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MANAGING CHANGE:

At an Individual Level

Dissertation by:

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July 2006

Table of Contents

	Page
Acknowledgements	v
Declaration	vi
Abstract	vii
Key Words	viii
List of Figures	ix
List of Tables	x
List of Graphs	xi
List of Appendices	xii
Chapter 1 – Introduction	
1.1 Organisational Context	1
1.2 The Nature of the Problem	4
1.3 Problem Statement	4
1.4 Aim and Objectives of the Research	5
1.4.1 Aim	5
1.4.2 Objectives	5
1.5 Research Methodology	5
1.5.1 Approach	6
1.5.2 Research Types	7
1.5.3 Classes of Research	8
1.5.4 Literature Research	10
1.6 Demarcation of the Field of Study	11
1.7 Report Structure	11
Chapter 2 – Change and Change Management	
2.1 Change	13
2.1.1 Resistance to Change	15
2.2 Human Understanding and Response to Change	17
2.2.1 Human Understanding and Reaction	18
2.2.1.1 Mental Models	19

2.2.1.2 Assertive Behaviour Model	20
2.2.1.3 Personality and Psychometrics	20
2.2.1.4 Transactional Analysis (TA) Ego-State Model	21
2.2.1.5 Rational Emotive Therapy (RAT)	22
2.2.1.6 Natural Differences	23
2.2.1.7 Culture	24
2.2.1.8 Consolidated Model of Human Understanding and Reaction	26
2.3 Management of Change	28
2.3.1 Management Theory	29
2.3.2 Management Approaches	30
2.3.3 Criteria for Change Management	31
2.3.3.1 Planning	31
2.3.3.2 Organising	33
2.3.3.3 Leading	34
2.3.3.4 Controlling	35
2.3.4 Choice of Management Approach	37
2.4 Summary	38

Chapter 3 – Systems Thinking and the Management of Change

3.1 Systems Thinking	39
3.2 Cybernetics	40
3.3 Change Related Variables	42
3.3.1 Interrelationships between Change Variables	43
3.4 Modelling an Individual in a Change Environment	47
3.4.1 System Dynamics (SD)	48
3.4.2 Viable Systems Model (VSM)	48
3.4.3 Strategic Assumption Surfacing and Testing (SAST)	49

3.4.4 Interactive Planning (IP)	50
3.4.5 Soft Systems Methodology (SSM)	51
3.4.6 Work Systems (WS)	52
3.4.7 Systems Thinking Models Applied	52
3.5 Consolidation of the VSM and the WS Model	54
3.5.1 Review of the Viable Systems Model (VSM)	54
3.5.2 The VSM and the Individual	56
3.5.3 The Time Perspective of Change	60
3.5.4 Review of the Work Systems (WS) Model	62
3.5.4.1 Added-Value Domain	63
3.5.4.2 Innovation Domain	64
3.5.4.3 Value-System Domain	65
3.5.5 Combining the VSM, WS Model, and the Time Perspective	66
3.6 Summary	67

Chapter 4 – Research Design

4.1 Qualitative Research Methodology	68
4.2 Action Research	70
4.2.1 Action Science	71
4.2.2 Evaluation	71
4.2.3 Participatory Action Research (PAR)	71
4.3 Choice of Research Type	72
4.3.1 Participant Observation	73
4.3.2 Interviews	75
4.3.2.1 Participants	76
4.4 Data	77
4.4.1 Sampling	78
4.5 Research Framework	79
4.5.1 Data Gathering Methods	80
4.5.1.1 Participant Observation	80
4.5.1.2 Interviews	81
4.5.2 Data Analysis	82
4.6 Summary	83

Chapter 5 – Findings of the Study

5.1 Findings	84
5.1.1 Cycle 1 – Interviews in 3 rd Week in January 2001	84
5.1.2 Cycle 2 – Interviews in 2 nd Week in June 2001	87
5.1.3 Cycle 3 – Interviews in 3 rd Week in December 2001	90
5.1.4 Consolidating the Findings of the Three Cycles	93
5.2 Objectives Achieved	96
5.3 Summary	98

Chapter 6 – Summary and Conclusion

6.1 Summary	99
6.2 Concluding Reflections	101
6.2.1 Systems Thinking	101
6.2.2 Understanding	101
6.2.3 Resistance	103
6.2.4 Effort to Change	104
6.3 Proposed Topics for Future Research	106
6.4 Conclusion	107

References

109

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Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements of the degree of Master of Industrial Administration at the University of Cape Town. It has not been submitted before for any degree or examination in any other University.

Signed by candidate

Tyrone Gower

24 July 2006

Date

Abstract

Dramatic organisational change appeared to negatively affect the social behaviour and work performance of a particular team of individuals. Management intervention to support these individuals in this situation was not apparent. This study endeavoured to explore how these individuals managed their personal situations within this changing environment, and uncover lessons to assist them to improve their personal change management.

This is a qualitative methodology research project based on a Systems Thinking and Participant Action Research approach. The researcher reviewed change, management, and change management literature to establish; appropriate models to explore human system behaviour in a changing environment, and an appropriate research framework.

The key personal change management variables were identified in the literature and modelled according to well-established research models and the Systems Thinking approach, to develop an understanding of their interrelationships and interdependencies.

The variables identified were:

- Reality of change
- Understanding of change
- Resistance
- Anxiety
- Ability to change
- Effort to manage change
- Successes achieved

Interventions were based on the understanding and models developed through the literature reviewed, and adapted through cycles of participant observation and interviews, according to applied learning. The findings indicated that these interventions did improve the personal change management of the participants. A number of relevant, useful and valuable lessons were also identified and reflected on at the end of the research report.

Key Words

Ability to change

Anxiety

Change

Change management

Change management variables

Effort to change

Personal change management

Resistance

Successful change

Understanding of change

University of Cape Town

List of Figures

	Page
Figure 1.1: The Uncertainty of Change	3
Figure 1.2: Demarcation of the Field of Study	11
Figure 2.1: Model of Human Understanding and Reaction	27
Figure 3.1: Affinity Diagram of Change Related Variables	42
Figure 3.2: Interrelationship Diagram (ID)	43
Figure 3.3: BOT Graph of Human Behaviour Variables of Change	45
Figure 3.4: CLD of Human Behaviour through Change	46
Figure 3.5: The VSM	55
Figure 3.6: A Model of an Individual's Personal and Functional Elements	57
Figure 3.7: Opportunity becomes Threat	61
Figure 3.8: Illustration of the Work System Domains and Process Levels	62
Figure 3.9: A Model of an Individual's Journey of Change through Time	66
Figure 4.1: Research "Learning Cycle" Framework applied	79

List of Tables

	Page
Table 3.1: Ranking of Change Cause and Effect Variables	44
Table 4.1: Change Event Cycles	78

University of Cape Town

List of Graphs

	Page
Graph B.1: Results of Cycle 1	129
Graph B.2: Results of Cycle 2	129
Graph B.3: Results of Cycle 3	129

University of Cape Town

List of Appendices

	Page
Appendix A – Observation Notes of Variables	114
Appendix B – Investigation of Differences in the Approach to Personal Change Management	122
Appendix C – Investigation of Individual Planning and Information Management	130

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Chapter 1

Introduction

This research was born out of an environment of intense change affecting a specific team of individuals within an organisation. The organisation had gone through a period of change brought about by new computer systems, a shrinking market that exerted pressure on costs, organisational mergers and staff reductions, which together created social and political tensions within the organization that impacted on, and were experienced by, the team.

During this period of change management invested considerable resources to communicating to employees the general impact of change to the organisation involved. This included general e-mails describing the future of the organisation and why the changes are necessary from a business perspective. Executive management change deadlines were regularly sent down through the management structures to the employees and these were reinforced via electronic media. Some high-level theoretical change management workshops were held, which dealt with organisational change in terms of how team reorganisation required social adjustments, and how people needed to work together and bear with one another for the good of the organisation. However, not all individuals were equipped with the tools or support they needed to cope with their personal fears and the decisions they would have to make. The management interventions did not attempt to provide individuals with practical approaches to address their concerns of their individual well being during the turmoil. Instead, individuals were largely left to their own devices to deal with the effects of these changes in their personal situations.

1.1 Organisational Context

In 1990 the Business Analyst (BA) Team, consisting of seven business analysts, was formed to develop and support a new computer system for an operating division of a South African Investment Bank. This was to replace a dated computer system that was no longer capable of supporting the division's business requirements. The BA team was part of the Support Services Team (SST), which supported all the centralised administration functions of the Division.

Despite many expected and unexpected challenges the BA team proved to be a highly effective, dedicated and committed unit, and delivered a quality product in 1993. After that the highly pressurised project environment calmed to one of routine maintenance of

the new computer system and the BA team was reduced in size from seven to three analysts. During 1995 the BA team grew again to six analysts to accommodate the bank's expanded activities that required new development projects.

In 1997 the bank merged with two others. This was the first indication of the imminent changes to be perceived by the entire SST as being beyond their planning and control. A ripple of uncertainty was apparent and the impending change was frequently discussed amongst employees and management. The SST was relatively large, but staff appeared to comfort themselves in their own perceptions of the value of their specialist knowledge. Also, at that stage the amount of change directly affecting the operating division was relatively insignificant. A heavy workload also tended to keep everyone's mind off the changes occurring in the rest of the organisation. Change management workshops were conducted by management within the SST to focus minds on the impact of the changes to the SST, to decide on new SST structures, to identify current SST issues and how the issues should be resolved into the future.

In 1998 the BA Team leadership changed, a five-year plan was established and the BA team grew to ten members. Within a year a large portion of the Division's business was sold and the Division underwent a major restructure. This resulted in retrenchments throughout the Division. While the BA Team remained relatively untouched, the increased rate of change increased the uncertainty and concern for the future throughout the Division.

In 2000, the SST experienced another restructure. Four of the BA Team members were transferred to another team within the SST and another one resigned, reducing the BA Team to five analysts. The BA Team then focused solely on the maintenance of the computer system and processes.

After this second restructure, the projects that occupied the BA Team's time revolved around minor business processes, systems, legislative changes and user training. Strategic initiatives were researched and proposed while the unstable economic and business environment shifted the focus onto core business areas and cost cutting initiatives. This resulted in all Information Technology related initiatives being frozen. As this was a major role of the BA Team, it raised uncertainty about the future viability of the BA Team in the minds of its members.

The work location and environment remained relatively constant for most of the team members, however there was an increasing management drive to transfer all administration staff from Cape Town, South Africa, to the company's head office in Johannesburg, South Africa, 1500km away. This was another source of uncertainty for

most people in the greater Support Services Team.

As illustrated by Figure 1.1 below, the situation and reaction described indicates that the changes generated uncertainty caused by the unknown possibilities that could mean disaster or success. These individuals were left with the choice to:

- Attempt to flee from the changes
- Ignore them, or
- Face them

In all likelihood the choice would be made according to how the individual processes all the available personal, organisational and change information, which would be determined by their skills to accommodate and deal with uncertainty and change.

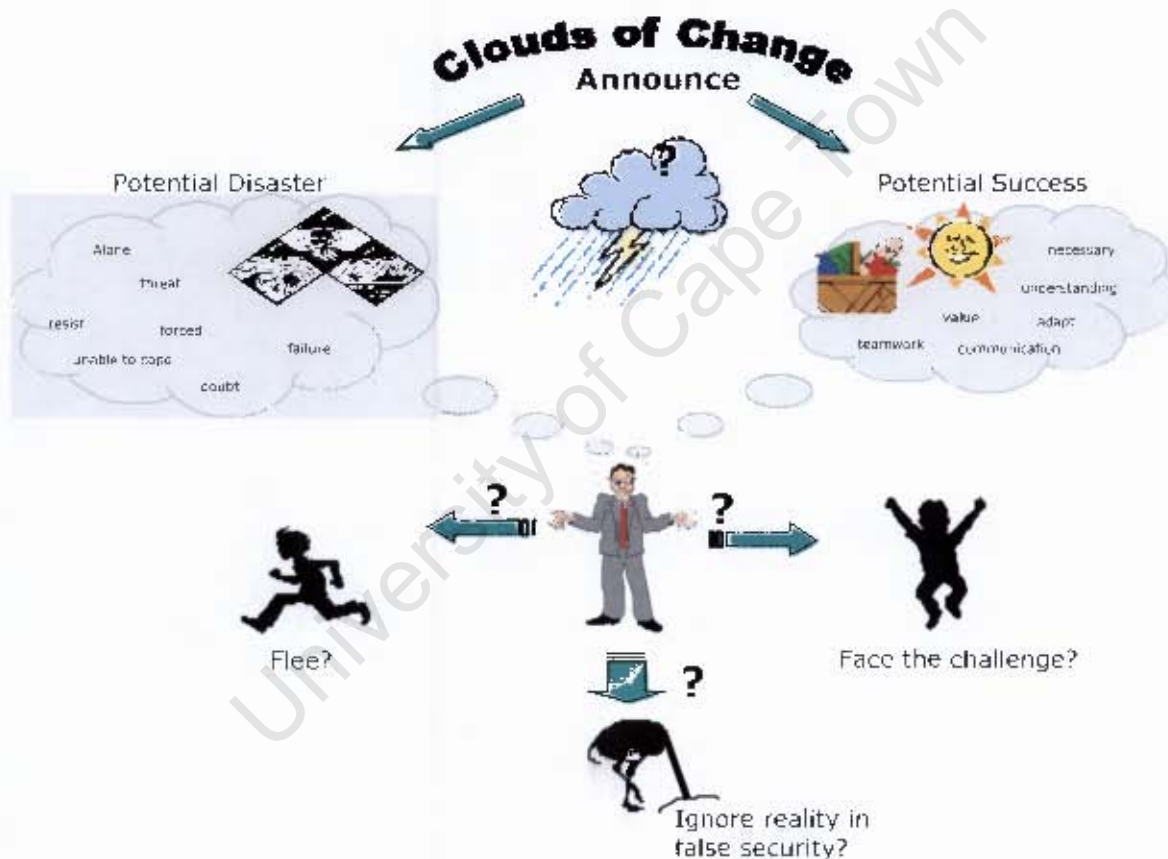


Figure 1.1: The Uncertainty of Change

1.2 The Nature of the Problem

As a member of the BA team since 1993, the researcher witnessed a radical increase in the rate of change within the BA Team's immediate working environment, and its influences and effects on the various individuals involved.

Problems began to emerge in the SST as the individuals in the SST experienced change that dramatically transformed roles, responsibilities and team structures. According to these individuals, the senior management who introduced the changes made very little visible effort to consider the individuals who were faced with major personal challenges and tough decisions as a result. Individuals faced many options and challenges such as team restructuring, new skill requirements, retrenchment, applying for other internal or external work, etc. Each had consequences for themselves and their families. Unclear timing, mixed communications and rumours also affected these decisions.

All these personal change management issues and variables, with both positive and negative consequences, created problems for these individuals in terms of how to cope with their changing situations. No practical solutions or methods of dealing with their numerous options were made available to them to assist them in coping with their challenges. Management was focused on enforcing the organisational aspects of the changes, which included legislative requirements about how to treat staff with regards to change initiatives, such as retrenchment and redeployment. However, management did not take any steps to equip their employees of the human aspects they faced due to the changes suggesting that there was a lack of awareness within the organization's management structures of any problem in this regard. Thus, the organizational changes led to increased levels of stress, which manifested itself in anti-social outbursts, lack of motivation and a lack of commitment to provide extra effort during peak workloads. This decline in the personal well being of these individuals concerned the researcher and gave rise to the identification of the research problem, in that there was a need to determine how individuals, in the absence of organisational assistance, could reverse these negative effects, and enhance any positives through effective personal change management.

