quantifiable risks and managing them. Therefore, it is more purposeful to spend some time presenting the fourth archetype, holistic risk management, in more detail. (*ibid*, 23-27)

In concerning the object of this study, holistic risk management is what is used to analyse risks in the current accounting process. Holistic risk management brings with it the inclusion of non-quantifiable risks into the risk management portfolio, thus providing senior management a strategic view on the company's operations, risks involved. It encompasses the whole spectrum of risks, whether they be strategic, operational or even external. The need for holistic risk management has risen from the need to take into account risks that cannot be put, or are not purposeful to be put, in quantitative form. The holistic approach to risk management is also the basis of the COSO-ERM Framework, introduced in the next subsection. (Mikes 2009, 23-27, 34-36; COSO 2004)

### **2.1.1 COSO-ERM Framework**

As stated in section 1.3, a key element in Enterprise Risk Management theory is the COSO-ERM framework, first presented in 2004. The framework is a development of the earlier COSO framework, introduced in 1992. The COSO-ERM framework does not replace the earlier model as such but adds new elements to it. The COSO-ERM framework uses as its graphical depiction the COSO-ERM cube (Figure 2), nowadays commonly dubbed the COSO cube, like its predecessor. (COSO 2004)

The COSO-ERM framework recognizes four main objectives of Enterprise Risk Management:

*Strategic* – high-level goals, aligned with and supporting the company's mission

*Operations* – effective and efficient use of the company's resources in its operations

*Reporting* – quality and reliability of reporting

*Compliance* – compliance with applicable laws and regulations

These four main objectives can be viewed from different organisational unit levels, subsidiary, division, business unit and entity levels presented as examples in the cube. The framework identifies eight interrelated components of ERM, cross-related to the previously presented four main objectives (COSO 2004, Collier 2009):

*Internal Environment* – Internal environment encompasses the tone of an organisation and sets the basis for how risk is viewed and addressed by the people of an entity, including risk management philosophy and risk appetite, integrity and ethical values, and the environment in which they operate.

*Objective Setting* – Setting objectives enables effective ERM. The objectives should be set by operational and strategic management of a company. The set objectives also align the design of control activities with the risk appetite of the company.

*Event Identification* – Internal and external events affecting achieving an entity's objectives must be identified. Distinction between risks and opportunities is done in this component.

*Risk Assessment* – Analysis of risks and considering their likelihood and impact, as a basis for determining how they should be managed is done here. Risks are assessed on an inherent and a residual basis.

*Risk Response* – Management's risk responses – avoiding, accepting, reducing, or sharing risk – is a set of actions aligning in practise risks with the entity's risk tolerances and risk appetite. The risk response component is closely related to the monitoring component.

*Control Activities* – Internal controls and other control activities that help keep the identified risks on an acceptable level.

*Information and Communication* – Analysis and optimization of the communication flows that enable effective ERM.

*Monitoring* – This component consists of constant monitoring of implemented ERM actions and modifications made when necessary. Monitoring is done through on-going management activities and separate evaluations. This component can be seen being equivalent to continuous improvement in BPM framework proposed by Harrington (1995).

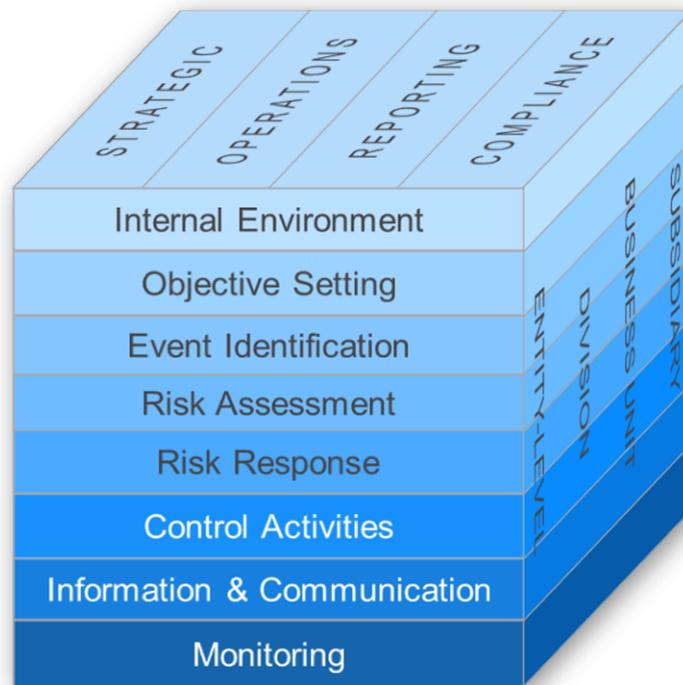


Figure 2. COSO-ERM Cube<sup>10</sup>

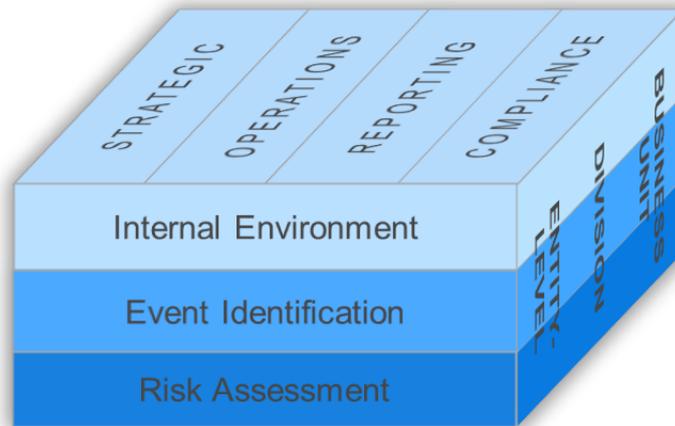
As shortly discussed in section 1.2 Objective of the Study and its Limitations and Restrictions, for the purpose of this research, the COSO-ERM Framework is not used in its entirety. The organisational unit levels that are in scope for this study are all units within ManuCorp. ManuCorp has several subsidiaries but none of them are in connection with Re-ABC operations. From legal point of view, the different country organisations, six of which involved in Re-ABC operations, are wholly-owned subsidiaries of the publicly listed parent group company but in practical terms they are not even seen as separate operating segments as defined by IFRS 8<sup>11</sup> in ManuCorp's group reporting. The organisational unit levels in scope are therefore business unit, division and entity levels.

The study uses three of the eight interrelated components identified by COSO-ERM. As studying the internal controls as such are not in scope for this study, utilizing all of the eight components would not offer added value. Furthermore, the study uses BPR to

<sup>10</sup> The COSO-ERM cube is not in its original colouring for improved clarity. For original colouring, see COSO 2004, 7.

<sup>11</sup> IFRS 8 (International Financial Reporting Standards, standard 8 *Operating Segments*) requires publicly listed companies to disclose information about their operating segments, products and services, geographical areas in which they operate and their major customers. For more information, see <http://www.ifrs.org/IFRSs/Documents/IFRS8en.pdf>. Accessed 13 January 2013.

redesign the core processes within the accounting process. Therefore, using three of the eight interrelated components identified by COSO-ERM is justified. In the below figure those parts of the COSO-ERM cube that are used in this study are presented (Figure 3). The three interrelated components in scope for this study are presented in closer detail below.



*Figure 3. Essential components of the COSO-ERM Cube for this research*

### **2.1.2 Internal Environment**

As shortly described in section 2.1.1, the internal environment of an organisation sets the tone of the organisation and sets the basis for how risk is viewed and addressed. Internal environment is placed at the top of all components in the COSO-ERM framework, highlighting its place as the main building block of enterprise risk management. The internal environment is a wide concept with many iterations and interpretations. It encompasses a wide range of elements in several dimensions, most notable ones for this study being the overall risk management philosophy, organisational aspects and top management's attitude. (Moeller 2007, 52-60)

Risk management philosophy is "...a set of attitudes and beliefs that will tend to characterize how the organisation considers risk in everything it does" (Moeller 2007, 52). Moeller continues by pointing out that while often implicitly present, an organisation's risk management philosophy is embedded in its roots. The prevalent risk management philosophy can be sensed by outsiders as well from the level of risk appetite the organisation has. The appetite for risk usually extends to all levels and can be measured both in qualitative and quantitative terms.

One key component of the organisational aspects in the internal environment is the division of core tasks within the organisation. While some kind of an organisational structure inevitably develops in all organisations, attention should be paid to developing an organisational structure with appropriate lines of authority and responsibility and clear lines of reporting. Effective segregation of duties should be upheld at all times, with constant monitoring and reporting on a daily basis. In most organisations there often come situations where the organisational structure needs some level of improvement. Authority and responsibility should be assigned to correct parties. The modern trend of flattening organisations is increasing employee creativity and empowering lower level employees but, on the other hand, in a flatter organisation rules and operating models should be clearly stated and followed. (Moeller, 56-57)

Top management's attitude towards the operative organisation is another key dimension of the internal environment. Top management has the widest view of the whole operations of a company and, thus, should actively encourage development throughout all operations. They should avoid a this-doesn't-concern-me attitude as it sends a passivizing message to the operative organisation and instead be the ones who are not afraid to ask tough questions when they need to be asked. (Moeller 2007, 55)

This study identifies notable shortcomings in the prevalent internal environment of Re-ABC operations in all dimensions. They are introduced in section 3.1 and discussed throughout chapters 3, 4 and 5.

### **2.1.3 Event Identification**

The event identification component of the COSO-ERM framework is very similar to the Understanding the Process phase of BPM, introduced in section 2.2. The main target of this component is to find and analyse events that affect the ERM strategy of an organisation or the achievement of its objectives. The events can be negative or positive as well as internal or external. External events such as market fluctuations or natural environmental events are not explored in this study as they have little to no effect in the scope of this study. (Moeller 2007, 67-68)

There are many different methods of identifying positive or negative risk events. One method coincides with BPM's idea of continuous improvement: an organisation should

keep track of its previous learnings by establishing a distribution channel of implicit and explicit data and knowledge. The data for this “lessons learned archive” is often provided by long-serving members of the organisation who remember past successes and failures. This type of inventory is often overlooked in modern day organisations as time pressures and ways of working often don’t allow time for employees to document their past experiences. (Moeller 2007, 70)

Another possibility is to conduct interviews, questionnaires and surveys. These surveys can be directed at external or internal parties, ranging from customer satisfaction survey type generic questionnaires to comprehensive and detailed interviews with organisation personnel. This information is documented, and serves as the base for taking action and thus creating organisation-wide codified knowledge bases like code of conduct handbooks. (Moeller 2007, 71; 320-322)

Neiger, Rotaru and Churilov (2009, 160) suggest activity-based risk identification which in principle means drawing process maps and identifying different events from them. This again resonates heavily to the BPM approach that describes the steps of business process modelling and provides tools for conducting analysis based on those models. BPM and process modelling are discussed in section 2.2.

The key to successful ERM is the use of a variety of different risk identification methods (Neiger et al. 2009; Moeller 2007). They should be used in unison and in a way where they complement each other, as with all analysis requiring a multiple method approach. This study uses multiple methods in gathering information on the prevalent accounting process and uses multiple analysis methods in identifying risks in the prevalent process, as well as taking a stand on those identified risks when introducing the new construction in Chapter 4.

#### **2.1.4 Risk Assessment**

After risk-carrying events have been identified their relevance to the operations should be assessed. Risk assessment allows the organisation to consider to what extent risk events affect the achievement of its objectives. The risks should be assessed from two perspectives: the likelihood of the risk-carrying event’s occurrence and its impact. Another important distinction to be made when assessing risks is to make a distinction

between inherent and residual risks. Inherent risk is risk that exists inherently in the process, either due to external or internal factors. Residual risk on the other hand is risk that remains still in the process after risk preventive measures are taken. The amount of residual risk can be managed whereas inherent risk is only changed when the organisation itself changes. (Moeller 2007, 73)

Assessing the likelihood of risk is difficult. The assessment of both external and internal risk events relies on estimation and expert opinion. As opinions and forecasts are inherently imprecise, assessing the likelihood of different risk events should be done on a general enough level. No point is served when likelihood of different unknown events is estimated in terms of multiple decimal points. The difficulty of estimating the possible impact of different risk events however varies depending on the complexity of the process. As modern business processes have become increasingly complicated, it is reasonable to assume that assessing both the likelihood and impact of various risk events to a high accuracy rate is difficult if not impossible. (Moeller 2007, 74-75; Damij 2007)

Analysing risk should be done both with quantitative and qualitative measures. A common way of presenting the results of a risk assessment is a tabular presentation where the levels of risk likelihood and risk impact are presented and assessed<sup>12</sup>. Additionally, when planning control actions, an action column can be inserted in the risk assessment table as well. This table is then reviewed and decisions are made whether to address certain risks or not. (Moeller 2007, 74-76)

## **2.2 Business Process Management**

Business process management (BPM) is an approach focused on finding ways to create, establish, evaluate and improve business processes. Smart, Maddern and Maull (2008, 494) state that there is *no current consensus on the principles or key characteristics of BPM*. Even though they make this quite strong a statement, they refer to studies by Lee

---

<sup>12</sup> A risk assessment table was drawn for ManuCorp as a part of this study. See Appendix 1.

and Dale and Zairi<sup>13</sup>, referenced by many others as well. They in turn widely take advantage of the work of Harrington (1995), which in turn gives a thorough, handbook-type introduction to BPM. Zairi even goes as far as proposing that Harrington's approach should be applied as academic standard.

This study uses Harrington's (1995, 340-358) approach as its business process management approach. Harrington proposes a five-step process with 27 activities as the base for business process improvement. The five phases are chronologically structured and follow the commonsensical understanding of process control:

1. Organizing for Improvement
2. Understanding the Process
3. Streamlining the Process
4. Implementation, Measurement and Controls
5. Continuous improvement

The different phases follow each other with the addition of hermeneutic principles of constant interaction and cyclical improvement, see Figure 4. As the implementation of the new process is out of scope for the study, the fifth phase, Continuous improvement, focused on establishing the new improved processes and constantly developing them, can be considered out of scope as well. Therefore, the first four phases as described by Harrington (1995) are used for this study. These four first phases are further discussed in subchapters 2.2.1 and 2.2.2. The fourth phase, implementation, measurement and controls, is only partly taking a stand in the implementation process of the new process construction, its main focus being in designing road maps and generic guidelines for the implementation process, something that is considered within scope for this paper. Hence, this phase is considered relevant to this study, discussed further in subsection 2.2.2. Furthermore, to make clear the positioning of ERM, BPR and BPM also visually, Figure 5 *Business process management approach used for this study*, is shown.

---

<sup>13</sup> Lee and Dale is used as reference in this study, see Lee and Dale (1998). See Zairi, M. Business process management: a boundaryless approach to modern competitiveness. *Business Process Management*, 3(1) pp64-80 for further reference.

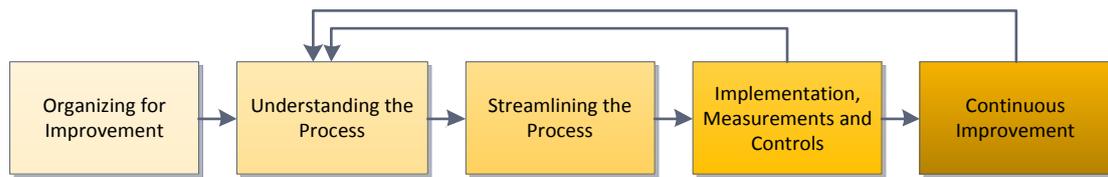


Figure 4. Business process management model proposed by Harrington (1995)

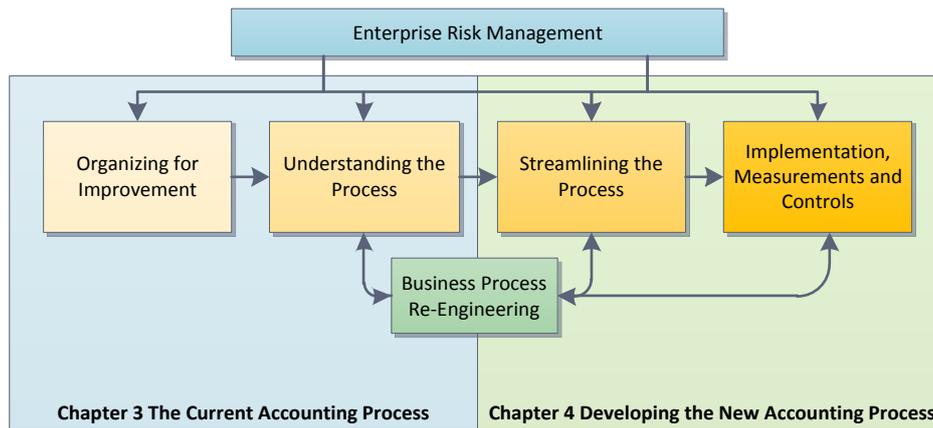


Figure 5. Business process management approach used for this study

The research is constructed in a way where the different steps depicted in Figure 5 are together present in the empirical chapters. The first two steps of the model, Organizing for Improvement and Understanding the Process are mainly present in the first empirical chapter, concentrated on analyzing the prevalent process. The latter two phases, Streamlining the Process and Implementation, Measurement and Controls coincide with the second empirical chapter, focused on building a new accounting process construction. Furthermore, BPR offers tools for depicting sub-processes and building the new process construction.