1.3 Problem Statement

Given the situation described above, the problem under study in this project is *that within a period of significant organisational change there was a lack of management intervention to assist individuals in dealing with their personal change management within the BA team, and that this resulted in negative consequences in individual behaviour that impacted on the performance of the team.*

1.4 Aim and Objectives of the Research

1.4.1 Aim

The aim of this research was to investigate personal change management within the BA Team in the absence of effective assistance from the organisational structures, exploring how these individuals perceived and responded to their changing environment, and to provide practical suggestions to them to improve their personal change management efforts.

1.4.2 Objectives

The specific objectives of this research were directly related to each of the individuals in the BA Team and their experience of their changing work environment. These objectives were designed to achieve the aim of this research as follows;

1. Verify the researcher's perceptions about the reality and impact of the change affecting these individuals by exposing the negative and positive aspects of the specific change environment as described by the BA Team members;
2. To identify and explore the relevant variables and their interrelationship as they influenced the personal change management efforts of these individuals. That is:
 - 2.1 What did these individuals see as the change variables they were dealing with;
 - 2.2 How they acted to decrease the negative aspects of the variables;
 - 2.3 How they acted to improve the positive aspects of the variables; and,
 - 2.4 Their ability to effectively manage their personal situations within their changing work environment.
3. To identify relevant, useful and valuable personal change management lessons where possible.

1.5 Research Methodology

One of the major difficulties of this research was the natural subjectivity of the experiences of the BA Team individuals. The researcher therefore required verification to ensure his understanding of their perspectives and experiences throughout the research process were valid.

Research is a systematic and organised effort to investigate critically and solve a specific problem (Money & Remenyi, 2004). It is often a cyclical process aimed at solving

problems according to a methodology that provides a framework for how the required research activities are to be undertaken.

Understanding research philosophy is particularly important in this study given the inherently subjective nature of the problem, and the need to establish an appropriate research methodology that can then be used to investigate research questions, with appropriate rigour, resulting in effective answers. Identifying and justifying methods and methodologies that might be appropriate should define the start the research process (Crotty 1998).

Research methodology is a description of the research process, including sampling, applied techniques, measurements and series of measurement activities, validity, reliability, and ethical considerations, and procedures for analytical data analysis, (De Vos *et al* 2003). The research methodology must be comprehensively described so that the reader has confidence in the methods used. The relationship between the research question and the data collected must also be clearly visible. Research begins with a problem and ends with that problem resolved, however research is rarely conclusive as there is usually additional problems uncovered that also need to be resolved (*ibid.*).

1.5.1 Approach

Epistemology is the Philosophy of Knowledge, which seeks to ascribe a meaning to knowledge. Ontology, the Philosophy of Being, seeks to define "what is". Although they are closely linked, this project is not concentrated on "what change is" as much as it concentrates on understanding the meaning of change to individuals and the related human behaviour. The focus is therefore on epistemology, to ascribe a meaning to change and personal change management behaviour.

Epistemology defines the theory of knowledge in terms of the concept of knowledge and reality, and how knowledge is perceived and learned. There are three theoretical perspectives of research at the epistemological level (Crotty 1998), namely;

- Objectivism, which is based purely on the belief that meaning and truth is objective and not based on any intelligent consciousness;
- Constructionism, which holds that meaning and truth is constructed by conscious minds as they experience and perceive reality; and,
- Subjectivism, which holds that meaning and truth is developed without any regard to the link between the subject and the object.

The constructionist view proposes that although physical reality is objective and independent of human understanding, an understanding of truth by a human mind is through constructions of reality through experiences. Therefore, as knowledge and "truth" are built on different perspectives it is not the same as ultimate reality. Knowledge is developed through active enquiry, applying concepts such as the action research cycle or Kolb's learning cycle (Kolb *et al* 1995). Pierce's Scientific Method (Reilly 1970) suggests the iterative enquiry process of:

- Abduction – inferring a hypothesis, that is, a specific statement of prediction in real terms, of an actual event by observation and cause analysis (result to rule to case);
- Deduction – testing and refining the inferred hypothesis by actual measurement against predictions (rule to case to result); and,
- Induction – defines empirical laws of the hypothesis based on actual outcome after prediction (case to result to rule).

Subjectivism is not a convincing position in this instance because if the links between the subject and object are disregarded, those variables that influence behaviour will be ignored, losing important perspectives necessary for any comprehensive understanding.

This research is therefore based on epistemology, to understand how aspects of change and change management are perceived and learned, and within that, constructionism, inferring an approach to address the problem statement based on actual events observed and cause analyses.

1.5.2 Research Types

Defining and selecting the type of research focuses the researcher on the approach and appropriate methodologies that should be applied to achieve the desired results.

Basic research advances fundamental knowledge as a basis and tool set for applied research. It is the source of new generalised ideas and ways of thinking. Applied research is used to solve specific practical problems. This investigation is focused on the specific and real problem of change management at the individual level in a specific context. The researcher is seeking a practical approach for the BA Team individuals to improve their personal change management. Applied research is therefore the most applicable approach here.

Research can further be classified into three categories:

- Exploratory research, where the goal is to formulate more precise questions that future research can answer;
- Descriptive research, which presents a detailed picture of the situation, social setting or relationship; and,
- Explanatory research, which builds on exploratory and descriptive research in identifying causes and reasons for why something happens.

The problem statement requires an understanding of cause and reason. This understanding of the reality and impact of change affecting the participants would then verify the researcher's perceptions about the individual's experience of the situation. It would also expose reasons (variables) behind individual behaviour such as the stress that led to unprovoked outbursts and uncharacteristically poor motivation. Also how these individuals acted to manage their personal change situations internally, and what were the consequences of these actions for themselves, their families and for their team members.

This research thus seeks to build a structured understanding of the root causes (variables) and their consequences as they affected the individual members of the BA Team. This understanding is intended to provide a foundation to identify relevant, useful and valuable supportive options for the participants to improve their personal change management efforts, through the findings of this research.

The investigation of cause and reason in this project therefore requires that this research fall under the explanatory applied research category.

1.5.3 Classes of Research

Research methodology is the underpinning strategy or process that describes the methods required to achieve desired outcomes. The two well-known and recognised classes of research methodologies (De Vos *et al* 2003) are:

- Quantitative research, which focuses on variables, measures objective facts, ignores inherent value, depends on reality, ignores context, applies statistical analysis, and is non-participative. The quantitative paradigm is an inquiry into a social or human problem, based on testing a theory composed of variables, measured with numbers and analysed with statistical procedures in order to determine whether the predictive generalisations of the theory hold true (Creswell 1994)

- Qualitative research, which focuses on interactive processes and events, social reality and cultural meaning, inherent and explicit values, situational constraints, thematic analysis and participatory research. The qualitative paradigm aims mainly to understand social life and the meaning that people attach it. It elicits participant accounts of meaning, experience and perceptions, involving their beliefs and values. It is concerned with understanding rather than explanation, and naturalistic observation rather than controlled measurements (McRoy 1995)

The positivist approach is based on objective views to test hypotheses and control variables, while the non-positivist approaches seek to establish an understanding of the participant behaviour within a particular situation before the development of a specific hypothesis. The quantitative approach follows the objective view of the positivist approach, which seeks to control variables and test pre-specified hypotheses, while the non-positivist approaches avoid pre-commitment to hypotheses before data collection and is characterised by detailed observation and involvement of the researchers in the natural setting of the study (Falconer & Mackay 1999). As this is a real-world case, the variables cannot be controlled to any significant degree, which negates the positivist approach.

This research is focused on understanding the situation from the participants' view, and accords with non-positivist approaches. These approaches view the social world as relativistic. Non-positivist approaches are characterised by detailed observation and involvement of the researchers in the natural environment in which the study occurs, and the rejection of pre-determined hypotheses (Falconer & Mackay 1999).

The research methodology most appropriate for this study is therefore a qualitative research methodology with a non-positivist approach. The reason for this is that the study investigates a specific group of individuals in the context of their specific change environment. It focused on their personal experiences and behaviours as the researcher attempted to understand the impact of change on them and how their behaviours were adjusted to enhance their personal change management. This relates directly to qualitative research, which focuses on interactive processes and events, social reality and cultural meaning, inherent and explicit values, situational constraints, thematic analysis and participatory research. The emphasis of qualitative research is on describing, giving meaning, and understanding what is being studied. It favours in-depth analysis, examining the dynamic interaction of both the individual and the context, and interdisciplinary research (Struwig & Stead 2001). Such an in-depth analysis requires investigation of the subjective assumptions underlying the perceptions and responses of the individuals within this specific group to their changing environment. Finally the

population size is too small to produce the data necessary to draw statistical inferences as is normally required for quantitative research.

1.5.4 Literature Research

A study of relevant literature (theory and research) informs the researcher of; existing knowledge and research needs, applicable concepts and theory, research findings on the chosen topic, and the methodologies applied (Bergh & Theron 2001).

Documents consist of information and prior, or historical, knowledge to apply to research (Bergh & Theron 2001). These can be in the form of newspapers, books, government reports, documents, letters, speeches and financial analyses. The method of document study as a data collection method includes any documents that is studied and analysed for the purposes of scientific research. This includes personal, official, mass media and archival documents (De Vos *et al* 2003).

Literature of other similar research projects enabled the perceptions and outcomes of many years of previous research to be effectively applied to direct and verify the findings of this project. This literature therefore provided a base to enhance the depth and quality of proposed solutions, being founded on and tested against a broader research base.

The problem statement is focused on personal change management. This project therefore investigated the theories of change, management and human change management behaviour. That is, what is meant and understood by the pervasive concept of "change", being something now different to what it was before. Also, experience proves that humans "behave" uniquely, depending on their unique natures and cultures. This includes their approach to changes in their situations. For example, some simply might accept a particular organisational change, while others may vehemently oppose it. Why is there a difference in the way people manage themselves in a common situation? The research therefore also includes a critical review of the basic theories of management in order to form a common approach to deal with, or "manage", the individual human experience of change.

Finally, the BA Team individuals were faced with complex phenomena exhibiting a large number of interrelated options and consequences. Drawing on the review of the management theory it will be shown that this situation can be best represented as a system consisting of many positive and negative variables with complex cause and effect interrelationships. Therefore a more detailed investigation into the use of Systems Theory was covered under the literature review.

1.6 Demarcation of the Field of Study

This field of study relates directly to the individual subjects of this research, as illustrated by Figure 1.2 below. These individuals are part of a larger business, which is a need satisfying organisation that influences and is influenced by the larger economic, political, social and technical system, where management acts as the process of organising and directing resources to effectively and efficiently achieve planned objectives.

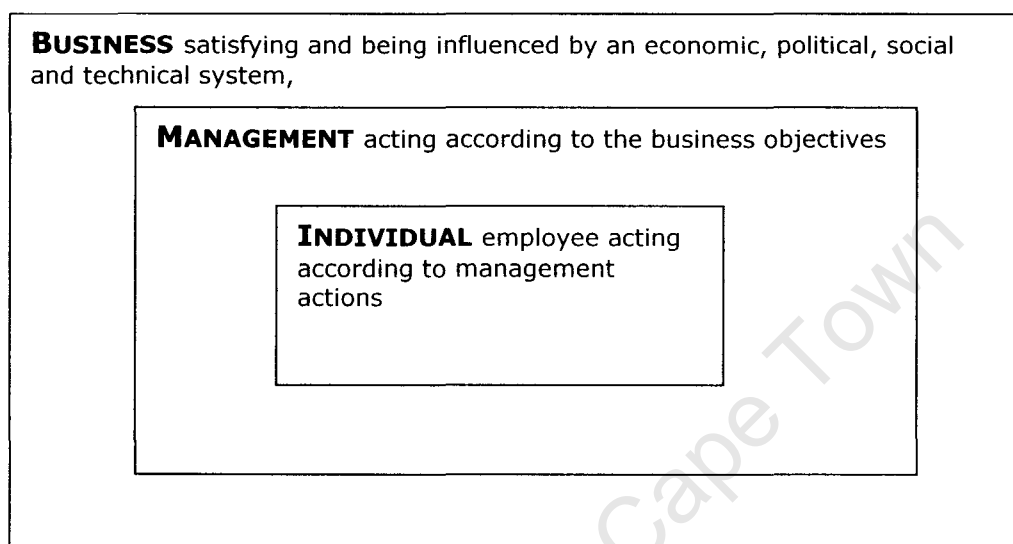


Figure 1.2: Demarcation of the Field of Study

As such these individuals are tiny entities within a very large system of a seemingly infinite number of forces and influences that do not appear to consider any of these individuals to any significant extent. These individuals are therefore largely left to their own devices to adapt to the constant flood of changes they experience. This study investigates these personal change management processes.

1.7 Report Structure

This research report includes six chapters described below.

Chapter 1: Introduction

This chapter introduces the research, and includes the field of study, the problem statement, the aim and objectives, and the demarcation of the study.

Chapter 2: Change and Change Management

This chapter investigates the literature and application of the concepts of change and the related human behaviour and change management.

Chapter 3: Systems Thinking and the Management of Change

This chapter focuses on Systems Thinking models that facilitate an understanding of change management variables and their dynamic cause and effect interrelationships.

Chapter 4: Research Design

This chapter establishes the approach and framework of the research design.

Chapter 5: Findings of the Study

This chapter discusses the findings of the study.

Chapter 6: Summary and Conclusion

This chapter summarises the report and presents key findings, proposed topics for future research and the final conclusion.

Chapter 2

Change and Change Management

The very concept of change implies that each and every situation will be different from the previous one. The infinite number of different factors and experiences in every change situation suggests that there is very little possibility of finding a general solution that works in all situations and circumstances. Change is extraordinary difficult, and the fact that it occurs successfully at all is something of a miracle (Kanter *et al* 1992).

In order to establish a theoretical foundation on which to build an approach to enable effective change management at an individual level, some basic concepts of change, human understanding and response to change, and change management are reviewed in this chapter.

2.1 Change

Experience proves that change is reality, a natural phenomenon constantly affecting the lives of every living creature and inanimate object in some form or other and at different rates. Change is so much part of existence that it is sometimes accepted and dealt with without much thought; for example the change in seasons. But other changes are not dealt with so effortlessly. Many failed New Year's resolutions to change habits testify to this. Change is actions and results of a dynamic world, where things are constantly becoming different (FreeDictionary 2003, Webster 2003, Sulak 2003).

Changing environments require that individuals change constantly because their environments are constantly changing everything that they experience and depend on. Individuals need to change to survive (Kets der Vries 1999) and (Hiatt & Creasey 2003). The context within which people have constructed their sense of identity and understanding of the meaning of their lives in relationship to the external world is disintegrating, forcing everyone to deal with the chaotic and confusing environment. Change is constant and relentless, creating new opportunities and chaotic work lives for people (Barger & Kirby 1995). Reaching a specific change goal does not mean that change is over, and before one change is fully implemented, another one is usually introduced. Change transforms the way organisations do business, the way they are structured, and the relationships between managers and employees (Lorenz 1999).

Change is not a simple task or definitive process. Robbins (1998) differentiates between first-order changes, which are linear and continuous, and second-order changes, which are multidimensional, multilevel, discontinuous, and radical. He refers to Lewin's (Robbins 1998) three stage change model of unfreeze, change and refreeze (Lewin 1951). However, Lewin's model is inappropriate other than being a gross simplification of reality because organisations are never actually frozen, but are continuously moving through many overlapping and merging stages. Change is manifest as behavioural differences, not a once-off difference sparked by a unique event or circumstance, but rather, it is triggered by the relationship between organisations and their environments, organic "growth", and political struggles for power. These "inevitable" forces keep organisations in constant motion and require a response to achieve goals. If unattended these change forces may accumulate to the point of sudden crisis and radical change (Kanter *et al* 1992). Organisational motion should therefore be viewed as "ubiquitous and multidirectional" (Eccles & Nohria 1992), and implementing change is a deliberate attempt to manage that motion to move in a particular direction.

Change must be seen as the dynamic and complex process that it is to ensure that appropriate management is applied. Change is in danger of becoming known as a thing rather than a process, which creates the problematic perception that change has specific boundaries and that it occurs in a specific time frame (Cunningham 1999). When change is seen as having been completed rather than being continuous, decision-making processes and actions will most likely be inadequate or inappropriate. He also says that first-order change occurs within accepted frameworks and ways of thinking, while second-order change is outside of these and requires a mental shift into new habits and patterns. Change occurs at different levels, that is, personal, group or team, community, national and global levels, and it is impossible without learning, which extends outside of content to include wisdom, experience, and the emotional sophistication of learning how to learn more effectively.

An individual's positive and negative emotional experiences of fear and hope, anxiety and relief, pressure and stimulation, leaving the old and accepting a new direction, loss of meaning and new meaning, threat to self-esteem and new sense of value are normal under these circumstance. Change is immensely disruptive to people. Other examples of these emotions are disorientation, discontinuity, disorder, distraction, uncertainty, and sense of betrayal, scepticism, anger, bitterness, cynicism, selfish, loss, grieving, panic, and depression. The list continues with feelings of helplessness, embarrassment, shock, stupidity, overworked, hostile, and hurt, suspicion, inadequacy, and insecurity (Barger & Kirby 1995, Kanter *et al* 1992, Tichy 1983).

2.1.1 Resistance to Change

Resistance to change is one of the most well documented findings from studies of behaviour (Robbins 1998). It arises from habits, a need for security, economic factors, fear of the unknown, and selective information processing. It can be immediate, overt, deferred, or covert. The latter two are the most difficult to identify and manage as they tend to build up and emerge as larger, more complex and difficult problems later.

Resistance to change develops when human factors in the change process are not addressed. This includes the lack of recognition of the impact of change, the lack of information and support, and the lack recognition of people's natural differences. Imposed change, whether wise or foolish, well thought out or impulsive, reasonable or unreasonable, fair or unfair, can create severe morale problems and form the basis of the resistance to change (Barger & Kirby 1995). Common reasons for resistance to change are feeling of loss of control, uncertainty of the future, differences from automated habits that mean extra effort is required to develop new competencies, concerns about competence, ripple effects, and more work (Kanter 1984). The greatest resistance to change arises from the recipients' personal interests and goals, and their position within the change initiative (Kanter *et al* 1992). Work represents structure and meaning to people's lives. What we do becomes a state of being, what we are. Therefore any significant change threatening our work produces intense emotions. Almost anything disturbing a status quo or the way an individual has always done something would most probably trigger defensive behaviour that has been learned early in life to cope with threat (Argyris 1985). This is usually counterproductive and is an important cause of failure in the implementation of sound strategy. The positive effect of change resistance is that it produces some stability and predictability to human behaviour that would otherwise be characterised by random and chaotic change.

Unrealistic expectations by management and the individuals themselves are also problematic. Early enthusiasm can encourage implementers to take on too much too soon without being properly prepared (Kanter *et al* 1992). This does not allow adequate time and effort required to implement changes effectively and leads to disillusionment, despair and resistance even if there are incentives.

Massive change, that is viewed as unnecessary and that occurs in a short space of time produces the greatest resistance. The most effective way to achieve enduring change is to start at the periphery with task alignment based change and move steadily towards the core (Beer, Eisenstat & Spector 1990). Tight control of the network of inter-organisational relationships prevents change; therefore change should be initiated at the boundaries of relationships (Sakai 1990).

Individuals fear the unknown, where they believe that they cannot cope with the new changes that they know very little about. That suggests that training, communication, participation, facilitation and support are essential (Robbins 1998). Effective change strategies are iterative processes that probe the future, experiment and learn from a series of incremental commitments rather than massive change (Quinn 1980). For change to be successfully implemented and institutionalised all stakeholders must be included in decisions and people must be consistent in commitment to change and act as change agents (Kanter *et al* 1992). To overcome resistance to change people must focus on transformation and not defensive, transactional quick fixes. Transformation includes the creation of a vision of the desired future state, mobilisation of commitment, and institutionalisation of change where the changes become the reality and practise of everyone (Tichy 1983). People must address conflicting emotions to be transformed to positive renewal and revitalisation. Those who are challenged by opportunity and are willing to work hard to achieve something behave as they do because they habitually spend their time thinking about doing things better (McClelland 1966).

Typical resistance behaviour is, tension, stress, squabbling, sabotage, turnover, subtle undermining, behind-the-scenes foot-dragging, work slowdowns, political battles, and a drain on money and time (Kanter 1984). People will not do anything that they perceive has no value, so if people are not convinced of the value in changing, they will simply resist change as far as possible (Cunningham 1999).

From the many views and experiences of change the researcher sees change as a real and continuous process bringing about a conversion from one condition to another. It can mean a complete and permanent transformation or a partial short-term difference in characteristic, position or attitude. Large environmental forces or insignificant influences that exist together as part of any given system can cause change. A major problem arising out of change is noted to be the resistance against it. Environmental change has influences individuals to change their attitudes and actions, and similarly their small efforts have worked together to effect big changes. Making an effort to understand and learn is a fundamental element of successful change. Individuals have to deal with new content and grow through learning new emotional responses to change experiences. These aspects of change and change behaviour will all need to be considered when addressing personal change management.

2.2 Human Understanding and Response to Change

Logically, the individual being made aware of, and understanding, potential disruptions and problems in the change process should improve personal change management. However, participants would also require a clear sense of purpose and values, which includes policies, strategies, structures and learning processes for effective decision-making and strategy development. They therefore need to be introspective about their work, make decisions, take opportunities, actively interact with other participants, and allocate time and effort to create the necessary conditions to change. People must have a firm foundation of their personal values and purpose (Kanter *et al* 1992). They must understand themselves, their current realities and possible futures of their environment through deliberate and positive learning. These aspects are essential to cope with change, by continually developing the necessary insight of complexity and decision formulation and learning that will support continuous improvement by achieving more accurate, insightful and empowering understandings of reality through different perspectives (Senge 1990). Successful change management requires many different comprehensive and flexible perspectives to reflect constant transformation. Any success criteria that are simply copied blindly will become unsuccessful criteria (Quinn 1988). Information must be monitored and distributed to support decisions (Mintzberg 1975).

The real source of independence from the environment is a strong awareness of identity, including values, traditions, aspirations, competencies and culture (Wheatley 1992). This 'self-reference' during change promotes confidence to use external and internal information. Change is personal and requires reflection and introspection to live a life that embodies one's values, that can perpetuate those values in a changing environment, and that is balanced to enhance self-understanding. Understanding personal preferences facilitates a better understanding of oneself, which helps to identify (Barger & Kirby 1995):

- Personal strengths and weaknesses;
- Reactions to change;
- Potential development areas;
- Impact on others; and,
- Requirements to address potential problem areas.

While a strong personal confidence and knowledge of themselves is important, the participants must not become inflexible. They must allow for appropriate personal adjustment to achieve their personal objectives. Self-reference that includes self-assessment of values, skills, and interests, translates into career resilience, but, if it is based too much on the external, if it is one-dimensional, and if it becomes too rigid, then

it acts like an anchor that prevents a person from moving, rather than a reference point around which movement and change can occur. Positive aspects of transition periods are new insights, creative solutions, and new roles (Barger & Kirby 1995).

The challenge presented by the literature to individuals is to recognise and appreciate the positive and negative aspects of change and then act accordingly. This implies that personal decisions, if they are to be effective, require an accurate perception and understanding of all the aspects of change as it relates to their personal circumstances. Knowing oneself is a fundamental basis to build an understanding of one's external environment, which has an infinite number of changing and confusing variables. That is, by seeking answers and solutions through understanding, each individual should apply a research approach to understand themselves, their dynamic environment and their necessary responses. Every individual should be aware of and understand the concept of change and all the related aspects and variables. This includes basic human behaviour, the pervasive nature of change in everyone's life at every level, the benefits of change, the dangers of change, the natural human reaction to the various types of change, and the appropriate action to manage change.

2.2.1 Human Understanding and Reaction

Personal change management, as discussed above, requires that participants have a thorough knowledge of themselves; a "self-awareness" of how and why they perceive information and respond to it. Experience and the literature reviewed to this point imply that individuals differ from one another. People respond differently to situations and events according to their personalities or nature. They also hold to and act according to different values or culture.

Literature concerning knowledge of human understanding, natural differences and culture were reviewed to develop a basis of knowledge of human understanding and reaction related to personal change management.

Cognitive science is the study of understanding the mind. It proposes that the mind uses mental representations or mental models as logical propositions, rules, concepts, images, and analogies. The mind creates representations or models of reality (mental models) to understand and anticipate specific phenomena (Kearsley 2000).

2.2.1.1 Mental Models

Mental models are internal dialogues, based on the particular person's conditioning according to their background, experiences, the context and purpose of their thinking, and their espoused theories consisting of their values and beliefs and the rules they use to manage them. They are constructed from perceptions, imagination, or comprehension of a discourse and that they can represent visual images or exist as abstract non-visual models. They are important as they determine the actions of people as:

- They are people's representation of reality;
- They can generate thoughts, emotions and inferences; and,
- They can serve as an analogy for another domain.

Mental models can be problematic in that they can prevent personal change by generating inflexible beliefs and behaviour. Many innovative ideas are never implemented because they conflict with mental models that hinder the acceptance of new insights. They are deeply ingrained and internalised unconsciously and do not adjust even when they become irrelevant due to a changing environment. Mental models are therefore subtle but powerful filters of information that determine what we pay attention to and therefore what we do. Their conservative nature means that unless we consciously change them they will ensure that we continue to see the same needs, opportunities, and results that we have grown accustomed to. Tacit mental models are a problem, as they exist below the level of awareness where they remain unexamined and not consciously changed according to the changing world. Gaps will most probably develop, leading to negative consequences. Tacit mental models that are denied could also become confused, causing dysfunctional actions (Senge 1992).

There are a large number of mental models that have been proposed by various authors and theorists. Many of these are broadly similar in what they seek to achieve. However, for the purposes of this study three of the most established mental models that represent a range of approaches were reviewed. These are:

- Assertive Behaviour Model
- Personality and Psychometrics
- Transactional Analysis (TA) Ego-State Model
- Rational Emotive Therapy (RAT)

2.2.1.2 Assertive Behaviour Model

The aim of this model is to help people to draw out distinctions between different types of behaviour in difficult situations, thus enabling them to apply appropriate behaviour in those situations. This model suggests that there are three possible behaviours of people in a difficult situation, namely; aggressive, assertive or submissive (Boak & Thompson 1998). Assertive behaviour is essentially rational, while still considering one's own emotions and wants, as well as those of others whereas aggressive and submissive behaviours are essentially emotional, and not primarily controlled by rationality.

This model is useful in that just by being able to identify their behaviours people have a basis to coach themselves towards exhibiting their preferred behaviour in a more controlled fashion. However, this is a relatively narrow focus on human behaviour, that is, managing behaviour according to rational needs and feelings not emotional wants and fears. It does not dig into the root causes and dynamics of feelings and emotions. This model therefore assists in identifying rational and emotional behaviour, but it does not develop self-awareness on a broader scale.

2.2.1.3 Personality and Psychometrics

"Personality is more or less stable internal factors that make one person's behaviour consistent from time to time to another, and different from the behaviour other people would manifest in comparable situations" (Child 1990). These "internal factors" that are relatively stable are known as traits.

Psychometrics, or personality profiling, attempts to identify personal traits using self-assessment questionnaires. They are therefore dependant on the accuracy of the participant's understanding of the questions, self-image and honesty, which may be biased according to the perceived objective of the assessment (Boak & Thompson 1998).

This model essentially positions an individual on a scale of generalisable personal behaviour. While it is a form of self-assessment it is sensitive to situations and consequently it has the disadvantage of being easily distorted. For example, a job application may sway the participant's answers towards what they consciously or sub-consciously believe to be the favoured response. The model is therefore useful in assisting people to compare their behaviour to others in general, but as in the previous model, it does not provide tools to explore the root causes of personal behaviour to develop a deeper self-awareness.

2.2.1.4 Transactional Analysis (TA) Ego-State Model

Berne's Ego-State, or PAC, model was developed from his Transactional Analysis (TA) ideas. This model consists of (P)arent, (A)dult and (C)hild ego-states. These prescribe to related behaviours, thoughts and feelings manifest in a person's personality. All three ego-states are necessary to have a healthy and balanced personality. The Adult ego-state is necessary to solve problems effectively and competently. The Parent ego-state is necessary to adhere to the rules of society, and the Child ego-state facilitates spontaneity, creativity and intuition (Steward & Joines 1987).

When a person operates in a particular ego-state and perceives that the satisfaction of their needs is threatened at that level, the person may distort their perception of reality to suit. This is called redefining. Discounting is one way to redefine, by ignoring any aspect of the situation that does not fit the perceived situation.

Unlike the previous two models reviewed, the advantage of the Ego-State Model is that it explores the drivers behind behaviour, the root causes. It presents an insight into how people's personalities and subsequent behaviour can change in different scenarios based on past experience. For example when a threat of job loss arises, some people may turn to their Child state and "throw a tantrum", while others may turn to their Parent state and feel that it is deserved (for some or other strange reason). The remaining group would be those approaching such a threat through Adult behaviours, and viewing the situation according to the reasons for it and the options and opportunities available to them.

One possible danger is that painful issues that have been consciously forgotten may be resurfaced. However, if these issues have been causing problems from the sub-conscious level, this resurfacing may be necessary, bearing in mind that this process should be managed very carefully, and may even require professional guidance. Another possible danger or hindrance to effective personal change management is over-analysis, where too much is read into past experiences or where the influence of past experiences on current behaviour is exaggerated. This may then lead to self-pity that would depress positive personal change management behaviour. A clear awareness and guard against these possible dangers would therefore be essential.

2.2.1.5 Rational Emotive Therapy (RAT)

Ellis's Rational Emotive Therapy (RAT) puts forward the argument that rational beliefs are based on experience, and although failure may occur and cause frustration and disappointment, the emotions and behaviour are not overcome by negative reactions. Irrational beliefs are based on absolute standards and affect emotions negatively when failure is experienced, which can produce and reinforce negative behaviour patterns. An irrational belief and behaviour system can, however, be transformed into a rational one. Ellis believes that everyone has a natural tendency towards negativity, which are also reinforced by society in general. Ellis's rational emotive therapy holds that changing a person's thinking patterns, using a process of reason and logic can alter behaviour. This assumes that disturbed behaviour results from irrational thoughts and beliefs, and that thinking and feelings are intertwined, so to change emotions and behaviour the person's attitudes and beliefs must change (Gillis 1994).