### 2.2.1 Organizing for Improvement and Understanding the Process

The first step in business process management is for the organisation to organize for improvement. This phase includes such tasks as identifying critical business processes, setting preliminary boundaries, establishing measurements and developing project and change management plans. In other words, in this phase the organisation recognizes the need for change and makes sure that all necessary actions are taken for the process to be re-engineered. (Harrington 1995, 341-343)

Smart et al. (2008, 497-498) categorize the establishment of process measurement one of the key elements of BPM. Indeed, defining which dimensions the change should bring improvement in is integral to any change process. Harrington (1995, 342) argues that only after setting the goals for the change can the development plans and change management plans be created.

In this study there are three improvement dimensions identified: Internal environment, deriving from the ERM theory; core responsibilities vs. core competencies and reporting and its usefulness in tactical and strategic decision-making. These dimensions serve also as the basis for the structure of the empirical chapters.

“Unfortunately, most business processes are not documented, and often when they are documented, the processes are not followed” (Harrington 1995, 343). This statement is uncannily true and reflects well the gap between the real, living world and the theoretical, tightly structured and rigid guidelines. Keeping this in mind, the fact that written process descriptions often differ from real life processes is well understandable. Therefore, it’s vitally important to build understanding of the prevalent processes in order to be able to change them in an effective way.

Often this step of building understanding of the prevalent processes is the most arduous and time consuming one. Scrutinizing the existing structures and its nuances can be even demotivating if the end goal is not always kept in mind. Also, as everyone has already their own perceptions on what is wrong in the prevalent processes, it is often tempting to skip the step of documenting the process formally and in written form (Rohleder and Silver 1997, 143-144). Studies have shown, though, that really putting effort and energy in this step pays off as new discoveries are made. Seethamraju and Marjanovic (2009, 926) go one step further, stating that “...any [business process] improvement process is, in fact, a knowledge intensive process as all decisions about activities and tasks to be performed implicitly and explicitly deal with process-related knowledge.” Their comment suggests that business process management requires true knowledge of the process at hand. This statement is easy to accept.

Harrington (1995, 343-344) underlines the importance of flowcharting the processes to be reformed. The process map flowchart and other graphical and verbal depictions can then be analysed and compared against other processes within the company. Seethamraju and

Marjanovic (2009, 926) stress the importance of experiential knowledge over simply basing change decisions on rigid models, rules and policies. Indeed, this study utilizes both modelling and experiential knowledge documentation as its tools for analysing the prevalent accounting process and in building the new construction.

### **2.2.2 Streamlining the Process and Implementation, Measurement and Control**

After organizing for improvement and understanding the process, the company should streamline the process. This means choosing how the process should be changed: whether a new construction is needed or whether modifying the old process is enough. A business process as a unit for analysis and improvement has been a central theme in literature related to BPM (Smart et al. 2008).

Two different redesigning approaches to streamlining the process are identified: process redesign and new process design (process re-engineering). In these approaches the prevalent processes are analysed and changes or new constructions are formed based on that analysis. (Harrington 1995, 345-350)

Harrington (1995, 345-349) makes a distinction between the two based on the severity and scale of the change. He argues that a more incremental change of redesigning the existing process is *process redesign*, whereas building a new construction is *process re-engineering*. The line drawn is vague – what is redesigning an existing process and what should be considered a new construction; should the nominator be the amount of positions changed, the percentage of process-related tasks changed or something else? Rohleder and Silver (1997) offer another perspective. They propose two possible ways of conducting business process management: by finding a resolution to a problem or by conducting process innovation. They in turn name the both ways of executing business process management business process *improvement*. This study will avoid the semantic battle between the terms *redesign* and *re-engineering* (and, indeed, *improvement*) and consider them as synonymous for the purpose of executing business process management. The term used in this study is business process *re-engineering* but one can reiterate and interpret it as business process *redesign* or business process *improvement* at one's will.

The fourth phase of business process management, *Implementation, Measurement and Controls*, begins with developing an implementation plan. He suggests the formation of a separate department improvement team<sup>14</sup> whose responsibility is then to help in execution of the change process. If the change is big in terms of work load or complicated in its structure, the department improvement team can be divided into separate sub-groups to better accommodate the more complex implementation process. (Harrington 1995, 352)

Another activity is the implementation of the new process. Here, the plan is brought to action by the executive team(s) assigned to the change process. There are almost as many different ways of implementing the change proposed as there are articles and studies written about it. For example, Rohleder and Silver (1997) consider testing the new process vitally important and suggest that, at least in changes of bigger scale, a test pilot for the change is created. They stress on the implementation phase of business process management. Smart et al. (2008) mention that while simulation is useful, the process should be managed throughout its life cycle, and that the actual implementation is not more important than any other step in the management process. Mansar and Reijers (2007) list a top ten of best practices in business process re-engineering, all differing at least slightly from each other. All in all it could be said that whatever the chosen method to conduct the change is, what is important is that the chosen path is systematically followed and its success analysed throughout implementation.

The study will give a commentary on the implementation of the proposed construction and take a stand on in what order the different changes should be conducted. This commentary will serve as a preliminary implementation plan. Like previously stated, as the implementation of the new construction is out of scope for this study, a comprehensive implementation plan in full detail will not be drafted.

### **2.2.3 Business Process Re-Engineering**

The term process re-engineering was first coined in the very early 1990s. Smart, Maddern and Maull (2008) state in their quest to find a comprehensive framework for business

---

<sup>14</sup> The team is named Change Implementation Team in this study, see section 4.2.

process re-engineering (BPR) that after its first introduction, BPR became instantly popular, with several hundreds of articles written on each of its first years since initial introduction. They write that in the recent years, BPR has been adopted more by engineering and IT academics, reducing its importance and relevance to the bigger academic community. The overall importance of BPR as the execution step in the business process management approach is still inevitably strong (Mansar and Reijers 2007).

Business process re-engineering is a challenging process with many different interpretations by different scholars. Reijers and Mansar (2002) list several different BPR techniques, tactics and theories in their effort to find best practices. Their goal was to define a framework for BPR implementation and to identify best practices in BPR implementation. Their analysis work is profound and serves as a good overview of BPR literature until 2002, but the framework they introduce seems inevitably incomplete<sup>15</sup>, solely focusing on the evaluation and analysis axis.

BPR Scholars often emphasize project management and organisational issues in their research but often fail to address the challenge of designing a functioning business process that offers radical improvement to the prevalent process (Mansar and Reijers 2007, 193). This study attempts to fill this void by incorporating BPR, BPM and ERM in the analysis of the prevalent process and the rebuilding of the new construction.

Harrington (1995, 345-349) categorized BPR under the third step of BPM process, *Streamlining the Process*. He further separates business process redesign and business process re-engineering. It is discussed in several papers<sup>16</sup> whether the conceptual framework of BPM is too diversified and scattered and whether for instance the both BPRs, business process redesign and re-engineering could be considered synonymous. In this study the two are considered synonymous and referred to as business process *re-engineering*.<sup>17</sup>

---

<sup>15</sup> Reijers and Mansar (2002) introduce their proposed BPR framework on page 293 in their study.

<sup>16</sup> For further reference, see for instance Telwar 1993 and Mansar and Reijers, 2007.

<sup>17</sup> First stated in section 2.2.2.

In this study, business process re-engineering (BPR) is considered as an approach covering the execution phase of business process management (BPM). It encompasses the third phase of business process management as described by Harrington (1995). It gives also practical advice in implementing the new process, phase four, and gives practical guidance on analysing existing constructions, step two in Harrington's model.

#### **2.2.4 Process Modelling and Level of Detail**

Modelling business processes is a delicate science. Ever since the introduction and rise of business process management theory and its applications, modelling relevant business processes has become an integral part of corporate management and development. They are great potential value adding tools for an organisation and at best offer good summary or detailed level information on a business process or its parts. (Nurcan, Etien, Kaabi, Zouker and Rolland 2005; Damij 2007)

It seems, though, that the Achilles' heel of different business process models is the fact that the amount of detail they handle is very large and mastering them is extremely difficult. It seems that the pitfall many fall in when modelling their business processes is to create the models with such level of detail that they become too complex to be effectively utilized. To tackle this problem, different iterations of process models have been developed, most notably the process map. A process map is very flexible in its presentation form, but the main aspect of it is that it is drawn to serve a strategic point of view to serve strategic goals of the company. Thus, the process map is an efficient, strategic tool in business process management instead of a highly detailed what-to-do, task list synthesis type of graphical presentation. (Nurcan et al. 2005, 629-630, 646)

Another pitfall identified by Nurcan et al. (2005, 645-646) is the language used in different models. Their research showed that ERP experts and organisational stakeholders had difficulties in understanding each other when modelling a new ERP system, a problem that, in worst case, could end up in the system failing to meet the organisation's requirements. Although their example is from a case of ERP implementation, it should be applicable to all situations where the professional language spoken by process experts differs significantly from that of the other stakeholders, e.g. senior management. The

solution Nurcan et al. offers is to leverage the business process view, in other words, to use lingo that is as commonsensical as possible.

The flow chart type process map depiction was chosen for this study because of its wide use and easy understandability. The flowcharts are drawn with Microsoft Visio flowcharting tool and use the following basic elements of business process modelling<sup>18</sup> (see Figure 6):

*Starting Point and Ending Point* – All process flows start from a starting point and end at an ending point. They are depicted by a rectangular shape with rounded edges (also known as a terminus symbol).

*Activity* – An activity is a task that has to be done in order for the process to go forward. It is depicted by a rectangular shape.

*Decision* – A decision is a task that has alternative paths that can be taken based on a Boolean expression (Damij 2007, 77). A decision is show with a diamond shape.

*Arrow*- An arrow connects two activities, the direction of the arrow showing the flow of the process.

*Department* – A department (also commonly dubbed as swimlane) holds a set of activities within it in and creates distinction between different sets of activities.

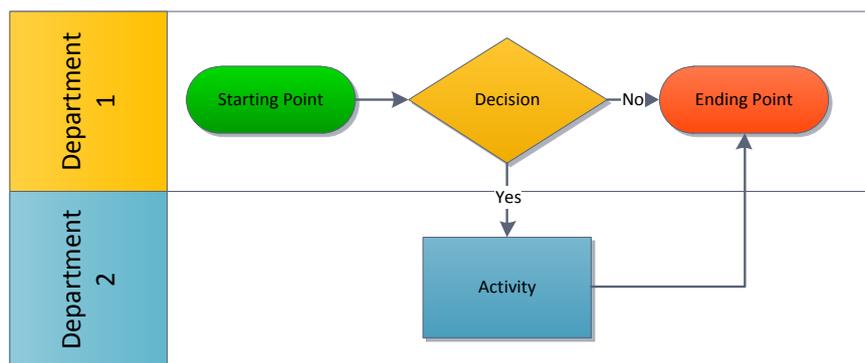


Figure 6. Example of a process map flowchart

This research takes note of all of the above and tries to have the level of detail in different process maps as limited as possible (with keeping in mind that a certain level of detail has

---

<sup>18</sup> The business process modelling elements are introduced similarly in Damij 2007, 76-77.

to be kept to ensure correctness) and to use as commonsensical language as is reasonable. A positively contributing part to the use of understandable language is the confidentiality requirement of this research: while problems in the process are discussed openly, some measures have to be taken in order not to reveal the study organisation's identity. Therefore, organisation-specific terminology cannot be used.

### **2.3 Conducting the Study**

The empirical data for this study were gathered over a period of three months, from the beginning of September to the end of December 2012. During the emic phase of the study, production units and/or Re-ABC operations centres in countries 1, 2, 3 and 4 were visited. A research diary was written during these visits to write down observations as well as document comments made by different Re-ABC stakeholders, some of which are quoted in the study. The theoretical framework for the study was also formed during this time.

After the emic phase where the empirical data was gathered finished, the etic, theoretical phase of the study began with the analysis and synthesis of the data through the theoretical and methodological lenses formed. Building the new construction was also done in this phase. Due to ManuCorp's wish, the newly developed reporting structure was already taken into use in the beginning of year 2013 in order to have consistent financial and management accounting reporting figures throughout the year. Therefore, a weak market test for the reporting structure was conducted: the study object already decided to implement that dimension of the proposed construction.<sup>19</sup>

As this study makes a thorough qualitative analysis of the prevalent accounting process and bases the new construction on those findings, the importance of having multiple sources of data, both objective and subjective, is highlighted. Accounting system data is identified as an objective data source. The subjective data sources are many, the main ones used being intra-company communication, i.e. company intranet and announcements and documented conversations and comments, either e-mail

---

<sup>19</sup> This weak market test is further discussed in section 5.1.3.

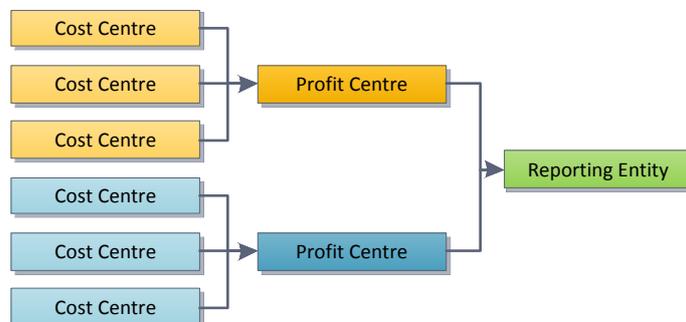
correspondence or notes in the research diary. The empirical data gathering methods are presented in more detail in the next sub-section below.

### 2.3.1 Data Gathering

#### *Accounting System Data*

Accounting system data is used to analyse the prevalent reporting structures and to verify, whether some subjective claims are true or not based on numeric data. As the study does not analyse the profitability of the operations, nor does it make any suggestions concerning strategy, presenting this numeric data as such in this study is mostly irrelevant.

The company uses a three-tier reporting unit structure where several cost centres are reported under their respective profit centres, which in turn are consolidated at month end and reported in various reporting entities, seen in Figure 7. Cost centres are used to analyse the cost structures of different operating teams or detailed parts of a production process, whereas profit centres are regarded as the lowest level of operational reporting. This corresponds to the responsibility accounting principle where cost centres and profit centres are responsibility units that are under the responsibility of particular managers (Choudhury 1986). When analysing the prevalent reporting structures and proposing new ones, the models are presented on profit centre level. (As cost centres can link to no more than one profit centre, reporting modelling on profit centre level is sufficient.) In some sections, the term ‘reporting unit’ is used as a synonym for profit centre for clarity’s sake.



*Figure 7. ManuCorp reporting unit structure*

*Documented Correspondence and Research Diary*

Part of the empirical data for this study comes from documented e-mail correspondence and a research diary that has been written in the emic phase of the research. As Eisenhardt and Graebner (2007, 28-29) write, interviews are the most common way to collect empirical data in addition to archive data and observations. They also write on the challenge that lay in interview data, the so-called “knee-jerk” reaction: interviewees are often prone to blame retrospective sense-making, i.e. the decisions made in the past. In order to avoid this, instead of conducting interviews a research diary was kept and e-mail correspondence documented. The persons whose comments have been documented have not been expressly told which comments would be used for the study. This way people have discussed more freely, and the challenge related to using traditional interview data described by Eisenhardt and Graebner is mitigated.

Jönsson and Lukka also speak for documenting observations rather than conducting interviews when doing (constructive) interventionist research. They state that:

*The key advantage of interventionist research is the opportunity to collect more subtle and significant data than what can be accessed through more traditional research methods. Interventionist research is not just theorising ‘grounded in the data’, but it means being ‘grounded in action’. One of the most important reasons to conduct interventionist research is to overcome the weaknesses of research where subjects do not have to commit to action in their own organisational life and to shape a future that they will have to inhabit themselves. Interventionist researcher gets an opportunity to examine what participants actually say and do in circumstances, which really matter to them, as compared to what they might say or do hypothetically. (Jönsson and Lukka 2006, 375)*

The research diary has observations documented during visits to production units in countries 1, 2 and 3 as well as a visit to an administrative office in country 4, responsible for carrying out the accounting processes in countries 4 and 5. In addition, it holds notes written during conversations with several persons in various locations in Finland as well as other observations that have been observed throughout the emic phase of the research.

The e-mail correspondence is stored and archived in electronic form. The research diary is archived in hand-written form.

### **2.3.2 Analysis and Synthesis**

Analysing the empirical data and the current accounting process as well as building the new accounting process construction was started in January 2013 after the emic phase of the study ended. This two phase approach is what Jönsson and Lukka (2006, 381-385) describe as a norm for constructive research. As they describe, the first step in the etic phase is the reverse engineering of empirical data and observations, i.e. to move backwards in time when analysing data against theory. The second step is to build the theoretical contribution of the study, while the final step is to re-contextualize the findings.

For the first step, a period of no interaction with the study object was established. This happened in the first three weeks of January 2013. During this time, the empirical data was reviewed to identify and separate the relevant data from the irrelevant. The basis for the divide was to identify the critical variables for accomplishing the intended effects in the three pre-selected dimensions: structure of responsibilities and its implications, internal environment and characteristics in reporting. The data were reviewed through the theoretical and methodological lenses built in the theoretical framework forming phase. Enterprise Risk Management and Business Process Management were used as the approaches through which the empirical findings were reviewed<sup>20</sup>. As a result of this, a series of process map flowcharts and other graphical as well as tabular depictions of the process were drawn, derived from several hand-drawn and hand-written draft versions.