Individuals who have an external locus of control believe that they are powerless to manage their own futures, and that others are responsible for their situations. This accords with Rotter's concept of locus of control, which is the level of how people's expectancies control their behaviour, an example of irrational thinking (Bergh & Theron 2001).

Like the Ego-State Model, RAT also bases behaviour on experience. RAT is helpful in that it clearly states that rational behaviour is based on experience, reason and logic, whereas irrational behaviour is based on absolute standards and beliefs, which a person is unwilling, either consciously or sub-consciously to change to suit the situation. These definitions are important tools to identify and categorise behavioural drivers so that they can be monitored, measured and managed more appropriately, being based on understanding.

Ellis's argument holds validity when considering an irrational outburst compared to a rational response. From experience an irrational outburst is usually an immediate response, while a rational response may take time to formulate. This is explained according to the RAT model by the fact that because absolute standards and beliefs have been developed over time, they are immediately available to use for a response. However, the chances are good that these absolute standards and beliefs are not appropriate for the specific situation, and could therefore be considered irrational. To analyse a situation and respond rationally, using logic and reason, requires relatively more time.

Whilst this may promote the idea that rational responses are in some way superior, the disadvantage of always focusing on behaving rationally as opposed to irrationally may be the stifling of creativity that can lead to innovative solutions by too much logic, reason and experience.

Another very helpful aspect of defining rational and irrational behaviour is that it provides a tool to better understand and manage internal and external locus of control issues. For example, is the boss in control of an employee's future or not? A quick answer to this may indicate a person's active locus of control. An awareness of this may be what is required to consciously move to more responsible behaviour.

2.2.1.6 Natural Differences

Everyone perceives and acts on information differently. These differences can be explained with Argyris's "Ladder of Inference," which refers to all "observable 'data' and experiences" as being like "a videotape recorder". People select specific data from this almost unlimited information source, but because people notice, collect and value only certain kinds and pieces of information, "systematic errors caused" by these choices develop and affect decision-making (Senge 1994). These differences are governed by natural preferences. These preferences influence people's communication styles, work environments, ways of interacting, motivations, and how they assimilate information, make decisions and whether they are primarily externally focused or internally focused (Barger & Kirby 1995).

There are predictable reactions to imposed change but the same environment and situation can produce very different results. People want and need different things during transitions (Barger & Kirby 1995).

Human experience proves that people are different. We all look different, speak differently, and can do different things. We also like different things and approach similar things in different ways. It is therefore logical that people pay attention to different things according to what they find interesting or believe to be important, including information. And people behave according to choice. Choose to awaken, what to do, think and say; and what not to, all based on their wants or needs, as understood in terms of information. Yet people can only choose according to what they are exposed to, in terms of information, in various forms. Information in this context conveyed by anything and everything tangible or intangible. Therefore, it can be said that people choose to process information as they "please", and selected according to their personal priorities. This in turn generates certain chosen behaviour, which may result in exposure to other data,

and further behaviour, and so on, and so on. It is not surprising then that people see, hear and act differently when confronted by change.

This acute awareness and understanding of natural difference is therefore critical when gathering information. That is, information from different people about the same situation will be different, depending on their priorities. That suggests that the more sources of information the better, but that has the obvious challenge of information overload. A critical aspect is therefore to assess the priorities of the information sources, and to ensure, as far as possible, that they are in accordance with the receiver's objective. The receiver should also be very careful not only to receive and process what they want to, but to be open to all the relevant information, as this will determine their choices, their behaviour, and the consequences.

Not only is the awareness of natural differences important when receiving information, it is also for important when sending information. If the information that one person sends is ignored or misinterpreted, the consequences will most likely not be what the sender intended.

Ultimately, it can be argued that natural differences, in the context discussed above, are one of, if not the most important, aspects of behaviour to consider when people are communicating with one another. Another important consideration is that people change. This would include their preferences. For example, when a person was young and starting a family a big house may have been important, but at retirement travel may have become the priority. Information relating to houses would no longer be of interest. Therefore communication processing is also dynamic, and needs to be catered for.

2.2.1.7 Culture

Culture refers to the collective mental programming of a group of people conditioned by the same life experience and environment (Hofstede 1984). Corporate cultures are activity patterns that reflect the organisations underlying values. They allow stakeholders to understand events and symbols, providing meaning through a set of values to justify the acceptance and rejection of different behaviour (Tichy 1983).

Culture is often difficult to change as it reflects the common beliefs shared by a number of people and it is part of the institutions that people build. For example family structures, laws, literature, work organisations, and buildings. We are all culturally conditioned. People see the world in the way they have been conditioned to see it and they are only able to think a little way outside of these boundaries. So too is it with organisations, where organisational cultures are manifest in their values and assumptions

represented by the way they operate. Cultures provide integration of effort in a single direction that often opposes the possibility of moving in other directions (Quinn 1988).

To understand any culture requires an in-depth analysis of all its underlying and unconscious assumptions. These assumptions are essentially unconscious determinants of how people perceive, think and feel, which are learned responses from espoused values. These values lead to behaviour that in turn solves problems that prompted the value and are thus transformed into foundational assumptions that define reality. Eventually the assumption is taken for granted and there is no longer an awareness of its subtle functioning. Unconscious assumptions are powerful because they are not easily debated and confronted, as are more apparent espoused values. Cultural paradigms are interrelated assumptions that form coherent patterns that fulfil human needs for order and consistency (Schein 1981, Schein 1983).

Because they are learned responses arising out of repeating patterns of behaviour, cultural elements can be portrayed as learned solutions to problems. Positive problem-solving and negative anxiety-avoidance are the two main types of cultural elements. To implement change successfully means that only two strategies are possible; the relevant learning situation must be established so that either innovative sources are used to find solutions in a positive-learning situation, or the source of anxiety is found and neutralised in an anxiety-avoidance situation. In any change situation there must be enough reason to motivate change and enough psychological safety to enable people to overcome their anxiety while they experience and learn new responses (Schein 1981, Schein 1983).

Cultures are dynamic living things; continuously developing as the members of a social group, for example, an organization constantly learns how to adapt to a changing environment and how to manage internal issues. The basic assumptions of the culture serve to stabilise the external and internal environment as a defence against anxiety generated by uncertainty and confusion, and is very difficult to change rapidly. Culture is pervasive and ubiquitous, involving all of one's cognitive and emotional elements. Therefore the more time spent in a culture the more that culture will influence one's perceptions, thoughts, and feelings. Cultural paradigms are difficult to understand as the assumptions are taken for granted and are therefore difficult to expose (Schutz 1973). Mature cultures develop excessive internal stability and comfort that prevents innovation through strong resistance (Schein 1981, Schein 1983).

The influence of culture on behaviour is similar to the influence of natural differences on behaviour, as discussed in the previous section. Where preference determines behavioural priorities in natural differences, so culture determines behavioural priorities. Logic and experience suggests that cultural priorities may in fact become preferences

through learned responses or cultural conditioning. Culture therefore implies that the same information issues must be considered as those discussed for natural differences.

The advantages of understanding the influence of culture on behaviour enable subconscious beliefs to be identified and surfaced. Once surfaced, these beliefs can be consciously managed and applied more appropriately in changing situations.

An awareness of the powerful influences of culture may hinder personal change management through intimidation. That is, believing that a person cannot change because of cultural bonds.

2.2.1.8 Consolidated Model of Human Understanding and Reaction

These various concepts discussed above show that Mental Models are essentially mental structures that humans construct to understand their realities, and are the basis for their reactions to events.

The Ego-State Model postulates how reality is understood and responded to through personality and personal needs whereas Rational Emotive Therapy claims that rational beliefs are based on experience, while irrational beliefs arise from misplaced standards. Natural differences are based on selective observation, experience and preference. Culture is seen as the unconscious conditioning of a group of people through experience and environment.

The above models and concepts share similarities such as experience, environment and perception, and they each address different aspects of behaviour from different perspectives and in varying degrees. However, each of the models lack some of the dynamics highlighted by the others due to their particular focus. For example, the Assertive Behaviour Model, and the Personality and Psychometrics Model do not deal with root causes whereas the Ego-State and RAT models do investigate these root causes. However, the Ego-State Model includes the "creative" child dimension while RAT focuses on rational and irrational behaviour. Yet the Ego-State and RAT models do not highlight the influence of natural differences or culture, and the related information processing. This would suppose that combining these models and concepts a model can be developed to better illustrate the richness of the full spectrum of human understanding. The researcher has attempted this in Figure 2.1 below, while being conscious of the fact that the additional complexity of life, which is a continuous and combined loop of similar and totally new experience, moulds aspects of the above models with each pass.

Figure 2.1 below illustrates this process where an individual sees a situation through their particular mental model 'lenses' and develops a particular perception and understanding of reality. Based on this particular understanding of reality the individual reacts according to their personality, which is based on their particular ego-state. This understanding, driven by the individual's ego-state at that time, will then determine the individual's behaviour, whether a rational balance of Parent, Adult and Child, or an irrational imbalanced behaviour.

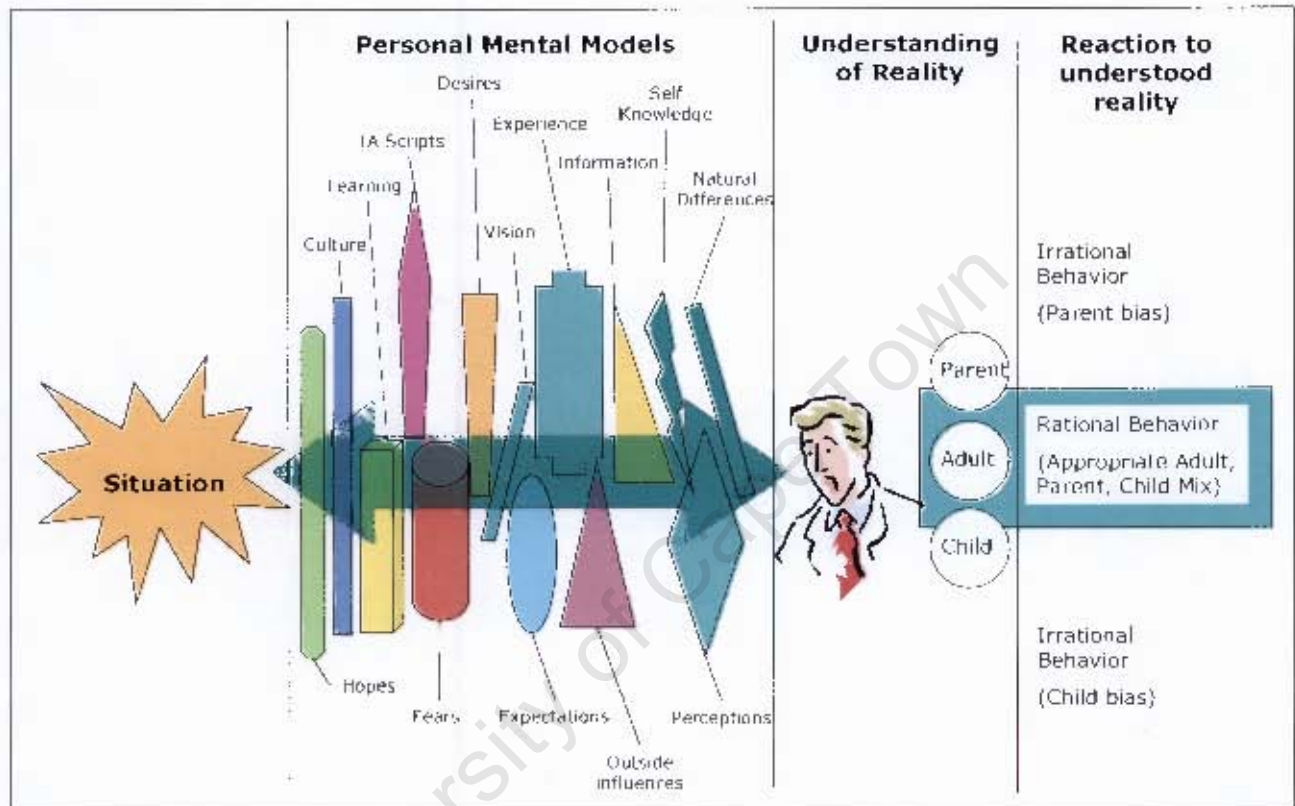


Figure 2.1: Model of Human Understanding and Reaction

The main cause of complexity identified here is human nature, which can be illogical because of a lack of an intimate understanding of all the factors involved. These individuals therefore need to strive to understand themselves as far as possible. That is, how they cope with change, and their level of ownership or responsibility to manage their personal changing situations. Their personal behaviour drivers need to be exposed and understood as they may act as barriers to effective change and self-development. Assumptions should also be made explicit to clearly determine causality between assumptions and actions to facilitate the effective and rational solving of problems to deal with change in the real world. Logic also suggests that it is important to develop an understanding of the other affected individuals to facilitate co-operation and mutual support.

2.3 Management of Change

So far this review has investigated the theory of change and human behaviour as it relates to change. However, change is more complex than optimistic managers or analysts think (Kanter *et al* 1992) because:

- It is hard to make changes stick;
- There are limitations;
- There are many related variables to consider;
- The ability to change is highest when the inclination is least; and,
- Some of the best advances in one area produce limitations in others.

"The greatest personal skill needed for this decade will be to manage radical change. The choices before us are to manage it ourselves or to have change forced upon us" (Harvey-Jones 1993:3).

"Managing change is much misunderstood. Practice and theory rarely coincide. This can be partly attributed to extreme rather than pragmatic approaches to managing change; and the tendency to treat change as a thing rather than a process. There are many theories about how change should be managed but, as is often the case, theory and practice are in a relationship of mutual disappointment" (Cunningham 1999:25).

Experience proves that while change is natural and necessary for growth and prosperity, it can also create difficulty, and therefore requires management. By combining the definitions of management and change, change management can be defined as the process of bringing about successful change of an organisation by organising and directing resources to effectively and efficiently achieve planned objectives and remain in balance with its environment.

Change management is the process, tools and techniques to manage the people-side of business to achieve the required business outcome, and to realize that business change effectively within the social infrastructure of the workplace (Crainer 1999).

Combining the complex and dynamic concepts of change and management results in the significantly complex and dynamic subject of change management. The field of change management can be confusing and sometimes complicated to research and study, and confusion is growing about what change management really means (Hiatt & Creasey 2003).

The variety and complexity of change would suggest that there is no best way to manage change. Each situation must be assessed and managed accordingly. People should develop their own change management methodologies, which is a process of multiple, overlapping changes that reflect constant motion in an environment where each change generates other changes. The best way to manage change is to institutionalise the process, and that although it will never be easy, it can be gratifying if it is managed with the correct attitude and approach (Kanter *et al* 1992).

Experience and literature confirm that change and change management is complex. To properly approach change management will also require some understanding of the basic management process. Therefore Management theory will be explored in this section to identify the important elements of management, and to develop a practical approach to investigate the participant's individual efforts to manage personal change. This should thereby highlight the strengths and weaknesses of the participants' efforts, which in turn should highlight opportunities to improve their approach and successes.

2.3.1 Management Theory

Management is the process of organising and directing resources to effectively and efficiently achieve planned objectives and remain in balance with its environment. According to Cronje *et al* (1994), Smit & Cronje (1995) and Nicholas (1990) it includes the four basic management functions of:

- Planning, the activity of determining the organisation's mission and goals, resource requirements, the future position of the organisation, and the necessary steps;
- Organising, the activity of defining and developing appropriate organisational structure and processes;
- Leading, includes the directing, motivation and influencing of human resources to act in accordance with the goals and plans; and,
- Controlling, the activities to check that performance and action conform to plans and to identify and correct any deviations.

Various schools of thought on management have contributed to the theoretical body of knowledge of management. Some of these are briefly discussed before looking at management theory relates specifically to personal change management aspects.

2.3.2 Management Approaches

Management Theory has also been subject to change to suit various situations and periods. Examples of these various approaches are:

- Taylor's scientific approach, which holds that an organisation's goals can be achieved more productively through the application of observation, job analysis, work measurement, task design and financial incentive;
- Fayol's classical school, which identified the six functions of the enterprise, namely, commercial, technical, accounting, security, and general management. The advantages of this include:
 - Activities are systematised;
 - Internal organisation is promoted by functional grouping; and,
 - Management is facilitated according to functional skills.
- Mayo's behavioural science approach, which found that productivity is not only influenced by physical factors such as task design and remuneration, but that psychological and sociological factors such as relationships and motivation are just as important;
- The quantitative approach, which views management as a system of mathematical models and processes;
- The Systems Thinking approach, which views organisations as integrated systems comprising related systems, argues that management's role is to maintain balance between the various components of the organisation as well as between the organisation and its environment; and,
- The contingency approach, which attempts to integrate all the previous schools of thought and holds that the management approach to be applied depends on the situation at any given point in time.

Before selecting a suitable approach to apply in this personal change management project, the criteria for change management should be understood. This is discussed below.

2.3.3 Criteria for Change Management

These four basic management functions discussed above can be applied to change management as follows:

2.3.3.1 Planning

People need to gather information about what to expect, and all perspectives must be used to define the vision clearly and to focus on designing the transition period (Barger & Kirby 1995). People must:

- Be clear about their own thoughts, positions, and emotions;
- Understand the priorities;
- Find, allocate and share resources;
- Envisage the future;
- Have a transition plan;
- Include and communicate with all the stakeholders;
- Use relevant information in the plan;
- Recognise all the interactions and impacts of the change; and,
- Understand the impacts on all stakeholders.

Effective planning enables people to be proactive, prepared and decisive. It is necessary to recognise or anticipate changes and make decisions quickly in rapidly changing environments (McKern 1999). The benefits of a process approach are that problems can be anticipated and possible solutions generated before breakdowns occur (Barger & Kirby 1995) as:

- Concerns are thereby acknowledged;
- Expertise and knowledge is recognised and included in the plan;
- Role and ability is recognised;
- A sense of responsibility is developed;
- New desired behaviours and attitudes are created; and,
- Confidence is promoted in competence and commitment to dealing with transitions both now and in the future.

Change processes may be negatively affected by multiple transitions generated by complex changes, incomplete transitions that are overtaken by events, uncertain future states governed by unpredictability, and the probability that events will change the planned situation before it is achieved. That means that plans must be flexible and constantly updated with the latest developments. Iterative plans must be revised as frequently as new events and opportunities present themselves, bounded only by the

intent of the change and how much energy is available (Nadler & Tushman 1989). Perceiving strategy (planning) as discrete design activities tends to paralyse responses within blueprints that 'must' be followed. Rather, strategy (planning) should be understood to be a continual unfolding, learning process of decision-making and action interactions that accommodate continual change (Robson 1997). Despite meticulous planning and high levels of commitment and realism, external factors remain out of direct control and could have a significant impact on the change process (Kanter *et al* 1992). Change processes do not go exactly as planned due to unanticipated problems, unexpected challenges, and changing environments. Even if inclusive processes to decide on changes were used, long-range goals were clearly defined, comprehensive and comprehensible transition plans were developed, support for dealing with losses was provided, and people were given the training they needed to make the changes, transitions seldom go smoothly. New territory brings new challenges, where experience is no guide, where "how we've always done it" is wrong. Transitions are disorderly even when there is a plan and a schedule. Planning for change, however, can keep these to a minimum (Barger & Kirby 1995).

Information is the "dynamic element" that creates life and makes creativity possible. The positive effects of knowing and using information include, identifying what may be missing when decisions and preparations are made, clarifying the current position that is clouded by visions of the future, and facilitating communications and participation in planning for change (Wheatley 1992). Information:

- Indicates the current state of affairs;
- Guides the identification of opportunities; and,
- Is the basis of planning, implementation and measurement of success (Robson 1997).

The saying, "failing to plan, is actually planning to fail" makes sense when considering that a plan, no matter how simple, whether conscious or sub-conscious, is the basis of achieving any objective. The mere act of setting an objective can be considered a plan. For example, a person sets a time on an alarm clock according to their plan to be at work at a certain time. Therefore, it can be said that planning is what all people do all the time, even if it is a sub-conscious plan "to do nothing". The fact that events do not always, if ever, unfold according to plan is another issue.

Successful change therefore also requires a plan. Although planning does not guarantee successful change implementations, if change activities are not planned logic says that they will simply be reactive and uncoordinated, producing haphazard results. Logic also argues the quality of planning is a major contributor to the success achieved. That is, the

more variables and implications that are considered while planning, the less chance there will be of a plan failing due to unexpected events.

Because of change, a plan cannot usually be established and then applied as is. There should be a cyclic activity of implementation, measurement, and corrective action applied if and when necessary due to unexpected results or events.

The review of natural differences and culture in section 2.2.1.6 and 2.2.1.7 defined the critical role of information in terms of behaviour. Information is therefore also critical to manage change; it is the basis of all planning, measurement and decision-making. It takes effort to collect and analyse, but without it, no planning can be effective towards successful achievements.

Some of the problems that can be associated with planning are;

- Collecting information requires effort;
- Despondency may set in when plans do not succeed; and,
- Plans can be used negatively against one. For example, a person may take a precautionary action of planning for an alternative job. This plan may find its way to the employer, who may then prejudice the employee.

The importance of planning and information within the personal change management activities of the participants of this study will be explored.

2.3.3.2 Organising

According to Kanter *et al* (1992), organising is the effort of establishing and coordinating resources to achieve common objectives, change cannot be achieved by any isolated actions of any single person or group, and change is a result of interactions between people. Organising involves the grouping of activities to achieve common change objectives, and appropriately allocating the activities to resources (Smit & Cronje 1995).

Keeping one's thoughts organised is essential. If there were no organisation of ideas, people would simply not function productively. For instance, there would be no priorities. People would simply want to play, work, leopard, mountain, travel, eat, swim, run, think, fun, backwards, swamp, ice. That is, just as the previous sentence makes absolutely no sense, so too, people would make no sense if they were not organised. This applies to every actively, including change management.

The level of organisation in the participant personal change management activities will be investigated.

2.3.3.3 Leading

Leading means to demonstrate and influence desired behaviour by example and inspiration. Leadership is influencing and directing the behaviour of individuals and groups in such a way that they work willingly to pursue the objectives and goals of the organisation. This includes components of authority, power, influence, delegation, responsibility and accountability. The performance of any organisation is directly related to the quality of leadership (Smit & Cronje 1995).

When applied to the issue of change, this is referred to transformational leadership; leaders who change things successfully and can manage successfully during the process of change. Transformational leadership involves (Anderson 1992):

- Envisioning, to more accurately and realistically specify and articulate the future;
- Planning, specifying when, where, who and how objectives should be achieved;
- Teaming, building harmonious teams and matching individuals to appropriate tasks;
- Motivating, by meeting the deeper needs of individuals;
- Evaluating, realistic, desirable, concrete criteria defined in measurable accomplishments; and,
- Recycling, to achieve continual improvements.

Transformational leaders require the following characteristics:

- Envisioning, communicating, and creating new futures;
- Clear personal beliefs;
- Sense of mission;
- Arousing a sense of excitement;
- Having working knowledge and skills;
- Exceptional physical health;
- Performing at a high level; and,
- Result orientation.

In every aspect of life people lead and are led by others. Whether officially elected, or simply by default, work and sports teams, families, churches, social outings, etc. all have leaders. Leadership is a way of life to motivate, guide, make final decisions, and take final accountability. This includes change management.

Management problems may arise when events occur such as;

- Leadership is unconstitutionally challenged, usually disrupting the group at the expense of performance; and,
- Responsibility is inappropriately delegated to those not qualified, not interested, or not involved, usually at the predictable disadvantage of those who have relegated their responsibility.

Even as the leadership role is vital for successful change management, if this leadership role is claimed by or delegated to an inappropriate candidate, it goes without saying that the desired success is at risk. This project therefore needs to identify who is the leader of the personal change management activities, and determine how appropriate they are for this role.

2.3.3.4 Controlling

Control is essential to ensure that activities produce outcomes that are according to planned objectives. It is important as it assists management to maintain the internal order of an organisation by subjecting the resources to the organisation's plans, policy and procedures, according to the objectives. Control is the process whereby management ensures that the actual activities fit in with the predetermined objectives and planned activities of an organisation (Smit & Cronje 1995). It is the regulatory task of management to keep deviations from planned activities and performance levels to a minimum.

Control activities informs management that:

- The situation is proceeding according to plan, which means the plan should be continued, or
- The situation is not proceeding according to plan, which means that the plan should be adjusted, or
- The situation has changed, which means that a new plan should be formulated.

Change affects the variables of an organisation's plans, which invariably also affect its objectives, hence the need for greater control over such influences of change. This need increases with the complexity of the organisation and its objectives, and its competition, to ensure viability.

The control process consists of:

- Setting the standards of performance;
- Measuring actual performance;
- Evaluating deviations; and,
- Rectifying deviations by improving performance, revise approach, or adjust standards.

Control is the underlying framework to ensure effort is applied according to plan, in an organised fashion by appropriate leaders. It may be seen as an overhead, but without it there would be no coherent and timely indication of problems arising from changing situations affecting the plan, organisational and leadership structures and processes. Managing without proper control could be likened to an aircraft flying at night without instruments. The aircraft will still “fly” perfectly; right up to the point of disaster, when an unexpected event (object) is encountered. This project therefore needs to also investigate the level of control that participants apply in their change management efforts to determine the likelihood of success, or disaster.

Change management is the process of planning, organising, leading, and controlling the resources and elements affected by change in an effective and efficient manner to achieve the desired goals, and it is complex. This is the general opinion of the literature referenced above. This complexity is not excluded from personal change management, which is subject to all the issues raised. The environment of the participants of this study is similar in nature to that described in the literature, so it is therefore reasonable to assume that these change management issues also apply to the participants.

The advantage of using the four basic management functions for personal change management is that it provides a framework that can be used in a practical and tangible manner to assess the effectiveness and efficiency of the participant personal change management efforts. This would then also highlight areas that can be improved on.

The management framework gives some stability to the very dynamic world of change, where the huge amount of variables can be planned for, organised, and controlled. And where the participant, as the leader of their own future, can take responsibility for the proper management of the changing situations they encounter.

2.3.4 Choice of Management Approach

This research project deals with the highly complex subjects of change and human behaviour within a changing environment. The theory referenced has confirmed that there are many different interrelated components involved. This includes the individuals of the BA Team, who are themselves integrated systems composed of physical, mental, emotional and spiritual sub-systems. They operate within the organisational system, which is in itself a complex system within the larger environmental system. Each of these systems influences each other, creating integrated dynamics of interrelated and interdependent relationships. Successful personal change management therefore has to maintain a balance between large numbers of various components.

As discussed in section 2.3.2, there are various approaches to Management Theory. The personal change management aspects of those discussed are:

- Taylor's scientific approach is focused on task productivity efficiency. While change would be present in this context, it is a relatively simple and static environment when compared to the dynamics of personal change management, as discussed above. This approach is therefore not applicable in this case.
- Fayol's classical school focuses on an enterprise's organisational functions. As in Taylor's scientific approach, although change is a factor to consider, the dynamic involved are also relatively simple and static environment when compared to the dynamics of personal change management. This approach is thus also not applicable in this study.
- Mayo's behavioural science approach is more focused on the influence of psychological and sociological factors. This relates to the issue of personal change management behaviour. However, it does not address the entire scope of change, which includes many other variables other than human behaviour.
- The quantitative approach views management as a system of mathematical models and processes. This does not consider the complexity of human behaviour at a practical level.
- The Systems Thinking approach focuses management's role on maintaining balance between the various components of the organisation and its environment. This suggests that the dynamic complexity of change and its management will be accommodated by this approach.
- The contingency approach attempts to integrate all the previous schools of thought, but argues that the management approach to be applied depends on the situation at any given point in time. As this approach argues that the most situation. In the situation of this study, the appropriate approach, according to the above analysis is the Systems Thinking approach.

Based on the discussion above, the Systems Thinking approach was selected as the most appropriate approach to adopt to understand the cause and effects involved in this study.

2.4 Summary

This chapter set out to investigate the concept of change and human behaviour related to change. Various human behaviour models were reviewed to understand this change related behaviour, with a view to improve personal change management. A consolidated model was then developed to encapsulate all the aspects of the various models as far as possible.

The literature reviewed in this chapter identified seven key issues relating to change, and the human understanding and behaviour relating to change. They are;

- Change is a reality;
- Change produces anxiety;
- Change produces resistance;
- Change must be understood if it is to be effectively managed;
- Individuals have different levels of ability to cope with change;
- Successful change requires effort; and,
- Change reflects various levels of success.

After investigating human behaviour related to change, change management was examined. This necessitated a review of basic management theory, which included various management approaches. Due to the dynamics and complexity of change management, the Systems Thinking management approach was considered the most appropriate and therefore selected as a basis for this study. The next chapter will now develop this further.

Chapter 3

Systems Thinking and the Management of Change

The previous chapter reviewed literature concerning the concept of change and human behaviour related to change. Seven key variables relating the human understanding and change management behaviour were identified. Basic management theory was also reviewed, and the Systems Thinking management approach was selected as the most appropriate paradigm for this study.

The Systems Thinking approach was therefore reviewed in this chapter so that it can be used to understand and provide possible solutions to the problem being investigated in this study.

3.1 Systems Thinking

Systems Thinking facilitates the explanation of the behaviour of complex systems by understanding the cause and effects of the interrelationships and their feedback. It emphasises the whole system, the interrelationships of the parts, and the interdependencies as circular causal chains, and not parts in isolation according to a linear entity (O'Connor 1997).

Systems Thinking has a precise set of rules and definitions to reduce ambiguity and miscommunication. Visual tools such as causal loop diagrams are used to generate rich insights and interpretations. Viewing systems from a multitude of perspectives develops a richer understanding of the total picture, where real issues can be differentiated from those that are perceived yet are untrue. It therefore follows that attempts to correct problems without understanding the system as a whole often causes more harm than good. The principles of System Thinking focus on the "big picture" (Senge *et al* 1994). To qualify as a system implies that all the parts must be present and arranged in a specific way according to the system's specific purpose within the larger system. A system must maintain its stability through fluctuations and adjustments, and it must receive feedback. Time is critical to understand the functioning of any system, as they are dynamic, complex and interdependent. Everything and everyone is part of a system, either directly or indirectly. Systems Thinking includes the many methods, tools and principles that can be used to focus on understanding the interrelationships of variables in a system (Senge 1990).

3.2 Cybernetics

Cybernetics is fundamental to general Systems Thinking, which is focused on complex organisations. Management cybernetics is an applied science that uses cybernetics as the basis to manage organisations. Systems Thinking presents concepts and models that are focused on understanding complex systems. The benefits of these concepts and models lie in their ability to support research, as they expose and explain the variables within systems and the overall system behaviour. This facilitates the development of effective solutions.