After this, the building of the new construction began. Using the same lenses with the addition of tools provided by Business Process Re-Engineering, the new construction was slowly formed. By this time, the researcher's work with the study object continued, final findings being presented in draft form as they became presentable. The new construction was throughout its forming being mirrored to the prevalent process in order to ensure the

---

<sup>20</sup>For a more comprehensive introduction to the existing theories and methodology used in this study, see sections 2.1 and 2.2.

new process and the needed changes described would be aligned with the findings in the prevalent process.

The final step was to re-contextualize the findings in order to align this final report with the given presentation framework. Jönsson and Lukka (2006, 385) write that one problem with presenting the research findings of an interventionist research is the sheer volume and richness of data compared to the limited space of an article text. In this case, they propose publishing a collection of several manuscripts. However, the length of a master's thesis research report is less constricted than of research papers in average, thus giving the opportunity to present findings on all the three development dimensions chosen for this same report<sup>21</sup>.

---

<sup>21</sup> The three dimensions are introduced in chapter 1: *Internal environment, responsibilities and reporting*.

### 3 THE CURRENT ACCOUNTING PROCESS

The current Re-ABC accounting process has developed over a period of several years. Re-ABC operations have had the paradoxical development path of increasing business importance and decreasing controlling of the process within ManuCorp. This development has led to the prevailing situation where other ManuCorp internal stakeholders see Re-ABC operations as rogue and out of control and the Re-ABC organisation itself has a strong feeling of being betrayed by the rest of the organisation. *We have done our jobs just like you asked us to do them: in our own way and to the best of our abilities. And now you come and say that we have played you fools.* This quite tristful sensation was very much present and easily observed when visiting the Re-ABC organisation administrative office in country 4 in Mid-December. Analysis on the internal environment is continued in section 3.1.

Contributors to the poor internal environment have been unclear and incomplete segregation of duties, poor matching of core tasks with core competencies and uneven distribution of power. The Re-ABC process has had the position of an unwanted child, leading different persons to *assume* different key roles within the organisation. Almost as if by default, the majority of these roles have been later formalized by changing work descriptions and job titles of the personnel. Responsibilities are discussed further in section 3.2.

The reporting structure is the third dimension of the current accounting process which is studied, see section 3.3. The most distinctive feature of it is that it has been let to form naturally and separately in each region. Due to this, it has its upsides and downsides, upside being its reflectivity of the different scales of business in each different country. The downside is that due to the very different reporting structures, comparability of financial figures and profitability analysis is rendered extremely difficult. Introducing a solution to inconsistencies between different financial figures is one of the main practical goals of this study.

### **3.1 Internal Environment**

The internal environment is “setting the tone of an organisation and influencing control consciousness of its people” (Lightle, Castellano and Cutting 2007, 51). A good and effective internal environment is empowering people to monitor themselves and others in a positive way and seek constant improvement. As an analogy it could be said that when one knows one’s limits well, one can operate more freely. A poor internal environment is a hindrance, both to effective execution of tasks as such concepts like controlling are perceived futile and to the healthy development of the organisation as outside input can be seen as a threat, someone meddling in a good business that should be left alone.

To evaluate the internal environment, several factors should be considered. The traditional approach would be to send questionnaires and observe from the outside the perceptions of senior management towards the internal environment. The problem of this approach is that the true picture can be obscured by the aspiration of the managers to have a well-functioning internal environment. Therefore, a multi-focal approach is taken for this study, observing both senior management and the people who actually work in that environment. In the following sub-sections the prevalent internal environment is discussed with real-life examples of its shortcomings. (Lightle et al. 2007; COSO 2004)

#### **3.1.1 Thoughts on the Prevalent Internal Environment**

*You know, they [the Re-ABC operations teams] don’t need auditing anymore but something totally different. (General Manager, production unit, country 2, 19 December 2012)*

The overall internal environment of Re-ABC operations is quite poor. The COSO-ERM framework (2004, 84-91) discusses the need of having control responsibilities defined within the internal environment. The importance of having a clear controlling organ is well justified in any organisation. The apparent lack of that organ has led to the situation where top management sees Re-ABC operations as a rogue operation, doing what it will, with little regard to ManuCorp’s strategic needs. Some have the perception that there has been straightforward lying in such situations like profitability reporting and achieving of strategic goals.

*Whatever we do, nobody seems to believe us. They always say we're lying to them though that's not true.* (Process Expert, Re-ABC operations, country 4, 11 December 2012)

This quote among others leads to the assumption that while at least in most cases the Re-ABC organisation members have not willingly misled anyone, the source of these kinds of perceptions must be inborn in the operational organisation itself. In order to have a healthy internal environment, an encouraging and supportive atmosphere should be in place and its level monitored, kept and improved. As stated in the introductory chapter of this study, there has been a general let-go attitude towards Re-ABC operations. It is reasonable to assume that this general attitude, along with (and because of) the lack of controlling, has contributed to the ever-worsening internal environment. (COSO 2004, Moeller 2007)

Lightle et al. (2007) discuss assessing the internal environment of an organisation in their paper. In their case study on an American manufacturing company, they found out that if left in its natural state, the organisational culture of sales and purchasing has a natural tendency to slide towards a situation where, while its representatives have high moral and respect for their employer, they often bend the rules and make case-by-case exceptions to ease the often strict processes.

Re-ABC organisation's internal environment is a good example of a case of outside neglect that has led to poor process outcomes. Partly it has been due to strong attitudes towards outside input of the organisation itself but, all in all, they have still been subordinates of the top management and thus, direct orders and organisational changes could have been made in order to improve the worsening internal environment.

### **3.1.2 Handling Deliveries of Inferior Quality Raw Material**

One major concern in countries 1 and 2 was the high amount of discrepancies in inventory values and write-offs to raw material stocks. Investigating the matter resulted in finding out that it was more or less a common practise that when raw material came from the supplier and was tested, if the quality was inferior to what was ordered but still usable in the production process, the warehouse keepers would accept the material as prime quality and manually earmark the material as inferior (e.g. moving it physically to

different piles in the warehouse, labelling the material as inferior or degraded). This leads to substantial differences in values between counted stock and inventory reports taken from the accounting system, a situation that is a reality in country 2. In country 1 the systematically growing difference had been reset almost daily by conducting a stock take and writing off the inventory difference. This means the amount of write-offs and adjustments to stocks is at too high a level compared to the industry standard. (See Figure 8).

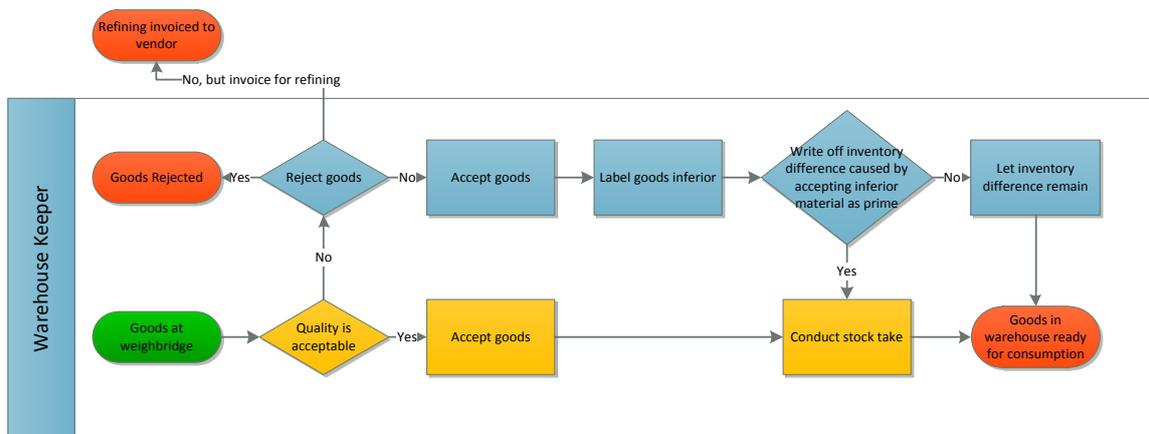


Figure 8. Prevalent goods acceptance process

ManuCorp's written policy is either not to accept inferior quality (rejecting the loads and turning the truck or train carriages back to the supplier) or to invoice the supplier the cost of refining the material to match prime quality. It was obvious that this company policy was either only partly or, in worst case, not at all followed. Neiger, Rotaru and Churilov (2009, 160) write on supply chain risk management, emphasizing that the key elements of selecting and maintaining supplier relationships include minimizing the risks of supplier's inability to conform to specifications and poor supplier's collaboration. These are risks that the prevalent process allows to be present at high level by not controlling at all the actions of the warehouse keepers when receiving the raw material.

*I fully accept and encourage my people to accept poor quality at times. It keeps our supplier relations good. You know, we've got to keep our suppliers happy.*

(Vice President, Re-ABC operations, 29 November 2012)

After hearing this, it was pointed out to the Vice President that the issue is not having warehouse keepers accept inferior quality at times but having no limits set to what extent this practise can be done and no control in place to see that the persons in questions stay

within their set limits. Furthermore, ManuCorp's company policy says quite clearly what to do in situations of inferior quality deliveries. After some discussion, an improved ad hoc process for handling inferior quality shipments and some primitive controls were agreed upon.

This is a good example of the ad hoc nature of problem solving, referred to in chapter 1. Furthermore, it highlights the practical need for this study. When problems deriving from systematic errors are discovered, the actions taken to correct them have a similar effect to covering a wound with a Band-Aid. The amount of these Band-Aids has now reached a critical level and a more wholesome solution is needed.

### **3.1.3 Re-sales of Purchased Goods**

One key risk identified in this study relates to the re-selling process of purchased goods. As described in chapter 1, Re-ABC is a raw material that is inconsistent by nature and therefore a certain number of by-products are mixed within usable raw material when Re-ABC is acquired. Furthermore, Re-ABC has a relatively short shelf life, forcing reselling of usable material when production is cut for technical, market or other reasons.

As the Re-ABC organisation is mainly consisted of sourcing and supply chain specialists, their knowledge in sales processes is relatively poor. This, combined with the complexity of Re-ABC as a raw material and, thus, its handling, has led to the situation where there are many shortcomings in the re-sales process. This study has identified two of these as major risks: problems with value-added tax (VAT) postings and matching of sales invoices against payments received from customers.

Re-ABC operations have had continuing challenges in with VAT in their re-sales postings. The reason for this stems first of all from the fact that Re-ABC operations use not the standard invoice handling system of ManuCorp but a customized version of another ManuCorp system, originally developed for purchase invoice handling and material management. Due to this, the VAT codes, defining how VAT for a particular transaction is to be declared, have to be manually added. Lacking statutory accounting and compliance knowledge, there have been several cases where wrong VAT codes have been used, leading to ManuCorp's VAT being declared wrongly to the local tax administrations. This is particularly a problem in country 2 where the re-sales activity is

much more prominent than in other countries. This risk that has already realized in multiple events is one of ManuCorp's statutory accounting teams' key concerns in Re-ABC operations, demonstrated by this comment that was written right after the emic phase of the study had ended:

*Well you know that we have been pretty much saying for the inception of [Re-ABC] that it [VAT in re-sales of Re-ABC and by-products] was not working ... you can imagine how much of a risk has been taken given we have had huge accruals relating to backlog of invoices. No point in looking back now, just glad it is improving. (Statutory Finance Specialist, country 2, 13 February 2013)*

Re-ABC is a material which is paid per the scale weight of the receiver. The reason for this is that the material is inconsistent in form and can be classified differently by the customer than the vendor has thought. Digital photographs and other proofing documentation are taken for each supplied batch in case there are inconsistencies with the material delivered. In addition to possible reclassification of quality of the material, the actual weight of the material changes as well as the material is decomposing constantly, the speed of which varying dependent on the amount of contaminants in the material. This means that sales invoices and the money received from the customers often don't match.

ManuCorp does not have a fully defined standard process for such an event as almost all of the materials it sells are materials which are paid per the seller's weighbridge. Therefore, the process of clearing the difference between the sales invoice and money received is somewhat cumbersome. Although time consuming, this cumbersomeness would not be a problem as such, the issue being the way the Re-ABC organisation sees the problem could be corrected, illustrated by the following statement:

*You see, we've got this problem of payments received not matching the sales invoices. Could you ask if we could get somehow a right to change our [own] sales invoices afterwards so that the amounts would match? (Supply Chain Manager, countries 4 and 5, 12 December 2012)*

This comment, although harmless as such, shows how deeply rooted the false perceptions of autonomous power are within the organisation. If the action proposed in this comment

would have been taken, it would have introduced a serious segregation of duties problem in the process. Giving someone the right to modify their own sales invoices afterwards would make possible two distinct scenarios. Firstly, it would allow phantom invoicing as sales invoices could be raised and subsequently reduced to zero value. Secondly, a deal could be made under the table by the sales invoice issuer and the customer to reduce the amount of the sales invoice and for the customer to pay the remainder to the person himself/herself.

Again, these two examples are examples of not calculative wrongdoing but of lack of understanding of some core tasks in core processes. Corrective measures for these issues are presented with the introduction of the new construction in Chapter 4.

### **3.2 Responsibilities**

For an organisation to perform effectively, the core processes it engages upon should be matched with the core competencies of its people. Vazirani (2010, 124) reminds that core tasks should be assigned in relation to performance in the workplace, not merely by people's aspirations and self-perceptions. Several competence models and frameworks have been developed but they often are merely academic or focus on personal development as a model serving many different organisations is hard to develop as organisations vary quite heavily, even within the same industry.

ERM lists three common human resources related risks in projects and organisations: poor organisation (insufficient definitions of duties, failure to motivate employees...), absence of leadership and failure to build strong teams (Moeller 2007, 289). These all are pitfalls that may lead to underperforming organisations if not properly addressed.

This section explores different dimensions in the division of responsibilities in Re-ABC operations. Focus is given to segregation of duties, matching of core competencies and core tasks as well as perceptions of power within Re-ABC operations and of other ManuCorp's internal stakeholders towards Re-ABC operations.

### 3.2.1 Segregation of Duties

Good segregation of duties (SOD) ensures that core duties are divided among different actors in order to reduce the risk of error or fraud. An effective segregation of duties is a vital part of all well-performing organisations. Lightle and Vallario (2003, 28) discuss the effect of an enterprise resource planning (ERP) system on segregation of duties. They write that as the system brings forward a lack of physical separation of tasks, focus should be put on having clear process responsibility lines drawn. According to them, separate master lists should be kept and they should be analysed for interlaps on a regular basis to prevent hazardous SOD development.

Roles and responsibilities within Re-ABC operations have never been comprehensively planned but an ad hoc type approach to rising issues has been adopted. As a result of this, the duty combinations of some persons within the Re-ABC organisation seem dangerous, as can be seen from the following quote:

*I have seen a lot of strange rights combinations when working as an internal auditor but never have I seen a set of approval rights this omnipotent. (Business Controller, Re-ABC operations, November 2012. Comment on the set of system rights of one member of the Re-ABC organisation.)*

The set of approval rights of this particular person allows opening a vendor account in the system, creating purchase orders, posting goods receipts, handling invoices and running self-billing runs. In theory, a set of rights like this would allow opening a false vendor account (a check is done by the vendor creation team whether the company actually exists or not), posting goods receipts for non-existent deliveries, accepting made up invoices for the deliveries and running self-billing for the items, thus generating an actual money transfer for the falsified or made up documents. Evidence of such behaviour in real life has not been found but the sheer possibility of this kind procedure being allowed in the system is alarming.

*Part of Section 3.2.1 is hidden due to confidentiality reasons.*

The new construction this research proposes offers solutions for the abovementioned problems in SOD in the prevalent accounting process, discussed in section 4.2.1.

### **3.2.2 Competencies and Tasks Conducted**

Re-ABC operations have had a peculiar development path also discussed previously in multiple sections in this study. The let-go attitude of senior management towards Re-ABC operations has resulted in different persons to assume different roles and responsibilities, with the lack of outside control and influence as described in the preface of this chapter. In the prevalent organisation, supply chain and sourcing specialists have assumed tasks in such core processes as sales, financial and management reporting and credit control. It is these processes that are the ones having most severe problems with underperformance. Shortcomings in the prevalent process's reporting are further viewed in section 3.3 and its subsections. An example jointly from Re-ABC operations' credit controlling and sales processes is presented in this section.

As stated in section 3.1.3, Re-ABC is a raw material of such type that a portion of the acquired material has to be re-sold. Also, refining the raw material leads to a sizeable number of by-products generated that will have to be sold as well. In order to gain access to certain markets, ManuCorp has a limited amount of joint ventures that act as sales representatives for it. The material is delivered directly from ManuCorp to its end customers but the title of ownership to the material is given from ManuCorp to the joint venture and from there to the end customer.

Even though the ownership of the material changes in the process, the end customers are told that they operate directly with ManuCorp, and not with the joint venture. The customers still pay the joint venture, but the delivery contracts are made with ManuCorp. The joint venture only issues an invoice to the customer when a corresponding sales invoice is issued by ManuCorp to it. Then, once the customer has paid the invoice issued by the joint venture, the joint venture pays the ManuCorp-issued invoice.

Since the new invoice handling system was implemented in Re-ABC operations in ManuCorp, there had been problems in raising sales invoices. This had led to sales invoices not being issued against the joint venture and, subsequently, the joint venture not invoicing the end customers. Even though the initial invoicing problem was fixed, the invoices were still not paid by the joint venture. This escalated into a situation where credit limits for the joint venture were exceeded. At first the credit limit was simply raised but after the now raised limit was exceeded once more, a decision was made to stop collaboration with the joint venture until their debt to ManuCorp was at an acceptable level.

When deliveries were stopped, different parties within ManuCorp started investigating the contract terms ManuCorp had agreed with regards to these deliveries. It was soon discovered that no official signed agreements existed and no terms and contracts were explicitly agreed. Furthermore, as the end customer could well be in the assumption that it was doing business directly with ManuCorp, the joint venture merely acting as a sales representative, it could be contested that the business risk lay with ManuCorp.

This risk materialized when a series of deliveries to an external customer via the joint venture was originally left uninvoiced by ManuCorp and, before the invoice was issued, the end customer rejected the delivered material and refused to pay any invoices related to these deliveries. When investigating the legal aspects of this delivery, the eerie discovery was made that no official documentation existed that would exonerate ManuCorp from financial responsibility, even though the material was agreed to have changed ownership in between.

*We would have to suffer the embarrassment of: No Invoice, No formal contract, No formal T&C's etc. but we are where we are.* (Director, Country 2 Accounting Department, 25 January 2013. Extract from an email discussion concerning the possible quality claim case.)

This example shows on one hand the difficulty of conducting business in modern times with a raw material that is difficult to handle. On the other, it shows the apparent lack of competence within Re-ABC operations to handle the quite complicated sales processes effectively. This presents a high risk to ManuCorp, identified in the risk assessment table, see Appendix 1.

### **3.2.3 Perceptions of Power and Absence of it**

Although power is often seen as something negative and intimidating, it inevitably exists in all group dynamic situations. The sensation of powerlessness is one of the key work effectiveness impeding factors. It lowers motivation and creates punishment-avoiding behaviour. When the outcome scarcity of one's actions increases, the perception of self-power decreases and, with the drop of perception of self-power, one's motivation level follows in a linear way. This would suggest empowering all the key players by dividing and redistributing power would be fruitful. However, the risk is that decision power is moved to someone who is not suitable for making the decision. (Gupta and Sharma 2008, Goldstein and Hays 2011, Bacharach and Lawler 1976)

*We don't have to know about this [Re-ABC operations' reporting]. Our colleagues, they know what they are doing.* (Production Controller, country 4. September 2012)

*Soon we will have no control over anything. Previously we could say what we buy and what we sell but now, we don't know anymore.* (Production Controller, country 1, 29 November 2012)

Power in an organisation has another interesting feature. Research has shown that individuals who have more power pay also more attention to goal-relevant information compared to their lower-power counterparts (Goldstein and Hays 2011, 593). Power distribution has been quite one-sided in Re-ABC operations. One background reason for

this has been the let-go attitude of the top management towards the operations, though a part of the prevalent situation is also formed due to the door-in-the-face attitude of the Re-ABC organisation itself.

The door-in-the-face or DITF (Stahelski and Patch 1993, 693; 696) technique is a negotiation style where a larger request is first met with non-compliance (and sometimes even hostility) and a smaller request is later met with compliance. It is a technique that carries heavier risk than other, less confrontational approaches, of losing face, both to the seeker and the giver. In Re-ABC operations that risk has materialized, leading to the situation where almost all requests and contact was met with hostility by the Re-ABC organisation. This in turn led to the prevalent situation in 2012 where many ManuCorp internal stakeholders had an approach of don't-ask-don't-tell towards Re-ABC operations, with strong sense of loss of power.

### **3.3 Reporting Structure**

The prevalent reporting structures have formed over several years. They incorporate the different operational demands that different regions have had over the years. There are several different types of operations, some of which are operated throughout all countries and others operated only in some select countries. The main operations, however, fall under five distinct categories: Purchasing, Pre-consumer Purchasing, Trading, Logistics and External Stocks Management.

The reporting structure in use in countries 4 and 5 (Figure 9), has been formed on the principle of separating the five key operational categories or functions, creating for each of them their own profit centre, a separate reporting unit in the accounting system. Those five reporting units are then linked to country-wide administrative reporting entities containing several other operations, which in turn are consolidated with all other country-wide administrative reporting entities globally and then reviewed in consolidated form by the senior management teams responsible for making strategic decisions for the whole business area. In the existing structure, country five that has one production unit is merged with country 4 that has six separate production units and more than ten production lines, and is considered in practise as just one additional Country 4 production unit.

In countries 4 and 5 the production process's reporting structure is separated from Re-ABC operations' reporting structure. There are two production Profit Centres, one for material stocks in the production plant's area and one for production line. These reporting units are linked, along with all other production-related units, to the production plant's reporting entity. There is no systematic transfer of production-related costs to production units.

The positive side of this reporting structure is the possibility to follow costs and profits on a very detailed level. Also, as all of the five key operational functions have their own profit centre, a thorough follow-up of the different functions is made possible. The negative side of this reporting structure stems from the fact that all the five functions have most of their actions interlapping with each other. This means in many cases the accounting system either chooses the incorrect profit centre to use or the users of the accounting system in Re-ABC operations manually post to wrong profit centres. In real life, the theoretical benefit provided by the more complex reporting structure was trumped by the fact that it was overly complicated to use.

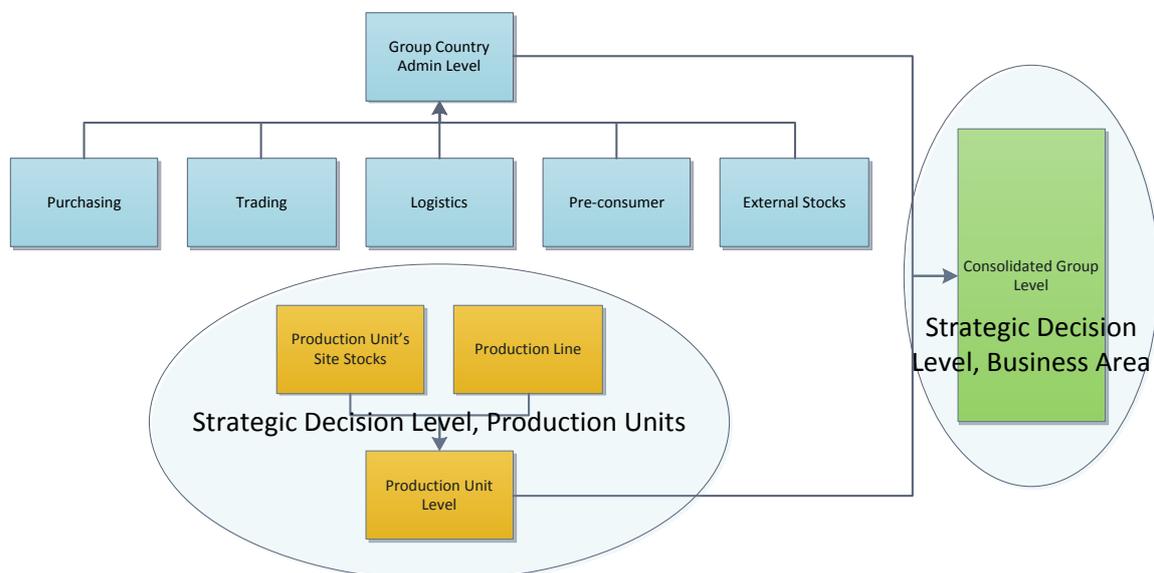
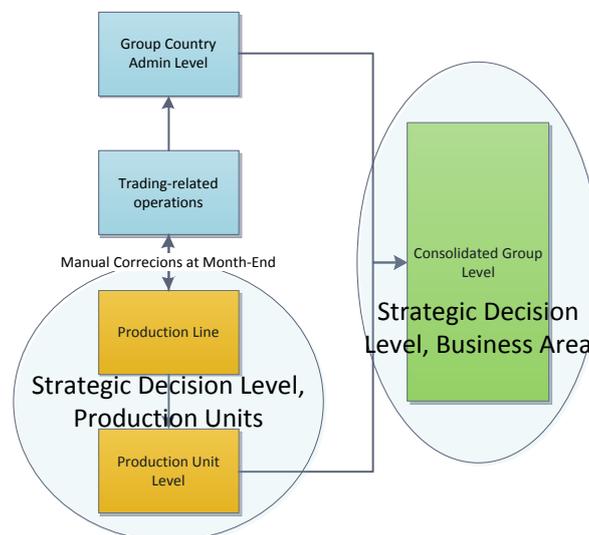


Figure 9. Reporting structure in countries 4 and 5

The reporting structures vary from one country to another. In countries 1 and 2 (Figure 10), the structure is much simpler than in countries 4 and 5. In these countries Re-ABC operations are separated from the production process like in countries 4 and 5. In this model however, some of the costs related to production but posted under Re-ABC operations' reporting structure are being systematically moved from Re-ABC operations

to production process via manual postings done and prepared by the Production Controllers of the respective production units.

This reporting structure empowers the Production Controllers to follow and oversee Re-ABC operations. It is actually vital to follow the operations to get the basis for the manual cost transfers done each month. The difficulty of this reporting structure lay in these very postings, however. As the Production Controller is the sole provider for the background info for his/her own posting, there is a possibility that there are faulty calculations that nobody notices.



*Figure 10. Reporting structure in countries 1 and 2*

Country 3 has all Re-ABC operations reported under the production process. Country 3 has just one production unit and the scale of operations is smaller than in other countries. Country 3 has only minimal trading activities to other countries. The upside of this structure is that as country 3 has only one production unit, all Re-ABC-related operations serve that unit and all costs follow accordingly. The downside is that some fixed costs such as travelling costs are not treated in the same way as in other countries, left to Group Admin Level, but reported under the production unit, which makes the unit seem that less profitable.

Country 6 has no Re-ABC-related production and, thus, no production unit reporting entities. All operations are reported under Group Admin level and no separate reporting

entities exist for Re-ABC operations. The reporting structures in countries 3 and 6 are shown in Figure 11.

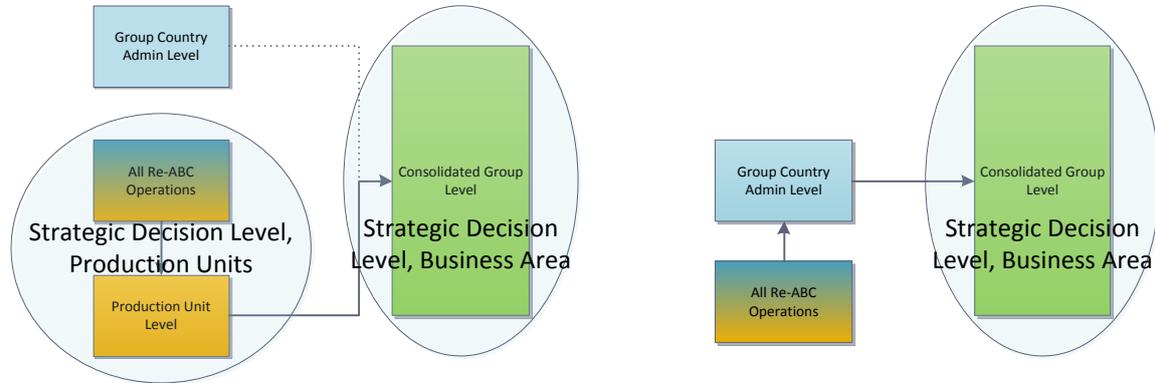


Figure 11. Reporting structure in countries 3 (left) and 6

All in all it can be said that the reporting structures have sought their natural forms from the prevalent scale and nature of operations. This way of natural formation can be beneficial to some extent as the people who operate in the system have been themselves responsible for the creation and formation of the structures and hence are familiar with their own creations. On the other hand, in countries 4 and 5 the overly complicated reporting structure had turned against itself, proving so complicated that it has led to many errors in postings.

The even bigger issue stems from the reposting structures varying to an extensive level from one country to another. This leads into profitability figures based on different principles being used in different countries and has an effect on the reliability of individual profitability reports. A quick illustration of this issue is given in Table 3. The reporting structure model for the new accounting process, starting from the goal of having similar and comparable structures throughout all countries is presented in section 4.3.

<b>Reported under Renewable operations</b>						
	Country 1	Country 2	Country 3	Country 4	Country 5	Country 6
<i>Acquiring costs</i>	Partly	Partly	No	Yes	Yes	No
<i>Resales of by-products</i>	Partly	Partly	No	Yes	Yes	No
<i>Production-related costs</i>	No	No	No	No	No	N/A

Table 3. Items reported under Re-ABC operations in different countries  
Country 6 has no production

### 3.3.1 Clarity, Visibility and Responsibility

As seen in section 3.3, one major issue in the current accounting process reporting-wise is the varying reporting structure from country to country, allowing reporting of differing cost elements in different countries and, thus, making it problematic to base any business decisions on financial reporting data. This means the controllability of costs and profits can only be marginal and that proper cost follow-up cannot be put in place globally.

Another important issue hampering the clarity and visibility of Re-ABC operations' reporting is the unclear responsibility of different Re-ABC reporting entities. In ManuCorp, profit centres are considered as main responsibility units and each of them is assigned to a manager. Especially in countries 4 and 5 where there are numerous profit centres, the unclarity of responsibility is heightened. For instance, the named responsible for trading activities, conducted by the supply chain centre, is nonetheless the sourcing manager for countries 4 and 5 (Table 4). These responsibilities are input in the accounting system and the persons named are the official named responsables of those particular profit centres. The de facto responsables on the other hand are not the same ones as officially defined.

This discrepancy poses a problem with the manager's self-perceived valence and responsibility towards the operations (Choudhury 1986, 190). There have been in fact cases within Re-ABC operations' history where certain things had gone wrong and nobody stepped up to assume the responsibility nor could anyone be pointed out as the responsible. This further contributes to an atmosphere of "nothing what I do matters". Choudhury (1986, 190) also points out that when people feel their responsables will take the blame for them if something goes wrong, they give less value to control themselves. Indeed, this has materialized in Re-ABC operations as well, as when the responsible persons for certain mishaps could not be identified the Vice President of Re-ABC operations usually took the blame.

<i>Profit Centre Responsibles</i>						
<i>Profit Centre</i>	Purchasing	Logistics	Trading	External stocks	Preconsumer activities	Reconciliation Profit Centre
<i>Responsible</i>	Sourcing Manager	Supply chain Manager	Sourcing Manager	Supply chain Manager	Supply chain Manager	Business Controller

*Table 4. Profit Centre responsables in Countries 4 and 5*

This example of falling short of principles of responsibility accounting again highlights the lack in competence and self-control in the organisation. Furthermore, risky operations are embarked upon, as everyone has it in the back of their minds that if the risky operation fails, the blame will fall on the higher superior.

In the prevalent process there are no tools used for analysing profitability derived from financial reporting as the reported figures lack coherence throughout different countries. Different profitability reports are drafted by Re-ABC operations but those reports rely on information taken from material management figures not necessarily corresponding with financial or management accounting figures. One reason for the lack of financial reporting has also been that a sizeable percentage of different costs incurred have been handled in a way where they were left at year end unallocated in Group Country Admin level profit centres shown in Figure 9 through Figure 11. The underlying reasons for this are further explained in section 3.3.2.

### **3.3.2 Possible Risks Leading to Poor Operative and Strategic Decisions**

The prevalent reporting structures pose several challenges in terms of efficient and reliable reporting. As the reporting structures are not comparable and, in some parts, are also overly complicated, the risk of poor business and strategic decisions made based on the figures stands high.

The problem of unallocated costs remaining in group country admin level referred to in the previous section stems from two interrelated reasons. Firstly, the prevalent reporting structures in all countries except 3 and 6 keep Re-ABC operations and production-related operations separate, allowing cost accumulation in Re-ABC profit centres. Secondly, as Re-ABC operations are categorized within ManuCorp group sourcing operations, they lack their own reporting entity and are instead reported under general group country admin reporting entity. This has meant that all costs and revenues that are not allocated to production units are pooled with all other unassigned general costs within ManuCorp and only viewed in business area level. The overall effect of this problem was a global cost accumulation in the magnitude of 4.3% of total Re-ABC raw material price left unallocated. This was one of the initiating factors for the need for change in Re-ABC operations.

Another, albeit smaller, problem in reporting resulting in possible poor operative and strategic decisions is the lack of reporting tools based on the accounting figures themselves. When reporting based on actual accounting figures has been missing, the reports based on material management figures and different complementary estimates have been presented by Re-ABC operations as equivalent to reporting based on solid financial figures. Over time, the influence of different estimates in those reports has grown and the reports have reached a level where the figures reported in them can be even considered fictitious in some cases. Creating a good basis for effective reporting tools for Re-ABC operations is one of the main development targets identified for the new construction, presented in the next chapter.

## **4 DEVELOPING THE NEW ACCOUNTING PROCESS**

This chapter introduces the new proposed accounting process construction based on a set of theoretical and methodological lenses formed on the basis of Enterprise Risk Management and Business Process Management as well as on empirical findings in chapter 3. The chapter is constructed in a similar manner to chapter 3, presenting the new construction through three different dimensions: internal environment, core responsibilities in core tasks and financial and management reporting. The fourth main section in this chapter is commenting on implementing the changes and proposing a general schedule for implementation.

Developing the new process was started first with constructing the new reporting structure. This was due to ManuCorp's practical wish of having the new reporting structure ready for implementation first in order to have all of year 2013 reported in a similar way. This was followed by simultaneously constructing the improved new internal environment and the new organisation structure. The new reporting structure was created with simplicity and comparability in mind and the new organisational structure introduces a strong presence of controlling and cross-functional accountability in the operations.