In contrast, cybernetics studies the differences between effective and ineffective systems or organisations, investigating general patterns, laws and principles of behaviour that characterise such systems or organisations. Cybernetics has been defined as the science of effective communication and control in man and machine (Wiener 1948) and as the science of effective organisation (Beer 1962). In both cases the characteristics of such systems or organisations are:

- Complexity, having more relevant detail than the observer can cope with;
- Dynamic, changing their behaviour and/or structure;
- Probabilistic, demonstrating at least random behaviour of important elements; and,
- Open, existing in an environment that they affect and which affects them.

The above characteristics of “cybernetic” systems are the characteristics of the human systems described by the literature in Chapter 2.

There are a number of fundamental principles that underpin cybernetics and the characteristics of complex systems (Clemson 1984), namely:

- Complex systems are self-stabilising, capable of organising replicating, maintaining and repairing themselves. Their characteristic structural and behavioural patterns are primarily due to the component part interactions, and their balancing forces, which maintain system functions as intended, and resist change.
- Complex systems are relatively stable with small periods of transitional instability.
- Output or behaviour of complex systems is dominated by purpose towards specific goals and related feedback.
- Requisite variety ensures that regulation is limited, and is largely achieved through internal element interactions.

The literature reviewed in Chapter 2 together with the researcher's own experience indicates that people are complex "systems" that include physical, mental, emotional and spiritual aspects. They generally organise themselves, replicate, maintain and heal themselves. People are relatively stable and resist change, but they are sensitive to feedback and will change when necessary to achieve a purpose. They are very difficult, if not impossible, to manage according to a definite set of rules. Again, this fits the fundamental principles of cybernetics as identified above. This means that the principles and characteristics of cybernetic can be applied to people, and in particular to the participants of this study.

Cybernetics promotes a theory of communication and learning, focusing on the principles (Morgan 1986) that:

- Systems must have the capacity to effectively sense, monitor, and scan their environment;
- Relevant environmental information must be related to operating norms that determine the system behaviour;
- Significant deviations from the norms must be detected; and,
- Corrective action must be initiated when discrepancies are detected.

The above cybernetic theory of communication and learning is fundamental to its principle that complex systems' outputs are dominated by feedback. It is however important to highlight these for people involved with personal change management. This is because they need to be acutely aware of their environmental indicators, or feedback, in terms of impending changes, the opportunities and threats that these changes may hold, and the necessary action required.

Having established the position for this research that people are complex systems according to Systems Thinking and Cybernetics principles, this research proposes the use of Systems Thinking and Cybernetics tools and models to achieve the objectives set in Chapter 1. The next step was to understand the interrelationships between the personal change management variables so that they could be used to understand behavioural trends of the individual "system" in an environment of change, and the effects of interventions.

3.3 Change Related Variables

Seven key issues relating to personal experience, understanding and response to change have been highlighted in the previous chapter. These are that change is a reality, it produces anxiety and resistance, it needs to be understood to be effectively managed, that different individuals have differing levels of ability to cope with change, that successful change requires effort, and that change reflects various levels of success.

According to the Systems Thinking viewpoint; understanding and managing complex and dynamic systems requires that their component sub-systems and their interrelationships and interactions are understood as a whole. As this project is focused on personal change management, each member of the BA Team will be individually viewed as a complex and dynamic system in focus. These individual "systems" do not control organisational change so change had to be treated as an uncontrollable reality (external variable). The other six key issues were seen as under the control of individuals in the context of this problem statement, and so were assumed as the variables in the change management "system" in focus.

In order to develop a logical picture of these change management variables they are illustrated in an Affinity Diagram, Figure 3.1 below. This Affinity Diagram provides the basis for indicating, exploring and understanding the probable relationships between them to gain a deeper understanding of the effects of change and its management.

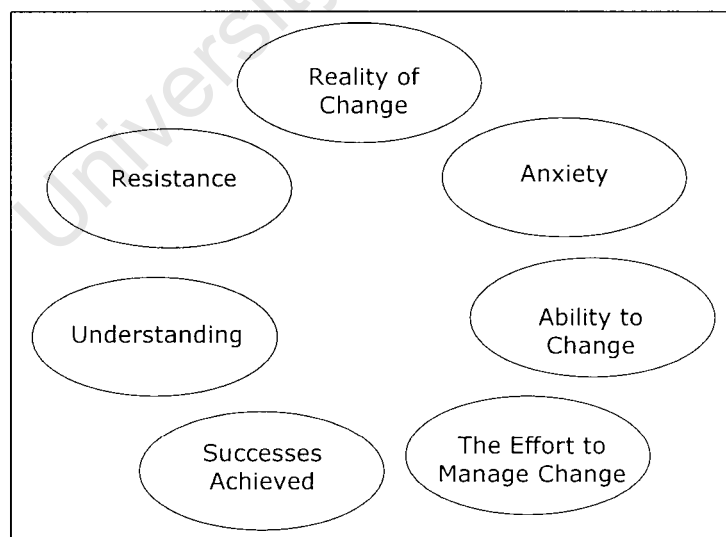


Figure 3.1: Affinity Diagram of Change Related Variables

However, an affinity diagram only identifies the variables, not their relationship to one another, nor the strength of any such relationship. To do this one needs to develop an interrelationship diagram (ID).

3.3.1 Interrelationships between Change Variables

In contrast to the Affinity Diagram, Interrelationship Diagrams (ID) indicate potential cause and effect relationships between entities. In Figure 3.2 below, the interrelationships that are indicated by the connectors of an ID show the probable relationship between each entity, and the arrows indicate the direction of the cause to the effect. The direction of the cause to effect relationship was drawn from the literature. For example, the change variable is the underlying cause affecting each of the other variables. Also, the level of understanding is the cause of the level of resistance and the ability to change. The level of success is determined by a combination of the levels of each of the other variables. While there may be an opposing cause and effect influences, the stronger of the two is assumed to be the root cause in each case. The issues are prioritised by totalling the in-coming arrows (I) and outgoing arrows (O), where in-coming arrows indicates the issue is an effect and out-going indicates the issue as a cause. The ID can therefore be used to identify the issue, which is the cause of most of the other issues so that it can be focused on as a critical management item.

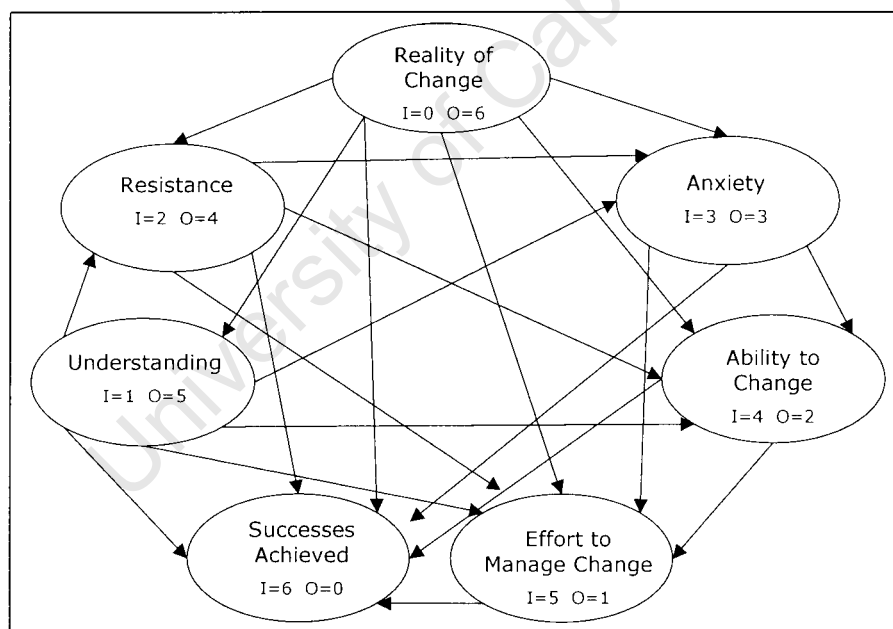


Figure 3.2: Interrelationship Diagram (ID)

As a model of the cause and effect relationships between the variables of personal change management, the ID was then used to identify the ranking of the cause issues as determined by the number of outputs. For example the fewer the number of inputs the less control the individuals within the system had over the issue. The greater the number of outputs, the more likely they had the ability to effect control over the issue. The ranking is described in Table 3.1 below.

Table 3.1: Ranking of Change Cause and Effect Variables

<p><i>"Reality of change"</i> (I=0, O=6)</p>	<p>The root cause of the change phenomenon. No other issue dominates its causal effect because even though one of the other issues may well initiate other changes, the environment exerts more power over change than any individual due to its extent and complexity.</p>
<p><i>"Understanding"</i> (I=1, O=5)</p>	<p>This refers to the personal understanding of what the concept of change represents. It includes the definition of change and the wide scope of effect and impact that change represents at the individual level, and how it should be managed accordingly. It affects all the other variables, as it governs how they are perceived and managed. However, the reality of change remains dominant due to its power of scope and complexity that neutralises any individual attempts of manipulation from any specific understanding or information.</p>
<p><i>"Resistance"</i> (I=2, O=4)</p>	<p>Refers to all passive and active emotions and activities that hinder or prevent effective change being understood, accepted or from occurring successfully. It includes personal resistance, where internal conflict generates unhappiness and negative irrational emotions. It also includes deliberate attempts to collude, build opposition support, and sabotage change initiatives. Negative aspects of change that create resistance dominate all the others except for the "reality of change" and the "understanding".</p>
<p><i>"Anxiety"</i> (I=4, O=2)</p>	<p>Refers to personal feelings of concern, anxiousness, general discomfort, and disruption that people experience before and during change. Anxiety generated by change appears to reduce both the "ability to change" and "the effort to change" by affecting clarity of thought and motivation to facilitate appropriate change actions. However, the other four issues can either add to anxiety or reduce it, for example, a negative aspect such as potential job loss increases anxiety while successfully negotiating change reduces it.</p>
<p><i>"Ability to change"</i> (I=4, O=2)</p>	<p>Refers to the personal characteristics to negotiate change successfully, rather than practical skill development. It means the inherent and personal capability of an individual in terms of attitude, confidence and commitment to make any necessary change work under any circumstance. It has a bearing on the "effort to change" and the "success achieved" through motivation and ability to succeed, while negativity, anxiety, understanding, and change itself all affect ability by adding to or reducing disruptions.</p>
<p><i>"Effort to change"</i> (I=5, O=1)</p>	<p>Refers to the active seeking of solutions both proactively and co-operatively, and at the personal and organisational levels. It is determined by the scope of change, anxiety levels, actual ability, the negative influences, and the understanding involved.</p>
<p><i>"Successes achieved"</i> (I=6, O=0)</p>	<p>Refers to the ultimate performance measure in terms of personal growth within, despite or because of change initiatives, and the organisational change contributions made by the individual. Successes achieved in a changing environment, which are the end results of a change situation, are dominated by all the other factors.</p>

The Behaviour over Time (BOT) graph (Figure 3.3 below) gives a perspective of how system variable values are expected to change over time by graphically displaying system behaviour as a whole over time. This suggests possible relationships between the variables. Thus the BOT graph, illustrates a potential model of an individual's response to change as indicted by combining the ID (Figure 3.2 above), and a time scale.

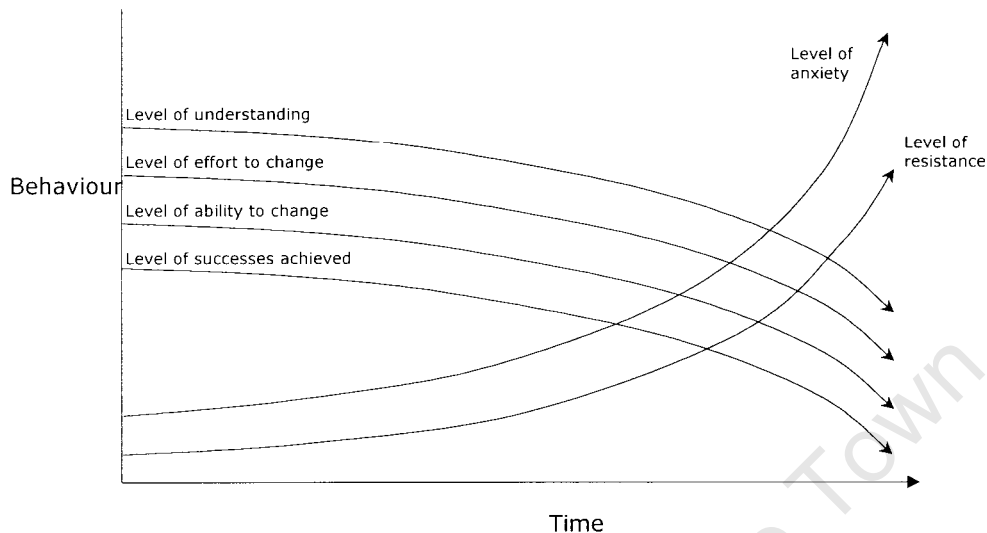


Figure 3.3: BOT Graph of Human Behaviour Variables of Change

Relationships illustrated by BOT graphs assist the development of Causal Loop Diagrams (CLD's), which illustrate the structure of complex systems using the system variables and their interrelationships. Using a CLD, a system's behaviour can be explained by interrelationships that act to either reinforce or balance the levels of behaviour of interacting variables.

Reinforcing means that the level of behaviour of two or more variables are mutually strengthening (illustrated in Figure 3.4 below as "↑") or weakening each other (illustrated in Figure 3.4 below as "↓").

Balancing means that the behaviour of two or more variables opposes the other variables' behaviour, so that as one level of behaviour strengthens ("↑") the other is weakened ("↓"), and vice-versa.

CLD's can thus be used to identify possible opportunities for interventions to change the system behaviour.