The newly constructed reporting structure was already implemented in Re-ABC operations when this research report was written. Therefore, a weak market test for that dimension is already conducted, discussed further in section 5.1.3, meaning that the organisation under study has accepted and implemented the proposed construction in its operations (Kasanen, Lukka and Siitonen 1993). The other two dimensions have been presented also in preliminary form to ManuCorp senior management and a detailed plan for change implementation is to be drafted after this research is published.

The academic contribution of this study is discussed in chapter 5 but as a short remark on the theoretical target of this study, to combine ERM, BPM and BPR approaches into one framework serving the practical task of developing business processes, it could be said that ERM, BPM and BPR seem to work well combined providing a good theoretical and methodological toolset for this case study.

## 4.1 Internal Environment

“ERM aligns risk management with business strategy and embeds a risk management culture into business operations” (Collier 2009, 49). Indeed, a well-performing organisation needs a proper risk management culture, highlighted throughout ERM literature. A healthy internal environment is a key aspect in functioning risk management cultures as it “defines the basis for all other components in an organisation’s ERM” (Moeller 2007, 54).

ERM theory itself talks fairly little about developing the internal environment, focusing more on the components of a good internal environment<sup>22</sup>. BPM is however useful here as it provides tools for implementing changes in organisation and tasks conducted, which are key elements in an internal environment. The three sub-sections in this section present solutions for the three major risks or shortcomings found in the prevalent internal environment: goods acceptance, re-sales and the general state of the internal environment.

This chapter sees the introduction of a temporary Change Management Team, appointed to draft a detailed change implementation plan and lead the change process (Harrington 1995, 352<sup>23</sup>). This team is referred to in several parts of this section and this chapter in general, with more detailed description of different tasks within it in section 4.2. The team will have a vital role in developing the internal environment and promoting positive change within the new process.

### 4.1.1 Operational Limits for Goods Acceptance Process

As said in section 3.1.2, an ad hoc solution to correct the problem with accepting goods of inferior quality was developed. The solution was to order Warehouse Keepers to issue comprehensive stock level reports on a regular basis for the Production Controllers using the warehouse. They would then in turn check and sign those reports. This additional step offered an incremental improvement to the original process.

---

<sup>22</sup> See for example Moeller 2007 and Lightle and Vallario 2003.

<sup>23</sup> Harrington uses the term Department Improvement Team for a Change Implementation Team. The term *Change Implementation Team* was chosen for it better describes the work conducted by the team.

Moeller (2007, 320-323) also emphasizes that an effective implementation of efficient ERM requires all parties' participation in the common task of risk management. Proper code of conduct should be followed. In the proposed new construction (Figure 12), further developed from the ad hoc construction in the prevalent process, if the Warehouse Keeper wishes to accept inferior quality shipments he would have to consult the Production Controller whether his actions have been acceptable or not. If the Production Controller does not accept the actions of the Warehouse Keeper, the supplier will be issued an invoice for the refinement costs of the material. In most cases this will be the action taken, in turn leading to different behaviour of the Warehouse Keeper since his performance evaluation would otherwise drop.

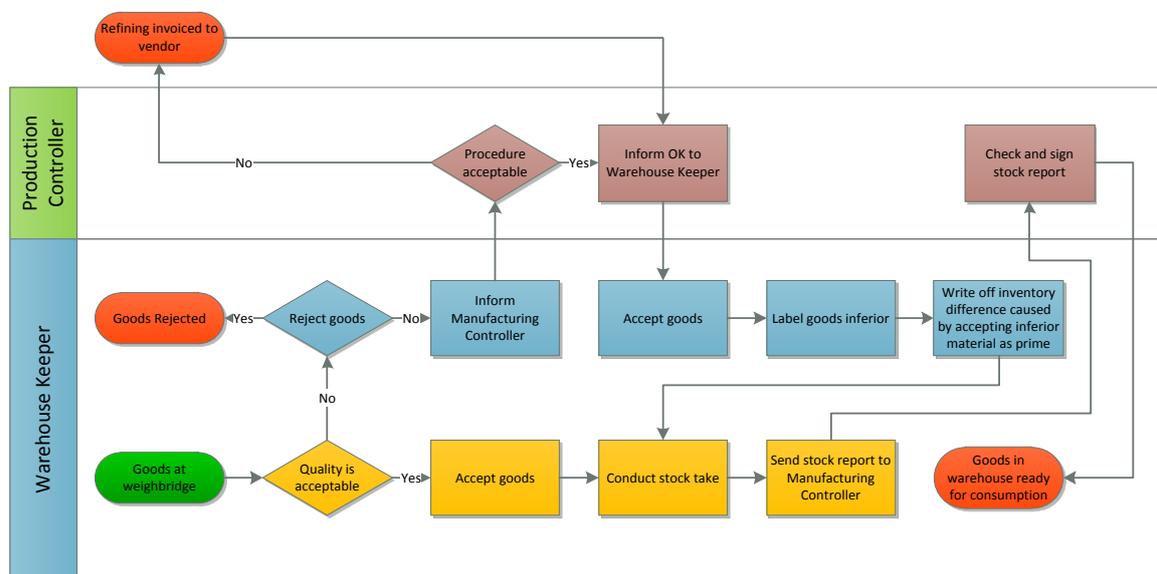


Figure 12. Proposed goods acceptance process

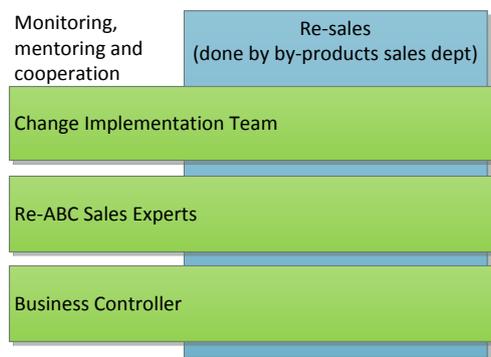
This positive cycle is a key element in the new goods acceptance process and reflects well the general idea of the new accounting process construction. The new construction is built on the idea of generating subprocesses that encourage all actors to follow correct procedures without creating heavyish controlling organs to force certain conduct.

#### 4.1.2 Re-sales of Purchased Goods

In the new proposed structure re-sales of purchased goods have had a complete overhaul. The change, driven by the fact that the main problem in the prevalent process is the lack of competence in sales transactions, is assigning sales tasks to people with matching

competence. In short, as the cost of sales competence and knowledge needed to be built within Re-ABC personnel in order to effectively execute the sales tasks in question would be too high, with new positions needed to be opened within the organisation, the proposed new structure sees reassigning the re-sales process wholly to another department. ManuCorp has a department specialized in sales of other raw material by-products and production process induced by-products. They have the necessary technical competence and knowledge to take over by-product sales for Re-ABC but need mentoring and monitoring by the Re-ABC organisation in order to have the transition of tasks running smoothly. This proposed reassignment of tasks is discussed further in section 4.2.2.

The re-sales process would start to follow standard ManuCorp re-sales processes, detailedly modelled and described in ManuCorp's internal databases. In essence, the sales process would be outsourced to the abovementioned by-product sales department, with cross-functional monitoring duties within Re-ABC operations as depicted in Figure 13.



*Figure 13. Proposed outsourced re-sales function linking with Re-ABC operations*

Monitoring and mentoring of Re-ABC sales would be three-fold. First of all, the temporary Change Implementation Team would have the overall responsibility of monitoring that changes in all areas are dealt with in agreed ways and ensuring that important change implementation tasks such as knowledge transfer are done. In addition, two more permanent monitoring and mentoring responsibilities are introduced: the Re-ABC Business Controller would monitor sales strategy and reporting-related matters and Sales Experts in Re-ABC operations (sourced from persons currently handling the sales process itself) would be in constant interaction with the by-product sales department, sharing their market and product knowledge. The relationship would be a mentoring type relationship at first, most probably evolving into symbiotic cooperation in some time.

### **4.1.3 Monitoring the Internal Environment**

Both ERM and BPM highlight the importance of effective monitoring and continuous improvement within business processes<sup>24</sup>. Monitoring is done in order to ensure that processes and activities are conducted in a wanted manner, positive developments are encouraged and negative ones mitigated. The prevalent Re-ABC accounting process lacked proper monitoring so the new proposed construction introduces it as a new element in the process.

Monitoring can be done in two ways, either through on-going activities or by separate evaluations. These two ways of monitoring are complementing each other: the more the organisation performs self-monitoring, the less separate evaluations or interventions are needed. The scale and scope of monitoring the internal environment should be adjusted to a level where the monitoring activities have as little as possible effect on the efficiency of the operations while still providing a reasonable level of assurance for management. The key is also to have multiple monitoring channels in place so that different types of monitoring activities can complement each other. (COSO 2004, 75-77)

A key factor in monitoring the internal environment and the whole ERM in an organisation is the organisational structure itself. Moeller (2007, 92) suggests that different teams and people within an organisation and outside of it could be assigned joint monitoring tasks, developing also inter-process knowledge as a side product. As Re-ABC operations has had serious shortcomings in its internal environment and an apparent lack in monitoring of it, the new construction proposes separate resourced responsibilities for internal environment monitoring and coordination, introduced in next section. These tasks would be assigned to the controlling organ of the organisation.

## **4.2 Responsibilities**

The division of responsibilities is one of the three dimensions in the Re-ABC accounting process that is under scrutiny. The biggest challenges identified in the prevalent processes

---

<sup>24</sup> Discussed in chapters 2 and 2. See for instance: Lightle and Vallario 2009, Harrington 1995 and Moeller 2007.

were poor matching of core competencies and core tasks, segregation of duties and uneven and unhealthy distribution of power. This section and its sub-sections introduce improvements to those three dimensions addressing issues in segregation of duties (sub-section 4.2.1), assigning core tasks with competent persons (sub-section 4.2.2) and redistributing power (sub-sections 4.2.2 and 4.2.3).

First and foremost, the lack of cross-functional control needs to be addressed. The new construction sees the introduction of a threefold controlling organ. In the prevalent process, both business control and business development positions were existent<sup>25</sup> but in the proposed new process an additional financial control & development position is created. Whereas in the prevalent process the Business Development Expert was in charge of analysing the market and developing smoother business processes and the Business Controller had the overall monitoring responsibility of the whole Re-ABC operations, the responsibility to monitor purely financial processes was not recognized. This meant the work descriptions for those positions did not include financial development and is also one of the reasons why the accounting process has had many shortcomings.

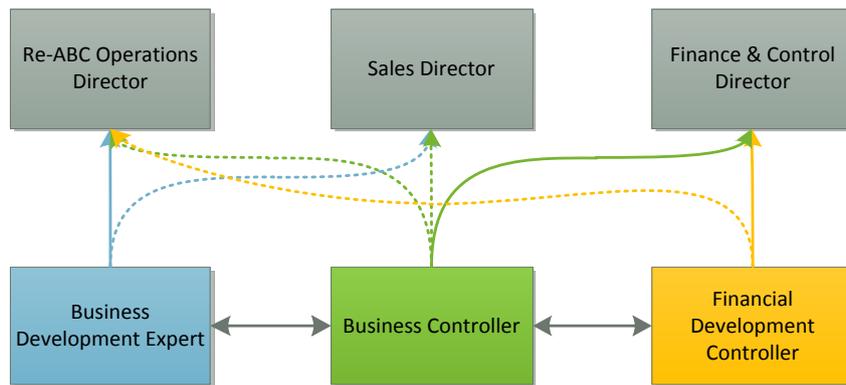
The new Financial Development Controller position is thus proposed to be created to lead the financial development and to ensure correct financial procedures are followed and compliance requirements are met. Kitterhing (2010, 55) calls this type of position as FP&A Controller (Financial Planning & Analysis Controller). He describes the role as “essential in supporting business leaders in their plans for the future”, continuing by stating that an FP&A Controller is a vital player in building financial competence in an organisation and setting key performance indicators. The role of the Financial Development controller has a heightened role in developing the business and a shared responsibility with the Business Controller in reporting, thus the role is named more appropriately.

The three controlling positions would form a control team for the operations, meeting at least bi-weekly to share knowledge and discuss different problems encountered in the day-to-day operations as well as planning process development. All of the three would be

---

<sup>25</sup> See Appendix 2

capable of making operative decisions within their fields but would not participate in the day-to-day operations as such, thus keeping the required arm's length distance with operative Re-ABC personnel. They would be reporting to Re-ABC Operations Director, Sales Director and Finance & Control Director in a way where as a team, all reporting lines are covered (Figure 14).



*Figure 14. Reporting responsibilities of proposed Re-ABC controlling team*

In addition to the three-member controlling team, a Change Implementation Team is to be established with the task of implementing the new process construction. The team would be formed for the duration of the change planning and implementation phase, estimated to last six months. After this the team would be dissolved and team members would assume their normal duties.

The team would consist of the controlling team introduced in previous paragraphs, a local Re-ABC sourcing specialist, The Re-ABC Operations Director, a Re-ABC Sales Expert and a member of the by-product sales department, responsible for Re-ABC sales in the new construction. This way all different parties would be equally represented and no additional appointments would have to be made to form the team.

#### **4.2.1 Segregation of Duties**

The main purpose for segregation of duties is to divide a process among several people so that “no single person can take advantage of the situation for personal gain or other impropriety” (Gramling, Hermanson, Hermanson and Zhongxia 2010, 30). The new process will introduce healthier cross-functional accountability and wider distribution of

tasks to ensure that proper segregation of duties is in place and that as few as possible ambiguities remain in terms of task division.

Figure 15 shows the purchase process responsibilities divided according to the proposed organisation structure, presented in section 4.2.2. In the proposed organisation the Financial Services department is conducting all purely financial transactions, thus eliminating the possibility for Re-ABC operations personnel to have omnipotent rights for any process that involves financial transactions. Moreover, it introduces a natural cross-functional controlling element in the Financial Services department over Re-ABC operations. Furthermore, as the importance of local Re-ABC operations is heightened, personnel in the “new” Re-ABC admin centre would not have for instance rights to post goods receipts anymore. All in all, as the tasks are more widely spread out, as a result a process that could previously be conducted by a single person requires the participation of two separate departments and five separate persons.

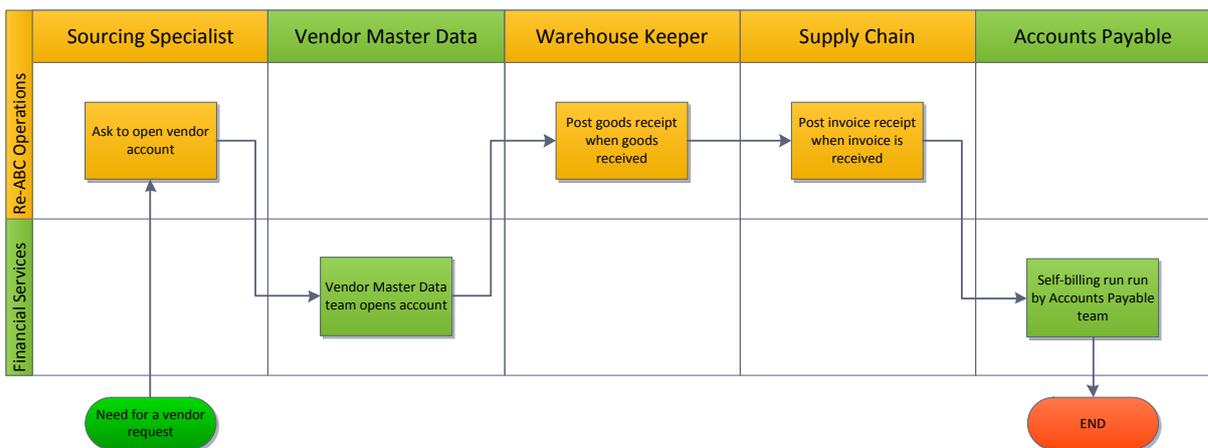


Figure 15. Purchase process in the proposed accounting process

*Part of Section 4.2.1 is hidden due to confidentiality reasons.*

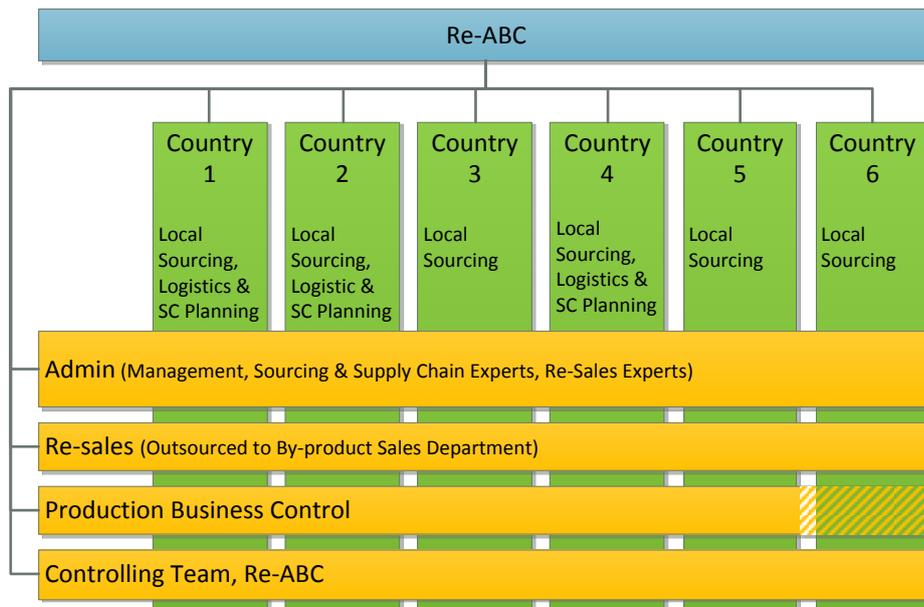
#### **4.2.2 Matching Core Competencies with Core Tasks**

The proposed Re-ABC organisation structure sees major changes in four different areas: increasing the importance of local Re-ABC operators, outsourcing by-product re-sales to a specialised department, establishing a three-member controlling team to monitor the operations and empowering and encouraging Financial Services and Production Business Control involvement in relevant parts of the process.

Assigning more power to local Re-ABC operators is a natural consequence of having harmonized reporting and operating structures throughout all countries. While the Re-ABC admin operators still have overall planning power and a supervisory role towards the local operators, sourcing decisions would be done more based on localized need than in the prevalent process (Figure 16). This serves in minimizing internal re-sales activities and costly logistics and handling services needed for it.

Introducing controlling tasks for Production Business Control in Re-ABC operations is not an entirely new concept to ManuCorp. As said in section 4.3, in countries 1, 2 and 3 Production Controllers have actively participated in monitoring Re-ABC operations also in the prevalent process. The main difference is therefore introduced to Production Controllers in countries 4 and 5 where they have effectively relinquished their controlling power to the Re-ABC admin organisation. Involving the Production Controllers to take

part in monitoring and controlling Re-ABC operations similarly throughout different countries is done with officially assigning certain tasks to them<sup>26</sup> and defining more clearly their responsibility towards Re-ABC operations. These more precise task descriptions would be drafted by the Change Implementation Team in the implementation planning phase.

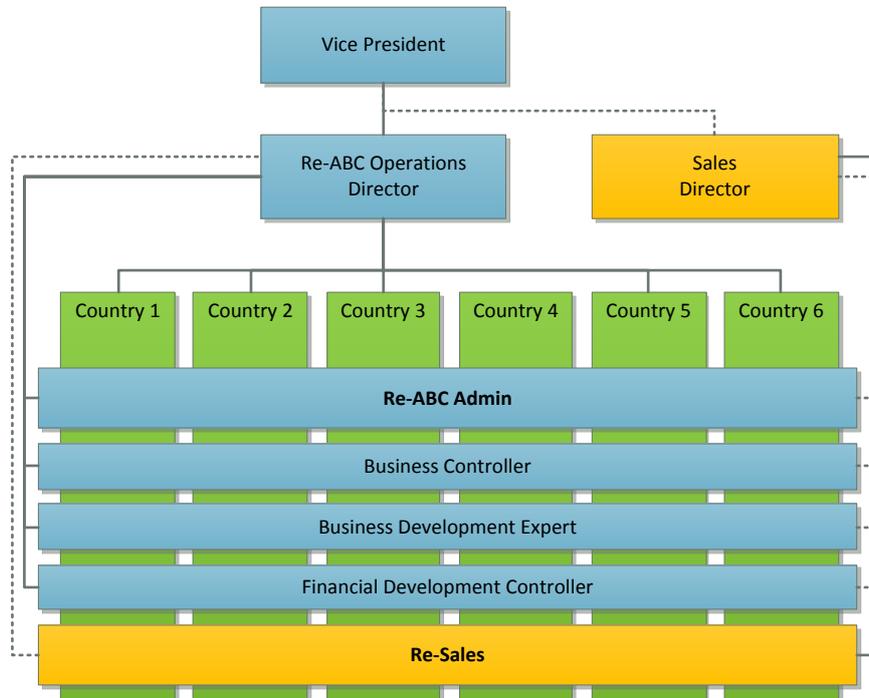


*Figure 16. Proposed local organisation structures  
Country 6 has no production*

Outsourcing all re-sales activities requires cross-functional monitoring and controlling from Re-ABC operations, a model for which is shown in Figure 13. Overall, the Re-ABC accounting process requires an organisation which is flexible if needed but with a strong controlling element in place. This study does not comment on positions with no or little link to the accounting process and assumes they remain unchanged (e.g. Vice President of Re-ABC operations, Re-ABC Operations Director). However, the proposed new organisation structure, depicted in Figure 17, sees the appearance of a new director, a Sales Director. This is due to the outsourcing of re-sales processes. Naturally, as the sales department the re-sales activities are outsourced to have their own superiors, they now take part in the Re-ABC operations to some extent. Also, as re-selling purchased material

<sup>26</sup> See for instance Figure 12. Proposed goods acceptance process.

is heavily dependent on the material acquisition itself, the two operative departments are now partially accountable to each other, depicted by dotted lines in Figure 17.



*Figure 17. Proposed new organisation structure*

All in all, the new organisation has a more matrix-like appearance compared to the prevalent structure<sup>27</sup>, with positions holding the most power spread out more widely than before. It works in unison with the changes made to the prevalent reporting structure, and is a key element in building a healthier internal environment within the operations. The role of different Re-ABC stakeholders is heightened and cross-functional accountability is introduced.

### 4.2.3 Empowering Financial Services

One problem identified in the prevalent accounting process in previous chapters of this study is the feeling of powerlessness of both production controlling and financial services organisations. Earlier sections of this chapter discuss on empowering Production Controllers and promoting their involvement in controlling the process. This section

---

<sup>27</sup> See Appendix 2

discusses the empowerment of financial services function to influence the financial side of the Re-ABC accounting process.

Whereas in the prevalent organisation all financial transactions were made and administrated by Re-ABC operations organisation, in the proposed new construction the majority of purely financial transactions is conducted by financial services (Table 5).

<i>Division of Core Process Tasks</i>									
Process	Production Control	Local Re-ABC	Re-ABC Admin	FINANCIAL SERVICES					By-Product Sales
				Reporting Department	Accounts Receivable	Credit Control	Accounts Payable	Statutory Accounting Teams	
<i>Sourcing</i>		Old & New	Old & New						
<i>Supplier management</i>			Old & New						
<i>Contract management</i>		Old & New	Old & New						
<i>Purchasing</i>		Old & New	Old				New		
<i>Sales</i>	New		Old		New	New			New
<i>Planning</i>	Old & New	Old & New	Old & New						New
<i>Warehousing</i>	Old & New	Old & New	Old						
<i>Logistics</i>	Old & New	Old & New	Old & New						New
<i>Production</i>	Old & New	Old & New	Old & New						
<i>Data management</i>		Old & New	Old						New
<i>Financial and Management Reporting</i>	New		Old	New					
<i>Local Compliance and Reporting</i>			Old					Old & New	
<i>Credit Control</i>			Old			New			

*Legend: Old (red) are discontinued responsibilities,  
Old & New (green) are responsibilities present in prevalent and new processes,  
New (light green) are new proposed responsibilities*

*Table 5. Division of tasks in the proposed process*

Accounts Payable department will take over purchase invoice handling processes and self-billing, part of the purchasing process. Accounts Receivable and Credit Control departments take over sales invoicing and credit control tasks, part of the sales process. Reporting department takes over financial and management reporting, together with Production Controllers and Re-ABC Business Controller. This in effect means that financial services will further have a horizontal cross-functional power in matrix over Re-ABC operations, depicted in Figure 18.

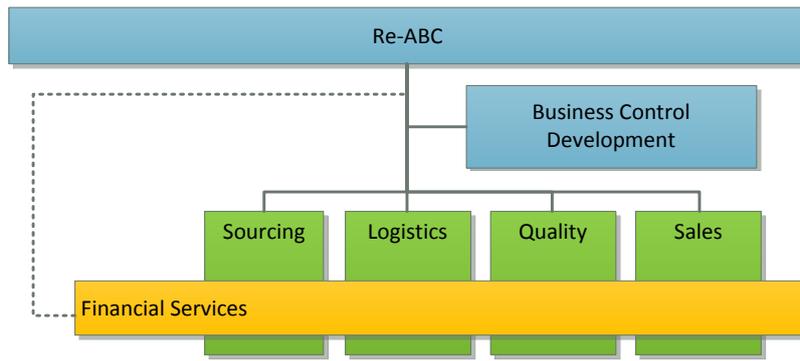


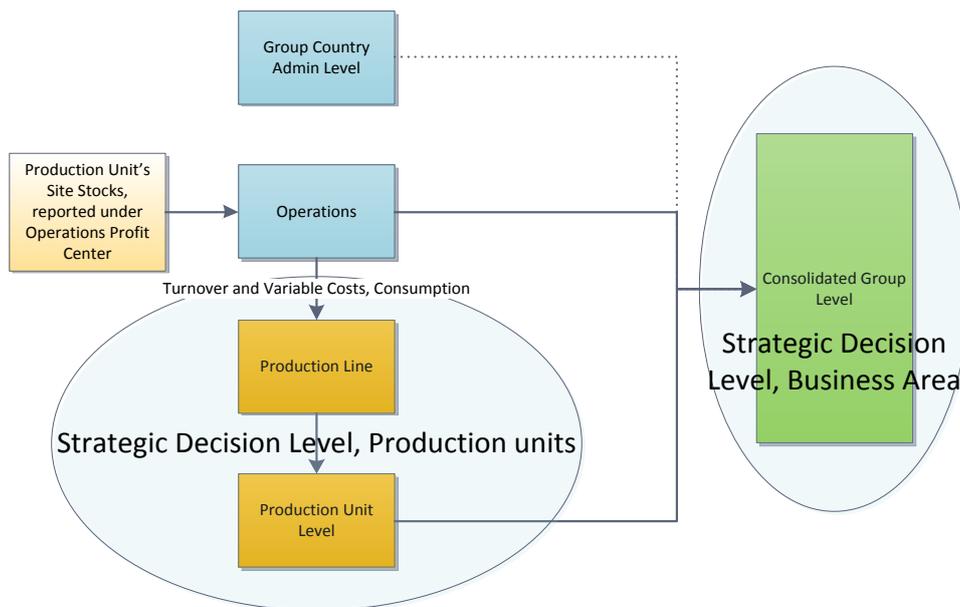
Figure 18. Relation of financial services function and Re-ABC operations

### 4.3 Reporting Structure

The new reporting structure is developed on the principles of simplicity and comparability. As the Re-ABC organization will undergo an overhaul and as ManuCorp senior management has a heightened interest in it, the level of controllability of the operations is a key factor. Choudhury (1986, 193) contests that there should be a clear separation between different managers in responsibility units, in ManuCorp's case profit centres. This is to cut overlapping responsibilities and ambiguities arising from them, assigning a single responsible for a responsibility unit. A manager responsible for a profit centre has control over both inputs and outputs, therefore being able to maximise profit or achieve a profit target (Scarlett 2007, 42), so the manager should hold a position in the organisation where he/she is capable of making *operative* decisions. In Re-ABC operations, where the new proposed organisational structure has one operational manager for the entire operations (referred to hereafter as Re-ABC Operations Director), it is natural for that manager to assume also the financial responsibility of the operations. As all the regions will have one common administrative organ, all the profit centres for different regions will be assigned to that single manager.

In order for him/her to be able to make operative decisions over several profit centres, the reporting structures throughout different regions should be uniform or at least comparable. In the proposed construction, all the reporting structures will be similar, with one Re-ABC operations profit centre created per region.

Another issue effecting comparability, discussed in section 3.3, was the variability of reported items per each country. In some countries, manual corrections and adjustments were made between Re-ABC operations and production units and in some countries, all operational costs and revenues were reported under Re-ABC operations, regardless of the type of cost or revenue. The main reason for this was the fact that different stock locations were reported under different profit centres (in some countries all stock were under Re-ABC operations, in some both under Re-ABC operations and under production site and in some countries exclusively under production site). This issue was solved by introducing similar reporting structures also in this sense throughout all regions, where all stocks are reported under Re-ABC operations without exception, see Figure 19. From those regional Re-ABC profit centres, production units post consumption on a regular basis to production sites.



*Figure 19. New reporting structure in all countries*

#### **4.3.1 Re-Allocation of Operational Costs**

Per ManuCorp group decision, all Re-ABC operational costs (except fixed costs) and revenues (sales margin) are to be considered raw material costs in the new structure. In practise this means that the sales margin accumulated in the regional profit centres will have to be allocated to production site profit centres in a fair manner. The solution for this is introduced here as it gives an explanation as to how country 6 that has no production

and does not have a production site profit centre where operational costs can be allocated to, can have a similar reporting structure to the other regions.

The issue in these allocations, in addition to the problematic of country 6 with no production site, is that the cost of Re-ABC operations per material tonne varies sizeably from one country to another. This is due to markets in all respective countries having unique characteristics. Additionally, the acquired material is redistributed between different countries within Re-ABC operations. Keeping this in mind, in order to have fair distribution of costs and profits within ManuCorp, the sales margin has to be distributed to production sites in a way where both Re-ABC internal material redistribution and different market characteristics are taken into account.

The way this challenge was overcome was to generate a global Re-ABC operations re-allocation rule based on material deliveries (Table 6). In the table below, a country's deliveries to other countries internally during a given period is compared with the production in that same country and used as basis for distributing variable costs and revenues occurred during that same period.<sup>28</sup>

---

<sup>28</sup> For example, country 1 has a sales margin of -500. The production site in that same country has consumed 85% of the material acquired. The remaining 15% have been delivered to other countries' production sites in the following way: 5% to country 2 and 10% to country 4. Therefore, the -500 is distributed by re-allocating -425 to country 1, -25 to country 2 and -50 to country 4. The balance after re-allocations of a country is counted by summing up all amounts re-allocated to the respective country. It is noteworthy that the sales margin can be negative as majority of the operations consists of sourcing the material for ManuCorp's own use.

<i>Re-Allocation of Costs</i>							
	<i>Country 1</i>	<i>Country 2</i>	<i>Country 3</i>	<i>Country 4</i>	<i>Country 5</i>	<i>Country 6</i>	<i>Total</i>
<b>Revenues and Variable Costs</b>	<b>-500</b>	<b>-1500</b>	<b>-500</b>	<b>500</b>	<b>100</b>	<b>500</b>	<b>-1400</b>
<b>Re-allocation</b>	<i>Country 1</i> %	85 %	10 %	0 %	5 %	0 %	0 %
	<i>Country 1</i>	-425	-150	0	25	0	0
	<i>Country 2</i> %	5 %	70 %	0 %	5 %	0 %	0 %
	<i>Country 2</i>	-25	-1050	0	25	0	0
	<i>Country 3</i> %	0 %	5 %	100 %	0 %	0 %	90 %
	<i>Country 3</i>	0	-75	-500	0	0	450
	<i>Country 4</i> %	10 %	0 %	0 %	80 %	10 %	10 %
	<i>Country 4</i>	-50	0	0	400	10	50
	<i>Country 5</i> %	0 %	15 %	0 %	10 %	90 %	0 %
	<i>Country 5</i>	0	-225	0	50	90	0
	<i>Country 6</i> %	0 %	0 %	0 %	0 %	0 %	0 %
	<i>Country 6</i>	0	0	0	0	0	0
<b>Balance After Re-allocations</b>	<b>-550</b>	<b>-1050</b>	<b>-125</b>	<b>410</b>	<b>-85</b>	<b>0</b>	<b>-1400</b>

*Table 6. Example of production-based re-allocation costs and profits between countries*

#### **4.3.2 Analysing the Profitability of Re-ABC Operations**

ManuCorp has decided to consider all turnover and variable costs accumulated in Re-ABC operations as raw material price components for Re-ABC raw material used in ManuCorp internal production process<sup>29</sup>. The re-allocation of costs used to accommodate this decision means that the sales margin of Re-ABC operations is periodically zeroed. This in turn means that without eliminating this re-allocation, the profitability of Re-ABC operations cannot be followed. Eliminating this re-allocation is done by simply eliminating the effect of manual postings related to the re-allocation. After this elimination, all profit and loss and balance sheet accumulations are traceable and ready for analysis in Re-ABC reporting entities.

The key to all cost and profitability analysis is to provide accurate and understandable data for operative and strategic decision-making. Reporting tools that provide detailed

<sup>29</sup> Stated first in section 4.3.1.

cost-level info is correlated with better firm financial performance. However, reporting systems that break down information in very detailed responsibility levels do not seem to have similar positive correlation with firm performance. The new Re-ABC reporting structure follows this same idea: the ManuCorp accounting system, producing detailed cost-level information is utilised and the reporting structure itself is simplified but still retaining the responsibility accounting characteristics with a single manager responsible for a responsibility unit with the capability to make operative decisions. (Pizzini 2006, 179-183; Scarlett 2007, 42)

One issue the new reporting tools developed for profitability and cost analysis should take into account is the varying level of accounting knowledge different users of the information possess. Cardinaels (2008) tests the usefulness of different presentation formats of accounting data for decision-making. His study shows (p. 587-592) that providing graphical presentations of accounting data for those who have only limited accounting knowledge results in better decision-making and, on the other hand, for those who have good accounting knowledge, tabular and more detailed level presentations prove more useful. Due to the apparent lack of accounting knowledge within Re-ABC operations personnel, using graphical depictions for decision-making would make more sense. On the other hand, as more accounting knowledge is introduced in Re-ABC operations and cross-functional responsibilities are given to accounting professionals within ManuCorp, using more detailed numeral and tabular presentations would be justified. Keeping these both in mind, the new reporting tools should be designed in a way where they produce both graphical and numerical presentations by default. This task would be conducted by the Change Implementation Team as one of its first tasks<sup>30</sup>.