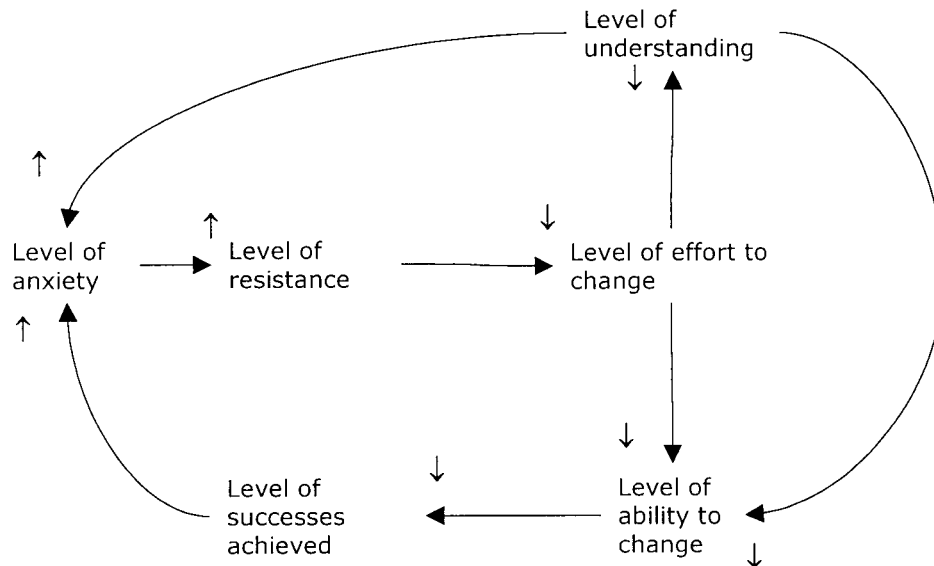


Figure 3.4: CLD of Human Behaviour through Change

The CLD, Figure 3.4 above, illustrates the possible cause and effect relationships of the change variables identified, relative to an individual's behaviour "system" as it undergoes change and the understanding of change management as discussed earlier in this chapter. That is:

- When a change becomes apparent the disturbance or threat produces anxiety. This is the first reaction springing from uncertainty and misinterpretation leading to feelings of vulnerability, fear, and self-preservation
- As anxiety increases the level of resistance develops as a natural defence mechanism. This resistance adversely interferes with the constructive effort to change. That means neither a rational and clear understanding of the change, its consequences, nor the right approach to deal with it is actively sought
- As the effort to change reduces, the understanding of the whole change situation reduces. This misunderstanding fuels further uncertainty, anxiety, and resistance, placing more strain on the flagging efforts to manage change. A vicious cycle develops
- The reducing effort to change also reduces the ability to change effectively. Although technical skills may be applied or behaviour may be forced upon individuals through threats, for example loss of work, indications of experience and the literature research are that, if the complexities of human behaviour are not positively addressed the situation will easily and quickly revert back to the previous state at the first opportunity
- If the ability to change is deficient the level of successes achieved will fall short of expectations. The consequences are increasing levels of anxiety at each new

change. Another counter-productive reinforcing loop is therefore developed to the detriment of the individual and successful change

As this project focuses specifically on individuals and how they experience and manage change, it follows that effective solutions are those that address the cause of problems rather than their symptoms. Addressing symptoms alone simply displaces these symptoms onto other behaviours, which either emerge anew or are existing behaviours that are reinforced. The priority suggested by the ID is that the reality of change, as the major cause, must be managed. However, while individuals in this particular study may influence change, attempting to manage everything concerning the reality of change in this case is simply impossible due to the huge scope and complexity of this particular changing environment being a major restructuring of an organisation of which they represent a very small unit. This study is focused on how members of the BA Team manage their personal situations within the given situation of change. That is, the other variables, which can be more effectively influenced due to their narrower focus, starting with the understanding based on information.

The research thus far, illustrated by the ID in Figure 3.2 above, indicates that the human behaviour in a changing environment involves six main variables. The ranking determined from the ID suggests that if these individuals increase their understanding of the complexities of change, which appears to be the key variable highlighted by the ID, they would improve their level of personal change management.

3.4 Modelling an Individual in a Changing Environment

So far this research has argued that based on cybernetic principles and characteristics a person can be viewed as a complex system. In doing so a model of human understanding and response to change has been developed (Figure 2.1 above) and a model of the main cause and effect variables and their interaction involved in personal change management described.

However, the question of how these people "systems" process the interrelated information of the variables involved still needs to be explored. That is, how each of the system's physical, mental, emotional, and spiritual components attempt to function in a co-ordinated manner with a basic compatibility of interest to achieve common goals. But these elements do not always agree. For example, the mind may be willing, but the body may not be physically able. Another example may be that a change might be perfectly logical from a mental perspective; however, emotionally it may be unacceptable due to comfort level disruptions.

A Systems Thinking Model was therefore sought to understand the functioning and mechanism involved in human understanding and personal change management. A variety of well-established Systems Thinking models were thus reviewed in an attempt to find one that illustrates this functioning and mechanism. These were:

- System Dynamics (SD)
- Viable Systems Model (VSM)
- Strategic Assumption Surfacing and Testing (SAST)
- Interactive Planning (IP)
- Soft Systems Methodology (SSM)
- Work Systems (WS)

Each of these is described in turn below.

3.4.1 System Dynamics (SD)

Forrester's basic idea behind the Systems Dynamics (SD) Model is that behaviour is principally caused by structure. While the SD allows for many elements and relationships, the model structures developed are normally deterministic and do not evolve over time. The model is also largely closed to the external environment as SD attempts to encompass the "whole system", enabling analysis along a closed sequence of cause and effects. SD aims to model process and may be used to redesign system structures and decision policies (Flood & Jackson 1991).

It would be a great advantage to model the "whole" system, but realistically no systems can truly be closed. There is always an external environment influencing any system in some way or the other, except if that system is the universe, which is significantly beyond the limited context of this study.

Another significant shortfall of the SD is that it does not address the basic concept of time, whereas, as has been pointed out in Chapter 2, time is a fundamental element of change.

3.4.2 Viable Systems Model (VSM)

Beer's Viable Systems Model (VSM), as described by Clemson (1984), is a framework based on cybernetics and general systems theory. A viable system copes within a complex environment that is beyond the capacity and variety of the people within the system. The VSM helps to understand the existence and performance of organisations. It

presents a rich perspective that facilitates a deeper understanding and insight of the structure and the various functions, roles and responsibilities within an organisation, and its interaction with its environments over time. It can also be used to describe a common goal for the ongoing viability and success of the organisation, to diagnose structural weaknesses, and to design new structures to help maintain organisational viability. It also helps to understand how the communication links between a system and its environment can be used to amplify the system's action capacity to deal with the residual variety, and how they can be used to attenuate complexity.

The strengths of the VSM are its acknowledgement of systems complexity and variety, and its focus on understanding the elements and mechanisms involved in managing that complexity; that is, it explores function, roles and responsibilities, and interactions with the external environment. This strength may however also be a weakness that could trap the unwary. In other words, it can reduce the actual complexity of a system to unrealistic levels, where those working with the model are drawn to a perception of exaggerated simplicity, totally negating the effectiveness of the model to represent the actual system in focus. This could then lead to misunderstanding the critical aspects of the system, leading to ineffective or even damaging interventions and unintentional consequences. A further weakness of the VSM is that it does not include a specific time and corresponding performance measurement function.

3.4.3 Strategic Assumption Surfacing and Testing (SAST)

Strategic Assumption Surfacing and Testing (SAST), which was inspired by Churchman (1968), focuses on the relationship between participants involved in a problem situation, and not on the system in context. SAST highlights the importance of only making judgements of problems after opposing perspectives are considered, involving different groups at different levels within the organisation experiencing the problem situation. The idea being that, adversarial and participative processes and assumptions will develop a deeper understanding of the organisation, its policies and its problems (Flood & Jackson 1991).

As people are the basis of organisations and organisational behaviour, the relationship between organisation participants is a very important aspect. Especially important for this study is that assumptions are made explicit, as discussed in Chapter 2.

A weakness of SAST, in terms of this study, is that it does not provide tools or structures to explore reasons for the assumptions. Another weakness for this case is that SAST is based on participation. While it may be true that the participants of this study may talk to each other, and thereby test their assumptions and develop a deeper understanding of

the change situation, this does not provide an understanding of personal change management issues. A possible unintended result of group participation may in fact disadvantage an individual, in that rather than properly understanding their personal situation and required action, they follow the general consensus of the group, which may not be in their best interests.

3.4.4 Interactive Planning (IP)

Ackoff's Interactive Planning (IP) Model is squarely focused on planning. It is based on three principles, which are:

1. Participative – Those affected by planning should be involved in it, and the process of planning is more important than the plan produced, as the process develops understanding of the organisation and individual roles within it.
2. Continuity – The values of stakeholders and situations will change over time, necessitating corresponding plan changes.
3. Holistic – Plans should simultaneously and interdependently include as many elements and levels of the organisational "system" as possible.

IP includes five phases, which are (Flood & Jackson 1991);

1. Formulating the Mess – Highlighting the problems, prospects, threats and opportunities
2. End Planning – Specifying the ideals, objectives and goals
3. Means Planning – Alternative means to achieve desirable future
4. Resource Planning – Ensuring the required resources are available when necessary
5. Design of Implementation and Control – Ensuring decisions are effected as planned and necessary changes are accommodated

The discussion on management theory, covered in Chapter 2, established that planning is, without doubt, an absolutely essential element of effective management. The advantage of using the IP model is that it provides a framework for the planning process.

However, while the IP Model can be used in this study to manage the process of understanding personal change management and facilitates the generation of ideas, objectives, goals and alternatives; the IP Model does not provide a structure that can be used to analyse the complex human system's behaviour related to personal change management. The IP Model would therefore have to be used in conjunction with other models that have the capability to manage complexity.

3.4.5 Soft Systems Methodology (SSM)

In contrast Checkland's Soft Systems Methodology (SSM) (Checkland 1981) was developed to solve problems that were unstructured or "messy"; that is, not easy to clearly define. SSM depends on full participation, and is most effective where participants values differ, but where they are earnestly willing to accommodate and compromise in the interests of a solution. SSM is focused on "what should be done" and not on the means-end approach of "how should it be done" (Flood & Jackson 1991).

Three critical criticisms of SSM that have been identified (Flood & Jackson 1991) are;

- It is idealistic, and therefore does not properly address issues of conflict and coercion where there are differences of real interest between individuals or groups.
- Cultural feasibility is extremely important. The result is that, rather than designing solutions focused on effectiveness and efficiency according to systems principles, the solution feasibility is determined by the dominant culture.
- It cannot adequately address problem situations where complex system organisational design is required. It has to be used in conjunction with other further developed models.

The placing of a high value on the cultural aspects of a system and its participative focus are strengths of SSM. Through these strengths, SSM strives to explore and consider all the various perspectives and test all the assumptions. These assumptions are then used to reach jointly agreed solutions. However, this study is focused on personal change management so, similar to the SAST Model discussed above, it can therefore be harmful if group consensus is followed. That is to say; being led by group decisions without exploring the personal perspectives may not be appropriate for a specific individual. For example, a group decision to resign in protest to a change may leave a long-serving but unqualified person without a means to feed their family, while the rest of the group find work based on their qualifications.

The SSM is also focused on "what should be done" and not on "how it should be done". But, the problem statement of this project is specifically concerned with understanding how people respond to change.

The three criticisms noted by Flood & Jackson (1991) are also a concern for this study. Within the context of this study these can be expressed as:

1. The conflict and coercion that is generated within an individual "system" by having to choose between possible options and their consequences needs to be understood and resolved, but this is not accommodated by SSM.
2. Cultural feasibility dominates the decision process, rather than making choices according to the system principles of effective and efficient.
3. The inability of SSM to address complex systems is a problem when investigating the complex human system behaviour.

3.4.6 Work Systems (WS)

Hoebeke's (1994) Work Systems (WS) Model, provides a framework that integrates all aspects of the work systems within an organisation that relate to all meaningful value-added activities according to time frames, and the relationships between people involved in the various business functions.

A particular strength of the WS Model in this case is that it considers all aspects of the value-added functions of an organisation, including the relationships between functional entities. A concern is that the claim to integrate "all" aspects is very ambitious when considering complex systems. This "all" aspects assumption could lead to oversimplification of the real situation by unintentionally ignoring important elements of the system in focus.

Another important strength of the WS Model is its specific focus on organisational time frames, which is important for planning and maintaining organisational viability into the future. This facilitates investigation to understand how participants perceive and action personal change management activities for their future "viability".

3.4.7 Systems Thinking Models Applied

When choosing the Systems Thinking Models to apply in this project, the aim and objectives of this project had to obviously be kept in mind. In summary these are:

- Aim - To investigate personal change management within the BA Team in the absence of effective assistance from the organisational structures, exploring how these individuals perceived and responded to their changing environment, and to provide practical suggestions to them to improve their personal change management efforts.

- Objective 1 - Verify the researcher's perceptions about the reality and impact of the change affecting these individuals by exposing the negative and positive aspects of the specific change environment.
- Objective 2 - Identify and explore the relevant variables and their interrelationship as they influenced the personal change management efforts of these individuals.
- Objective 3 - To identify relevant, useful and valuable personal change management lessons where possible.

The SD Model's approach to investigating a system disqualifies it from this study. That is, the SD Model approach is to work with "whole" systems that are essentially closed to their external environments, and that do not evolve over time. While this study is focused on individuals, or "systems", who are very open to their environment, and who are certainly influenced by time.

Both the SAST Model and SSM emphasise group participation, which is irrelevant and possibly harmful to personal change management. They also lack a focus and detailed structure to explain how the individual "system" components operate, while the aim and objectives of this project are specifically concerned with understanding how people respond to change. SSM is also unable to properly manage conflict and coercion, cultural feasibility domination over the system principles of effectiveness and efficiency, and to address complex systems. These issues disqualify both the SAST and SSM from being applied in this project.

In contrast, the VSM is the most powerful Systems Thinking tool reviewed in this study in terms of understanding the complexity and variety within systems. It provides a specific model to facilitate the identity and understanding of the individual functions, interactions and relationships between the sub-systems within a "system", and between its external environments. The VSM specifically includes the management role, as well as functions to manage change and the related risks based on and the systems future requirements.

The review of change and management in Chapter 2 emphasised the role of planning as an essential element of effective management, including personal change management. Planning is the main focus of the IP Model. It does not contribute much more in terms of a detailed mechanism or structure that can be used to analyse the complex human "system's" behaviour.

The strength of the WS Model is that it considers all aspects of the value-added functions of an organisation, including the relationships between functional entities within time frames. Thus it can be used for planning and maintaining organisational viability into the future. These time frames can then be linked to expectations to provide a measure of

guidance and control to productive activity. It will also indicate how participants perceive and action personal change management activities in terms of their future "viability".

Based on the above discussion, two Systems Thinking models were applied in this project. These were:

1. The VSM because of its powerful and detailed approach to explain complex system relationships and behaviour, and
2. The WS as it complimented the VSM in terms of considering all the value-added functions of a system, and it included a specific time frame and corresponding performance measurement function that overcame the weakness identified in the VSM.

Given the strengths of both of these models, a consolidated model of the VSM and WS was developed. This consolidated model would seek to use the VSM strengths to illustrate complexity of human behaviour, in a changing environment illustrated by the WS Model's strength of managing value-adding activity to relevant time frames.

3.5 Consolidation of the VSM and the WS Model

The consolidation of the VSM and WS Model was discussed below as follows:

1. The VSM was reviewed
2. The VSM was applied to a human behavioural example
3. The time perspective of change was discussed
4. The WS Model was reviewed
5. The VSM and the WS Model were consolidated to illustrate VSM human behavioural drivers within the WS time frame.

3.5.1 Review of the Viable Systems Model (VSM)

The VSM is a model that integrates the environment and each of the functions that are necessary in a viable organisation. It as an arrangement of five functional elements or systems interconnected by information and control loops (Flood & Jackson 1991), see Figure 3.5 below. The elements of the VSM are:

- S1 - the operational units or systems that make an organisation viable and interact directly with the environment, absorbing much of the environmental variety
- S2 - the systems that co-ordinate and dampen uncontrolled fluctuations between the S1's by ensuring effective and efficient teamwork

- S3 - the systems that control and command the S1's to maintain internal stability and predictability within the system by interpreting policy decisions, allocating resources, ensuring effective implementation of policy, performing audits, and managing S1 variety
- S4 - the systems that provide intelligence identifying the potential risks and benefits in the system's total environment and identify and manage change requirements
- S5 - the systems that arbitrate and drive the development and implementation of policy to ensure balance between the current and internal activities of S3, and the future and external activities identified by S4. It also represents the essential qualities of the "whole system" to any "wider system" it is part of.