#### **4.4 Thoughts on Change Implementation**

Implementing changes through process innovation requires a carefully laid out plan for implementation. The plan should identify what actions are needed, why, when, and how the actions should be executed. It is vitally important to give proper time for drafting the change implementation layout, to consult all relevant parties and to outline possible risks

---

<sup>30</sup> See section 4.4 for further reference.

in implementing the changes. In implementation planning, one should try and identify possible risks occurring during the implementation phase and introduce preventive actions for them. (Rohleder and Silver 1997, 151)

Although implementing the proposed new construction is out of scope for this study, like in all well conducted constructive research, implementing the changes is still discussed. In this case the study will propose a preliminary time table for the change. It should be mentioned that implementing the new reporting structure was already started in the beginning of year 2013 per ManuCorp's demand to have consistent financial and management accounting figures for the year. This implementation is discussed shortly in section 5.1.3.

The implementation is proposed to be done in the three separate dimensions identified in this study: internal environment, responsibilities and reporting. As implementing the new reporting structure was already started, that dimension is logically proposed to be implemented first. Implementation of the new reporting structure is followed by implementing organisational changes which is in turn followed by the implementation of new tools improving the internal environment (Table 7).

<i>Implementation Schedule</i>									
<i>T</i>	<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>		
<i>Analysis &amp; New Construction</i>									
<i>Change Implementation Planning</i>									
<i>Change Implementation Team</i>									
<i>Reporting</i>									
<i>Responsibilities</i>									
<i>Internal Controls</i>									
<i>Internal Environment</i>									⇒

*Table 7. Proposed general implementation schedule*

In the table above a vertical line marks  $T=0$ , which is considered as the publication date of this research. From there, a 6 month implementation period is to be started. The time consumed for each general task is proposed in two-week (1/2 month) intervals. The Change Implementation Team, discussed earlier in this study, is to be formed immediately along with planning of the change (implementation road map, schedules and core implementation task planning). The Change Implementation Team would be formed for the fixed 6 month period, after which the team would be dissolved.

The first change implementation task for the implementation team is to test and make use of the new reporting structure (developing reporting tools and thoroughly assessing the new structure), estimated to take from two to four weeks. After the change implementation plans are finalized in approximately two months, implementing the proposed new responsibilities and organisation structure should begin with recruiting and reassignment of tasks.

Even though this research does not assess the prevalent internal controls nor does it directly propose new ones, establishing an effective set of internal controls in a working organisation has a key role in ERM theory. Furthermore, it is indirectly referred to in BPM as well in phase four of business process management's new process implementation (Harrington 1995, 351-353) when in-process measurements are discussed. ManuCorp has a separate department in charge of developing internal controls and an Internal Audit department responsible for testing the controls, hence positioning the development of internal controls out of scope for the operative organisations themselves. The time interval proposed for internal controls development coincides with the development of the internal environment discussed in next paragraph. The idea is for the Change Implementation Team to cooperate with the Internal Controls Development and Internal Audit departments in creating a new, refreshed set of internal controls for the renewed operations. The start of this task is proposed to coincide partly with the restructuring task, in practise giving a possibility to the new organisation to be involved in the development of controls as well.

Changing and improving the internal environment is a difficult task with many elements to be considered (Moeller 2007, COSO 2004). Therefore, changing the internal environment is categorized as a long-term change task (Harrington 1995, 352), meaning that a period longer than 3 months should be reserved for the change. As people's attitudes take time to change, it is reasonable to assume that simply giving three months for the change is not sufficient. However, as the work of the Change Implementation Team is suggested to end after a 6 month period, and the internal environment in an organisation is described as needing constant monitoring and improvement, improving the internal environment becomes a normal line organisation-led process after the 6 month period has ended.

## 5 DISCUSSION AND CONCLUSIONS

This chapter discusses the empirical findings and academic contribution of the study and presents its results in a concise form. The chapter is divided into four sections. In section 5.1 the research questions presented in chapter 1 are answered. That section is followed by sections 5.2 through 5.4 that discuss the academic contribution of the study, critique the study, propose possibilities for future research and present final remarks of the researcher.

### 5.1 Summarizing the Study

Initiation for this research came from two different triggers. The primary trigger was ManuCorp's need to have an overhaul of the existing Re-ABC operations' accounting process as the previous process was deemed too poor to function properly. This trigger created the need for a constructive study, analysing thoroughly the existing process and building a new process that offers significant improvement in the most critical parts of the old process. The second trigger came in the form of realizing that the empirical, real-life problem of poor-functioning accounting processes is universal and that an academic research on the case would bring value to other companies struggling with similar problems.

Enterprise Risk Management theory, more specifically key parts of the COSO-ERM framework, was selected as the main theoretical base for the study. Moreover, Business Process Management approach was chosen as the methodological approach for the emic stage investigation and Business Process Re-engineering, a sub-approach of BPM, provided presentational tools and methods for this written research report.

The research found major shortcomings in the prevalent accounting process on three dimensions: *internal environment*, *responsibilities* and *reporting*. These three dimensions formed the basis of the research questions as well as providing the basic structure of this research report. In order to study these three dimensions of the prevalent accounting process and to build and present a new construction, operational centres and production units in different countries were visited and a research diary kept throughout the emic phase of the research. In addition, email correspondence was studied and ManuCorp's

accounting system data extracted and analysed. These different data gathering methods formed the empirical data sample on which both analysis of the prevalent structure as well as formation of the new construction were based on. The prevalent accounting process is presented in chapter 3 and the new construction in chapter 4. Furthermore, sections 5.1.1 and 5.1.2 answer the research questions presented in chapter 1, thus summarizing empirical findings presented in the empirical chapters 3 and 4.

A weak market test was conducted for the reporting structure developed in this research. The proposed reporting structure was implemented by ManuCorp. ManuCorp has also given positive feedback on the other two dimensions in the new construction. A change implementation phase for implementing the other two dimensions in the proposed construction is intended to start after the publication of this study. The weak market test conducted for the proposed construction is discussed further in the section 5.1.3.

### **5.1.1 What Characteristics Does the Prevalent Accounting Process Have?**

The prevalent accounting process of Re-ABC operations has been let to form naturally over a period of several years. This has led to an unhealthy internal environment, unclear lines of responsibility with poor segregation of duties and uneven development of reporting structures and practices. These characteristics found are presented in chapter 3 with the help of process map flow charts, tabular presentations and quotes of different Re-ABC stakeholders.

#### *5.1.1.1 What is the current internal environment like?*

The prevalent internal environment of Re-ABC operations has not been properly under senior management's scrutiny. Operational staff has assumed the responsibility of developing their own operations with little outside help or interference. Analysis of the prevalent accounting process shows that the current internal environment is unhealthy. Several different contributing factors to the poor internal environment were identified.

The decrepit state of the prevalent internal environment was clearly visible from the comments of different stakeholders quoted in chapter 3. Two processes where the poor internal environment has had a remarkable effect were presented as examples: acceptance

procedures for incoming goods deliveries and re-sales of purchased goods. In both of these cases, the lack of communication between different Re-ABC stakeholders is clearly visible, along with multiple ad hoc corrections made to answer constantly arising major shortcomings in the accounting process.

#### *5.1.1.2 How are the responsibilities divided in the current process?*

The responsibilities dimension is heavily interrelated with the internal environment dimension with a key focal point in matching core competencies with core tasks in the process. For this dimension, segregation of duties in the prevalent process was analysed, along with analyses on how the responsibilities are divided within key processes and how the accounting process related power is divided between different stakeholders (and also how the power distribution is seen by them).

An analysis on segregation of duties in the accounting process revealed that there exist anonymous group users in the purchase invoice approval system, making violating basic ManuCorp invoice approval processes possible, thus showing that there are serious problems with segregation of duties that have to be corrected in the new construction. An apparent lack in competence was identified in the by-product re-selling process, commented in the internal environment section 3.1.3.

The uneven distribution of power has led to the state where the production unit controllers have either effectively relinquished their controlling and monitoring power or have a strong feeling of powerlessness even though they are still engaged in controlling Re-ABC operations to some extent. Moreover, a door-in-the-face attitude of Re-ABC personnel towards other Re-ABC stakeholders was observed, contributing to the poor overall atmosphere and leading to little support being offered to Re-ABC operations when they might have been in need for help.

#### *5.1.1.3 What are the main risks in internal and external reporting structures in the current model and how can they lead to poor business and strategic decisions?*

The biggest risk in the prevalent reporting structures was coming from the fact that the structures varied so much from one country to another that reporting based on financial

figures could not be developed. The differences were not only in the reporting structures themselves but also in what cost and profit elements were reported under the operations. The reporting used to report Re-ABC operations' financial performance was fundamentally different to what could be found in financial and management accounting figures.

Moreover, the prevalent reporting structures violated the principle of responsibility accounting, with no clear responsibilities assigned to accounting responsibility units, in ManuCorp's case profit centres. This lack of having clear responsibilities for the operations contributed to excessive risk-taking observed in the operations. The unclear accountability and responsibility lines in reporting and deficient reporting structures led to significant unallocated cost accumulation, rendering operative and strategic decisions either impossible or, if some had to be made, based on wrong and/or insufficient information.

### **5.1.2 How Should the New Accounting Process Be Formed?**

The proposed accounting process was formed in a way where cross-functional accountability was strengthened, forcing other ManuCorp Re-ABC stakeholders in addition to Re-ABC operational personnel themselves to take part in the accounting process. Clearer lines of responsibility were drawn and the by-product re-sales process that could not be effectively handled by Re-ABC operations would be outsourced to a team within ManuCorp specializing in re-selling activities.

The new reporting structure was developed first and was already implemented as ManuCorp wished to have the new reporting structure in place for the new fiscal year that started at the same time when the emic phase of the research ended. For the other two dimensions, a change implementation plan was drafted and conducting the change implementation process needed for them commented in section 4.4.

#### *5.1.2.1 What changes should be made to the internal environment?*

The proposed internal environment addresses the problems discovered in the analysis of the prevalent process. The level of cross-functional accountability and monitoring would

be increased and the structure of the operative organisation itself would be formed in a way where the organisation could be more easily monitored. The incoming goods acceptance process would introduce the participation of the Production Controller in the process, thus both adding a controlling and duty segregation element in the process and encouraging cross-functional co-operation between different stakeholders.

Responsibility for the re-sales processes that have several shortcomings in the prevalent process would be reassigned to a specialist organisation responsible for similar re-selling activities in ManuCorp. Re-ABC operations would still have persons with expertise in sales of by-products but their role would change from operative to consultative and mentoring ones, providing their market knowledge and other support to the specialist re-selling organisation responsible for the sales. Again, this redistribution of tasks would strengthen cross-functional accountability and co-operation, analysed as a key shortcoming in the prevalent Re-ABC internal environment.

#### *5.1.2.2 How should the responsibilities be structured?*

The proposed construction introduces stronger cross-functional responsibilities and wider division of tasks compared to the prevalent construction. A more complete, threefold controlling organ is proposed with the introduction of a Financial Development Controller to ensure proper development and monitoring of Re-ABC accounting processes and internal environment. Poor matching of core competencies and core tasks is addressed, along with improving segregation of duties and redistributing power in the accounting process.

A Change Implementation Team is proposed to be put in place to conduct the change implementation process, often an arduous and difficult task. The team would be formed of key persons in the newly designed Re-ABC operations. Improved segregation of duties sees the eradication of anonymous group users in the process, ensuring that approval limits are kept and that proper approval procedures are followed. Furthermore, wider distribution of tasks would ensure that no single person can obtain a set of system rights that possess significant operative risk to ManuCorp.

Power is proposed to be redistributed so that the production controlling organ, whose involvement in controlling and monitoring Re-ABC operations has been minimal, would

be tied more closely in monitoring the operations. Also, the Financial Services function's involvement is increased, with applicable tasks transferred from Re-ABC admin to respective departments within Financial Services.

#### *5.1.2.3 What changes should be done to the reporting structures?*

The new reporting structure construction was, as described earlier in this chapter<sup>31</sup>, already implemented by ManuCorp at the beginning of fiscal year 2013. It was built on the principles of responsibility accounting with simplicity and harmonization throughout different countries in mind. A key element in the new reporting structure was the creation of a single responsibility unit for each country and having similar structures in place throughout all regions. An additional requirement from ManuCorp to have all variable operating costs and turnover allocated to production units was accommodated with a global allocation solution, presented in Table 6 on page 70.

Analysing the profitability of Re-ABC operations is rendered possible with the new structure as comparability of financial and management accounting figures is introduced. Developing reporting tools that take into account differing levels of accounting knowledge between different decision-makers is of utmost importance. The task of developing new reporting tools, out of scope for this study *per se*, is proposed to be the first task for the team implementing the proposed changes, the Change Implementation Team.

#### *5.1.2.4 How should the changes be implemented?*

A Change Implementation Team, presented in section 4.3 and discussed in sub-section 5.1.1.2 is proposed to be established for the change implementation phase. The change implementation phase is suggested to last for a fixed six-month period, after which the team would dissolve and its members assume normal line organisation duties. A highly motivated team composed of key people in the new Re-ABC accounting process is analysed essential for the change as especially changing key elements in the internal

---

<sup>31</sup> Also further discussed in section 5.1.3.

environment is a delicate task easily ruined by not giving enough attention to and resources for it.

### **5.1.3 Weak Market Test for the Proposed Construction**

Kasanen, Lukka and Siitonen (1993, 253-254) describe a weak market test as a situation where the case study object has decided to implement the proposed new construction(s). In the case of this study, ManuCorp decided to implement the reporting structure developed in this study and has at the time of writing this final chapter of the research report been using the new structure for one quarter of a year.

Kasanen et al (1993, 253) note that even a weak market test is an achievement for a constructive study. They state that “it is probably not often that a tentative construction is able to pass [a weak market test]”. ManuCorp has expressed their interest in implementing the other two proposed dimensions as well when the prevalent Re-ABC accounting process and other business processes related to it are overhauled. In light of this, it can be said that there is empirical proof that this study has had empirical success and has brought real-life value for the study object.

Semi-strong and strong market tests call for acceptance and implementation of the proposed construction in multiple operations. Wider analysis of different accounting processes throughout different companies and operations is out of scope for this study and therefore is not achievable without further research. Conducting a semi-strong or strong market test is indeed identified as one possibility for further research.

## **5.2 Academic Contribution of the Study**

The purpose of constructive research is, like suggested by its name, to improve on reality by socially constructing it in a new way. Key is to form a holistic view of the existing construction and reverse engineer it in order to found the improved new construction on the findings. Good constructive accounting research gives contribution to both theory and practices of accounting. (Näsi and Rohde 2006, Jönsson and Lukka 2006)

*In discourse on scientific research, validity and reliability are typically viewed as important criteria of goodness of a study. While in interventionist research*

*reliability in essence is a form of inter-subjectivity among competent practitioners, validity relates to whether a statement expresses or corresponds to reality. In interventionist research, such a conception may at first look problematic. After all, the purpose of an intervention normally is to improve on reality so that it will be socially constructed in a new way. At the same time the deliberations on action in a specific setting...should be valid in order to avoid failure.* (Jönsson and Lukka 2006, 385)

Jönsson and Lukka (2006, 390-393) draw from such authors as Kurt Lewin and Kenneth Pike and conclude that constructive/interventionist research has two main contributions: one to improve on existing reality and one in testing existing theories and adding to them. The practical contribution of this study is discussed earlier in this chapter and subtle references to the academic contribution are given throughout the study.

The academic contribution of this study derives from combining and modifying existing theories and testing their usefulness for conducting constructive research on an accounting process. The usefulness of Enterprise Risk Management and Business Process Management (and Business Process Re-Engineering) theories/approaches in developing accounting processes is tested. Combining two different approaches (and one sub-approach), one from accounting world and another from management and engineering world might seem daring. However, it was apparent during both emic and etic phases of the study of the study that neither ERM nor BPM could provide on their own a set of theoretical and methodological lenses versatile and full enough to effectively study both social and numeral dimensions of the complicated accounting process under study. Like stated in section 1.1.2, studies that only use one of the two often fall short in some dimension.

The study offers a schematic for accounting process improvement derived from the theoretical framework and methodology used in the study as well as from findings and remarks made during both emic and etic phases of the study. The schematic is presented in Figure 20 below, using the same presentational format as used in chapter 2.

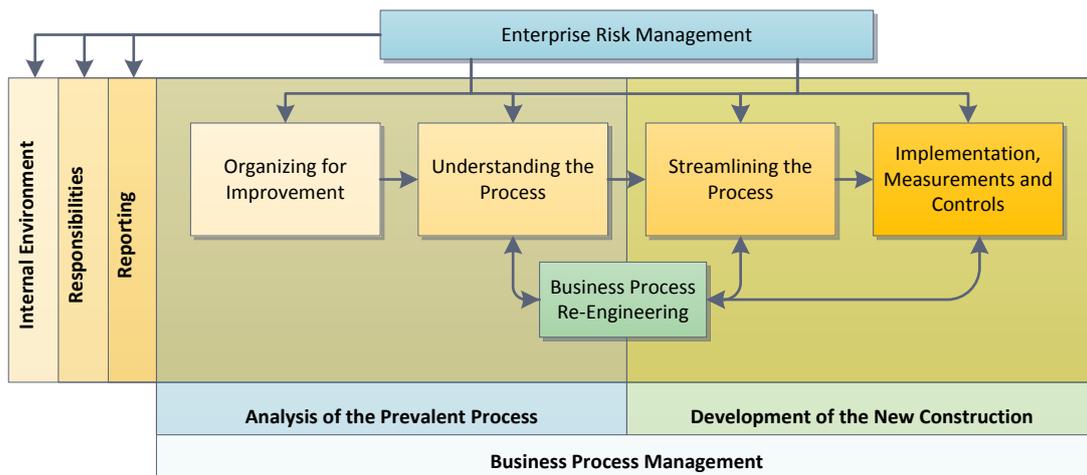


Figure 20. Accounting process improvement schematic developed in this study

### 5.3 Critique of the Study and Implications for Future Research

Like with all constructive research, the main concern over this study falls upon the usability of the new construction for organisations other than the case organisation. This problematic is discussed in section 5.2 above. Another question raised by this study is how the possible future implementation of the proposed construction would go in real life. As the implementation of the new construction was out of scope for this study as such, it is hard to predict how successful the implementation would be. This presents a possibility for further research, discussed in the next paragraph.

One implication for future research is to identify accounting processes having similar shortcomings and finding out whether the construction presented in this study passes a semi-strong or strong market test. The research could for example be done by conducting a series of interviews of senior managers responsible for accounting processes in their respective organisations to see their willingness in implementing similar constructions in their processes. Perhaps the most natural possibility for further research would come in the form of a continuation of this study, a descriptive study following the implementation process of the proposed constructions. Together with this study, the two would make a comprehensive overview of accounting process development and change implementation in a large traditional manufacturing company.

Lastly, utilizing Enterprise Risk Management and Business Process Management as a pair in business process improvement research in general is a path worth exploring.

Whether it be research that uses BPM as a methodological framework and ERM as a theoretical one like in this study or research that uses different power dynamics of the two approaches, the two are an interesting pair working considerably well combined. Even a possibility of building a new, wholesome theory based on the two does not seem impossible.

## 5.4 Final Remarks

*If you have built castles in the air, your work need not be lost; that is where they should be. Now put the foundations under them.* (Henry David Thoreau, 1854<sup>32</sup>)

If poorly performing business processes are uncovered in an organisation, actions for improvement should be duly planned. An important part of all business process improvement is a well-founded analysis on the prevalent process as well as well-grounded argumentation for developing the prevalent process or implementing a new construction. In the case of Re-ABC operations, responsible for acquiring reusable manufacturing raw material and conducting various tasks related to handling the material in ManuCorp, a large public listed company in the traditional manufacturing industry, the decrepit state of the accounting process had become unbearable and the need for business process improvement was imminent.

The accounting process, a bridge connecting real and monetary processes, is a delicate and complex process requiring both careful design and constant monitoring. In real life, illustrated by the case object of this study, accounting processes are in some cases left to develop on their own with low priority, leading to poor business results and shortcomings in multiple dimensions.

This study contests that accounting processes can be effectively analysed and improved by combining elements of Enterprise Risk Management and Business Process Management and founding both the analysis of the prevalent process and the development of the new process on those building blocks. The study identifies three

---

<sup>32</sup> Quoted from Henry David Thoreau's autobiographical book *Walden* (chapter 18) originally published in 1854.

dimensions, derived from key components of the COSO-ERM framework cube, as the main analysis dimensions in an accounting process: internal environment, division of responsibilities and financial and management reporting. These key interrelated dimensions are studied in the prevalent accounting process, and a new construction is built on and presented using these three dimensions.

The research discovered that the accounting process itself had become the biggest enemy of the people working in it with people being assigned to do tasks they do not have competence for, along with uneven distribution of power and non-existent financial reporting in place. A new construction that would enable and encourage positive development of the real processes the accounting process serves, with improved internal environment, well-designed lines of accountability and monitoring and an efficient reporting structure was thus created and proposed for implementation as a result. For its academic contribution the study presents an accounting process improvement schematic, combining key elements of Enterprise Risk Management, Business Process Management and Business Process Re-Engineering. As said, building castles in the air is well fine, as long as they have foundations strong enough to carry them.

## REFERENCES

- Bacharach, S. B; Lawler, E. J. 1976. The Perception of Power. *Social Forces*, 55(1). pp123-134.
- Brocke vom, J.; Sinnl, T. 2011. Culture in business process management: a literature review. *Business Process Management Journal*, 17(2). pp357-378.
- Burchell, S; Clubb, C; Hopwood, A; Hughes, J. 1980. The Roles of Accounting in Organizations and Society. *Accounting, Organizations and Society*, 5(1). pp5-27.
- Cardinaels, E. 2008. The Interplay Between Cost Accounting Knowledge and Presentation Pormats in Cost-Based Decision-Making. *Accounting, Organizations and Society*, 33(6). pp582-602
- Choudhury, N. 1986. Responsibility Accounting and Controllability. *Accounting & Business Research*, 16(63). pp189-198.
- Collier, P. M. 2009. Towards Enterprise risk Management. *Fundamentals of Risk Management for Accountants and Managers*. Oxford: Butterworth-Heinemann. pp45-57
- Committee of the Sponsoring Organizations of the Treadway Commission (COSO) 2004. *Enterprise Risk Management – Integrated Framework*. New York: AICPA.
- Damij, N. 2007. Business Process Modelling Using Diagrammatic and Tabular Techniques. *Business Process Management Journal*, 13(1). pp70-90.
- Davenport, T. H; Short, J. E. 1990. The New Industrial Engineering: Information Technology and Business Process Redesign. *Sloan Management Review*, 31(4). pp11-27.
- Eisenhardt, K. M; Graebner, M. E. 2007. Theory Building from Cases: Opportunities and Challenges. *Academy of Management Journal*, 50(1). pp25-32.
- Elzinga, D. J; Horak, T; Chung-Yee L; Bruner, C. 1995. Business process management: survey and methodology. *IEEE Transactions on Engineering Management*, 42(2). pp119-128.
- Eskola, J; Suoranta, J. 2001. *Johdatus laadulliseen tutkimukseen*. Jyväskylä: Gummerrus kirjapaino Oy
- Goldstein, N. J; Hays, N. A. 2011. Illusory Power Transference: The Vicarious Experience of Power. *Administrative Science Quarterly*, 56(4). pp593-621.
- Gordon, L. A; Loeb, M. P; Tsang, C-Y. 2009. Enterprise Risk Management and Firm Performance: A Contingency Perspective. *Journal of Accounting and Public Policy*, 28(4). pp301-327

- Gramling, A. A; Hermanson, D. R; Hermanson, H. M; Zhongxia, Y. 2010. Addressing Problems with the Segregation of Duties in Smaller Companies. *Accounting & Auditing*, July 2010. pp30-34.
- Gupta, B; Sharma, N. K. 2008. Compliance with Bases of Power and Subordinates' Perception of Superiors: Moderating Effect of Quality of Interaction. *Singapore Management Review*, 30(1). pp1-24.
- Harrington, H. 1995. *Total Improvement Management – The Next Generation in Performance Improvement*. New York, New York: McGraw-Hill
- Jönsson, S; Lukka, K. 2006. There and Back Again: Doing Interventionist Research in Management Accounting. *Handbook of Management Accounting Research*, volume 1. pp373-397.
- Kagioglou, M; Cooper, R; Aouad, G. 1998. *Re-Engineering the UK Construction Industry: The Process Protocol*. Paper presented at Second European Conference on Product and Process Modelling in the Building Industry, October, Watford, BRE, 1998.
- Kaplan, R. S. 2011. Accounting Scholarship that Advances Professional Knowledge and Practice. *The Accounting Review*, 86(2). pp367-383.
- Kasanen, E; Lukka, K; Siitonen, A. 1993. The Constructive Approach in Management Accounting Research. *Journal of Management Accounting Research*. 5(Fall). pp243-264.
- Kerttula, K. 2009. *Valta ja muutos: Ylimmän johdon tulkinta vallan ilmenemisestä organisaation strategisessa muutosprosessissa*. Jyväskylä: Publishing Unit, University of Jyväskylä.
- Kitterhing, J. 2010. FP&A Controller. *Financial Management*, May 2010. pp55-55.
- Lee, R. G; Dale, B. G. 1998. Business Process Management: a Review and Evaluation. *Business Process Management Journal*, 4(2). pp214-225.
- Lightle, S. S; Castellano, J. F; Cutting, B. T. 2007. Assessing the Control Environment. *Internal Auditor*, 64(6). pp51-56.
- Lightle, S. S; Vallario, C. W. 2003. Segregation of Duties in ERP. *Internal Auditor*, 60(5). pp27-31.
- Lukka, K. 1999. Case/field- tutkimuksen erilaiset lähestymistavat laskentatoimessa. Hookana-Turunen, H. (ed.) *Tutkija, opettaja, akateeminen vaikuttaja ja käytännön toimija. Professori Reino Majala 65 vuotta*. Turku: Turun kauppakorkeakoulun julkaisuja. pp129-150.

- Mansar, S. L; Reijers H. A. 2007. Best practices in business process redesign: use and impact. *Business Process Management Journal*, 13(2). pp193-213.
- Mikes, A. 2009. Risk Management and Calculative Cultures. *Management Accounting Research*, 20(1). pp18-40.
- Moeller, R. 2007. *COSO Enterprise Risk Management. Understanding the New Integrated ERM Framework*. Hoboken, New Jersey: John Wiley & Sons Inc.
- Nah, F; Lau, J; Kuang, J. 2001. Critical Factors for Successful Implementation of Enterprise Systems. *Business Process Management Journal*, 7(3). pp285-296.
- Neiger, D; Rotaru K; Churilov L. 2009. Supply Chain Risk Identification with Value-Focused Process Engineering. *Journal of Operations Management*, 27(2). pp154-168.
- Nurcan, S; Etien, A; Kaabi, R; Zoukar, I; Rolland, C. 2005. A Strategy Driven Business Process Modelling Approach. *Business Process Management Journal*, 11(6). pp628-649.
- Näsi, S; Rohde, C. 2006. Development of Cost and Management Accounting Ideas in the Nordic Countries. *Handbook of Management Accounting Research*, volume 2. pp1091-1118.
- Pizzini, M. J. 2006. The Relation Between Cost-System Design, Managers' Evaluations of the Relevance and Usefulness of Cost Data, and Financial Performance: an Empirical Study of US Hospitals. *Accounting, Organizations and Society*, 31(2). pp179-210.
- Quattrone, P; Hopper, T. 2005. A 'Time-Space Odyssey': Management Control Systems in Two Multinational Organisations. *Accounting, Organizations and Society*, 30(7-8). pp735-764.
- Rabhi, F. A; Yu, H; Dabous, F. T. 2007. A Service-Oriented Architecture for Financial Business Processes. *Information Systems and E-Business Management*, 5(2). pp185-200.
- Reijers, H. A; Mansar, S. L. 2002. Best Practices in Business Process Redesign: An Overview and Qualitative Evaluation of Successful Redesign Heuristics. *Omega, The International Journal of Management Science*, 33(4). pp283-306.
- Ridder, H-G; Hoon, C; McCandless, A. 2009. The theoretical contribution of case study research to the field of strategy and management, in Bergh, D.D; Ketchen D.J. (ed.) *5 Research Methodology in Strategy and Management*, Vol. 5. Bingley: Emerald Group Publishing Limited. pp137-175.
- Rohleder, T. R; Silver, E. A. 1997. A Tutorial on Business Process Improvement. *Journal of Operations Management*, 15(3). pp139-154.

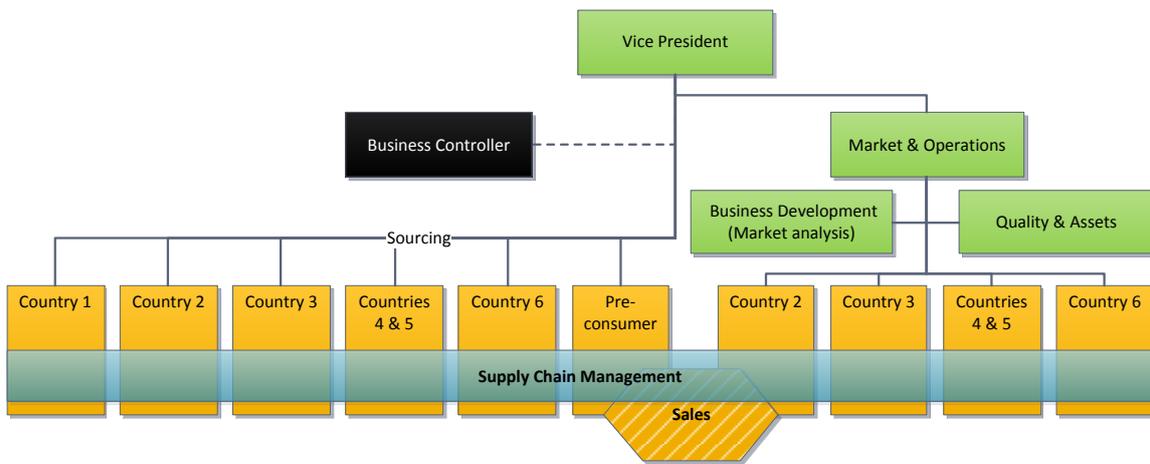
- Scarlett, P. 2007. Management Accounting – Performance Evaluation. *Financial Management*, April 2007. pp41-43.
- Seethamraju, R; Marjanovic O. 2009. Role of Process Knowledge in Business Process Improvement Methodology: A Case Study. *Business Process Management Journal*, 15(6). pp920-936.
- Skærbæk, P; Tryggestad, K. 2010. The Role of Accounting Devices in Performing Corporate Strategy. *Accounting, Organizations and Society*, 35(1). pp108-124.
- Smart, P. A; Maddern, H; Maull R. S. 2008. Understanding Business Process Management: Implications for Theory and Practice. *British Journal of Management*, 20(4). pp491-507.
- Stahelski, A; Patch, M. E. 1993. The Effect of the Compliance Strategy Choice Upon Perception of Power. *The Journal of Social Psychology*, 133(5). pp693-698.
- Talwar, R. 1993. Business Re-Engineering – a Strategy Driven Approach. *Long Range Planning*, 26(6). pp22-40.
- Vazirani, N. 2010. Competencies and Competency Model – A Brief Overview of its Development and Application. *SIES Journal of Management*, 7(1). pp121-131.

## APPENDICES

### Appendix 1. Risk Assessment Table of the prevalent accounting process presented to ManuCorp<sup>33</sup>

<b>Risk Definition</b>	<b>Impact</b>	<b>Likelihood</b>	<b>Risk Response</b>
Reporting structure allowing hiding of costs	High: False reporting can lead to wrong strategic decisions	High: Several cases reported and identified	Harmonize reporting structures
Too much inferior quality accepted / Inconsistencies in warehouse reporting	High: Immediate effect on stock balances and stock value reported	High: Several cases reported and identified	Establish controls to prevent unauthorized goods receipts of inferior quality
Inherent error in Re-ABC reporting structure leading to false information reported	High: False reporting can lead to wrong strategic decisions	Medium: Some inherent errors found in current reporting structure	Re-engineer reporting structures and establish finance development position to ensure proper reporting
Group users rendering segregation of duties ineffective	High: Anonymous group users enabling illegal and/or fraudulent activities in invoice approvals	Medium: Not likely to be exploited maliciously. However, relatively likely to be used to "straighten the bends"	Delete group users and prevent their creation
Legal issues stemming from incorrect/deficient sales contracts	High: All legal problems might entail serious consequences	Medium: One case reported and identified. It is likely that there are more, but not to a large number	Implement correct sales processes. Ensure sales process knowledge
Poor segregation of duties leading to failure of monitoring individual person's improper action	High: Fraudulent operations could have significant impact on ManuCorp's operations	Medium: Internal auditing and internal controls fail to countermeasure shortcomings in segregation of duties	Improve segregation of duties in new process construction
Wrong VAT declared in re-sales of purchased goods	Medium: RE-ABC operations not big enough to have large impact in reported VAT	High: Several cases reported and identified	Introduce statutory expertise to Re-ABC organisation
Booking rules not followed	Medium: Reporting is always checked by Business Controller before monthly reports are submitted	Medium: Some cases reported and identified	Establish finance development monitoring position to ensure proper reporting
Re-ABC organisation solving a problem ad hoc without considering consequences to complete Re-ABC process or other ManuCorp processes	Low to high: The impact can vary depending on the ad hoc solution	High: Several cases reported and identified	Take necessary actions to prevent ad hoc problem solving
Sales invoices falsely modified in order to hide any wrongdoing	High: In theory, phantom invoices could be created or bribes paid under the table	Low: No intentional illegal activity discovered in Re-ABC operations	Prevent manual modification of sales invoices once they are issued
Differing reporting structures rendering reported information useless for strategic decision-making	Low: Ineffective reporting cannot be used for strategic decision-making.	High: Prevalent reporting structures cannot be used for strategic decision-making	Establish finance development monitoring position to ensure proper reporting

<sup>33</sup> This risk assessment table follows Moeller's (2007, 75) example.

**Appendix 2. Re-ABC organisation as of 15 January 2012<sup>34</sup>**

---

<sup>34</sup> Source: ManuCorp intranet. Accessed 13 October 2012