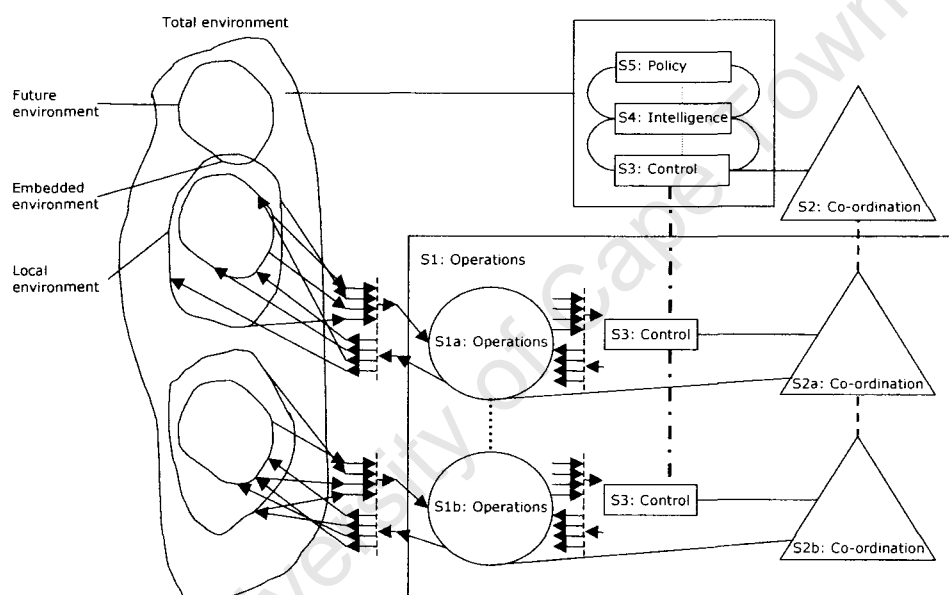


Figure 3.5: The VSM

Conceptually categorising these five functions facilitates the research by relating the functions to the individuals involved and the actions and perspectives that characterise them. Enhancing understanding in this way will therefore promote the identification and development of interventions that have a better fit to all the functions involved, and can therefore be implemented more effectively in a holistic and systemic way.

3.5.2 The VSM and the Individual

The VSM facilitates insight into the overall and specific functions and behaviour of the various subsystems of an individual "system" undergoing change. It also provides guidance in identifying effective and efficient interventions to maintain internal stability and adaptability to cope with the external changing environment, which is necessary for long-term survival and growth.

As an example, the human "system" can be described in VSM terms as follows:

- S1 is at the physical level, where change is experienced through the five physical human senses of touch, smell, taste, sight, and hearing. This is the individual's direct link to the environment.
- S2 co-ordinates the amount and mix of stimuli cognition from the various S1's. It co-ordinates the communication and interaction between the various physical data received by the S1's according to past learning and the quality and quantity of the necessary resources available to the nervous system.
- S3 receives the physical "human experience" messages from the S1's. S3 interprets the messages in terms of mental images developed by past learning and hereby increases the amount of experiential information stored by the individual. S3 audits and controls the understanding and response of the S1 functions according to the messages from the S2, S4 and S5 functions. S3 is where emotions begin to be involved as they are based on mental models, how people perceive and construct their reality.
- S4 is the mental function dealing directly with change. It monitors the environment, gathering relevant information received at the physical level, assessing the impact of any environmental change noted and making decisions of what change is necessary for the individual to cope with the change for the good of the system. This information is then distributed to S1, S2, S3, and S5 as is appropriate.
- S5 describes the individual's identity, the core being or spiritual centre of an individual. This is the basis of the individual's beliefs and personal policies, which are the filters of S1, S2, S3, and S4. S5 is essentially the judge correcting any imbalance between current activities (S3) and future activities (S4).

The VSM provides structure and the mechanism to explain how the concepts of mental models, TA, rational and irrational behaviour influences each other as interactive elements of the human "open system".

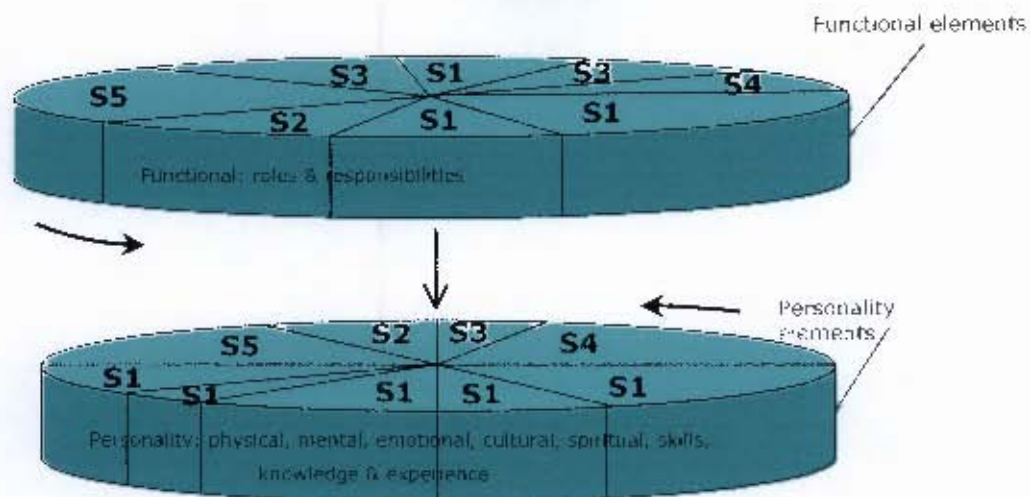


Figure 3.6: A Model of an Individual's Personal and Functional Elements

In reality an individual is made up of many varieties of sub-systems. For example, an individual plays different roles in different places in society, that is, as a parent, as an employee, and as an employer, etc. That individual personality consists of changing factors of physical, mental, emotional, and skill, etc. For modelling purposes the researcher has used an individual's functional sub-system and their personal sub-system, divided into the five VSM categories and illustrated as two disks in Figure 3.6 above.

The lower disk represents the individual's personality, which is made up of physical elements and skills (S1 and S2), and mental, cultural, spiritual, knowledge and emotional (S3, S4, and S5) elements. The upper disk represents an individual's functional place in society, where they are required to fulfil many roles and responsibilities at home, work, and other institutions.

In reality these two disks are combined. However, each sub-system and the elements within the sub-systems change at different relative rates due to environmental elements that also change at different rates, and without consideration for individual development requirements. This conceptualisation is important for successful personal change management because as a person experiences change others are also affected, but in different ways and extents. They will most probably therefore need different things to cope themselves, even as they may be expected to assist others to manage change.

These different changes and rates of change are unique to each individual and are dependant on the individual circumstances and on human understanding and reactions, as illustrated in Figure 2.1 above. That is, the mental models through which individuals view change, the ego states engaged, the level of rational thinking applied, and the

different growth rates that are influenced by the different learning situations. These differences will obviously create various tensions at different times.

For any system to remain viable it must have the capacity to adapt to new situations. That means that an individual should be able to change any of S1 through S5. Applying the VSM sub-systems approach to an individual walking along a street illustrates:

- S1 is his sight and contact of his path as he changes position relative to the earth;
- S2 is his balance and co-ordination of limbs;
- S3 is his audit and control function managing his energy and resource usage and assessment of goals being met. His thoughts will be changing, at least sub-consciously, in terms of his position and his goal;
- S4 is monitoring the environment for dangers such as motor vehicles and any other environmental changes that may impede or ease the achievement of the goal; and,
- S5 is his policy of the best way to get from A to B, where some people would without hesitation walk 3km to the shop, while others would naturally use a motor vehicle.

This individual "system" is a hypothetical example of a highly structured organisation of complex interaction, but one that is also in constant change. Under normal circumstances this example of change is so well rehearsed that the individual hardly acknowledges it. It may even have included a changed perception of something encountered or "learned" about the environment, for example a new route. It is not usually a traumatic experience for an individual to walk from A to B, even though change has taken place because:

- The change is relatively insignificant;
- The individual may enjoy walking;
- The change was necessary to meet a specific need;
- The objectives and outcome were understood; and,
- The change was planned, maybe subconsciously, to ensure viability of the exercise.

It is obvious then that not all change would automatically create stress. If the new route chosen was unknown, there were time constraints, or the walk was imposed with no apparent reason, stress levels could then be expected to increase.

Continuing with the example, none of the system's elements would be changed other than gaining more experience of a familiar exercise. No undue stress or resistance is generated, as all the system's elements are in sync. If the environmental conditions change it is observed by the S1's, transmitted to S4 and assessed against S5. If any

conditions were not previously encountered by S5, resistance becomes apparent in the S3 management and S2 co-ordination. A snake in the road may cause initial fear and paralysis of S1, S2 and S3 while S4 and S5 seek agreement, if this situation had never been encountered before. If suddenly sandwiched between the snake and a lion, and the only option is to kill the snake, a severe conflict may arise from S5's knowledge of the dangers involved and S4's insistence to act.

Although S4 perceives a necessary change because of the changed environment, if it is different to what S5 has ever experienced, S4 seeks to adjust S5 accordingly to ensure that S3 actions remain relative to the environment. S5 by its nature takes a long time to adjust relative to S4. The system therefore experiences cognitive dissonance between S3, S4 and S5. This conflict manifests itself in S3 as uncertainty and indecision. The extent of the emotions felt or expressed could be expected to correlate to the amount of gap between the change and the S5 function of that individual. That is, if the new situation is only slightly different to the previous one, very little risk is likely, and thus very little resistance or accompanying emotion could be expected. The individual is still within, or very close to, their comfort zone.

Eventual action required is agreed by S4 and S5. This is conveyed to S3, which in turn ensures S2 carries out the required co-ordination changes, and S1 carries out the required output changes. The result is that the "human system" experiences internal movement. Any remaining differences between S4's requirements and S5's inflexibility weaken the system. This difference is due to the fact that S4 requires a short-term change while S5, by its nature, requires a longer time to adjust the basis of existence of the individual. This internal conflict is thus a plausible explanation for an individual's uncertainty or lack of faith within themselves. This uncertainty may manifest itself in a variety of ways depending on the individual's S5 policy of dealing with uncertainty.

Irrational thinking can be born at the conflict point between S3 and S4 if S5 is not properly equipped to manage any differences. If S5 is not sufficiently developed to deal with the new requirements presented by S4, S5 would experience pressure to change. This is a slow process due to the fact that it is the core of an individual's being. To change would mean changing who one is. This will obviously tend to generate defensive behaviour that could be described as resistance. An individual's comfort zone is located in S5. This is where an individual who faces intimidating change retreats to the shelter of core beliefs and the security of "tried and tested ways", which worked in the past. This may be a false security as the environment may have changed to such an extent that the old beliefs and actions are unsafe due to their mismatch to the current environment.

The critical issue is therefore how to cross the great divide between S4 and S5. This can occur through shock due to a sudden tragedy, through ignoring a growing problem until no option remains but to change, or by long-term rational preparation, planning and management.

Based on Action Learning principles, individuals will reach levels of competence to deal with change, through experience and commitment to learn, where individuals experience and develop confidence to manage change, starting in a safe environment and then building on confidence. Repeating a learned behaviour, such as an approach to change, reinforces behaviour through S5 conditioning. Whether the behaviour is positive or negative, the choice is for each individual.

Another aspect of change is whether those faced with the change do not consider it appropriate or worth the effort to make the change or they simply avoid it by conscious decision. This is basically a cost-benefit assessment and decision, which is quite necessary as long as the decision is based on rational thinking.

As has been demonstrated the VSM can be used to explain various issues of change management. It gives an explanation of the fact that change causes internal system conflict and why change is difficult to instil without individuals returning to old habits. It also presents goals to improve permanent change implementation, which is to shorten the adjustment period of S5 and increase the effective future assessment of S4. S5 is changed by the changes determined by S4, managed by S3, co-ordinated by S2 and implemented in and by S1.

3.5.3 The Time Perspective of Change

Systems, for example people, undergo constant movement and change due to adjustments made to accommodate environmental changes. Even though things may appear to change only to revert back to a previous state, it is impossible due to the nature of our changing world. Because of the interdependence of systems within the social and natural environment, a large network of different sources influences change. This maintains a systemic momentum of change, which means that stability is not a lack of change, but rather change that is well managed. The challenge of managing numerous variables is typical of any system thus supporting Systems Thinking as the method of research towards solutions. An organisation is a *"coalition of interests and a network of activities within a momentum-bearing structure in which change of one sort or another is always occurring"* and stability as *"a unified motion stemming from a coalescence of interests and activities in an environment of adequate relative consistency and certainty"* (Kanter *et al* 1992:223). The motion of organisations based on the nature, stakes,

interests and understanding of the different stakeholders, activities, formal and informal relationships and influences from many different sources and directions. Success depends on keeping them all moving in the same general direction. There are three ways in which organisations change their form, that is, their relationship to their environments, their internal co-ordination, relationships and operations, and their control structures. The most dramatic change is related to the environment, which means changes to identity, and to internal structures, resources, mobilisation, information, and support (ibid.). "The pace of change and its fundamental nature cannot be underestimated" (Crainer 1999:xxx). Escalating competition and Information Technology innovations as key business tools are fuelling this increased pace of change. Because of this the future of work will involve half as many people being paid twice as much to produce three times as much. The scale of changes is unprecedented, with new demands and expectations that insist on new managerial skills (Crainer 1999).

This constant change motion is important to note when considering the concept of opportunity versus threat. In our competitive world, when individuals are presented with an opportunity it is usually at its maximum potential due to the maximum time availability to plan and act. Figure 3.7 below illustrates that, as time moves on, opportunity is likely to diminish as circumstances change or as others realise the opportunity. Eventually the opportunity will most probably be overtaken by a threat that grows due to others exploiting the market with their services or products. The service could be the personal skills of an individual. If an individual does not exploit the opportunity, but others do, the market will be influenced to the individual's disadvantage. As the gap between the individual's skills and the market requirement grows the individual will increasingly find themselves in a more threatening situation in terms of their skills viability.

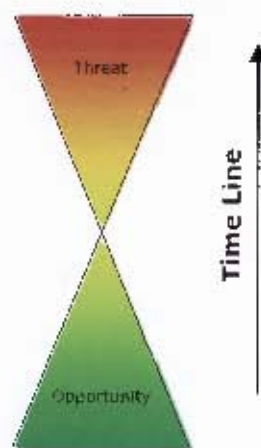


Figure 3.7 Opportunity becomes Threat

This opportunity and threat concept relates to the idea that the early bird catches the worm. Those who change first will usually enjoy the first fruits, while those who lag behind will be faced with the threat of picking up the left-overs, or having to expend super efforts to regain lost ground. The phenomenon appears to be playing itself out in the world at this time, where the rich appear to be getting richer and the poor poorer. "Time affords the opportunity to succeed through carefully conceived and well-executed processes" (Kanter et al 1992:43), but time and opportunity must be used wisely.

3.5.4 Review of the Work Systems (WS) Model

Hoebeke's (1994) Work Systems model, illustrated in Figure 3.8 below, model defines processes that transform specified inputs into specified outputs. It is divided into three recurring time frames called domains, namely the added-value, the innovation and the value-system domains which are discussed in detail below. Three process levels are identified within each domain, where each higher order process output creates conditions for the next lower order process. The process levels are differentiated in a hierarchy according to their time span and should not be confused with traditional organisational hierarchical levels. Each process level consists of:

- A generic transformation process – input converted to output;
- A basic strategic dilemma – choices to resolve conflicts;
- Control information - system management;
- Audit information – system feedback; and,
- Development activities – necessary changes for improvement.

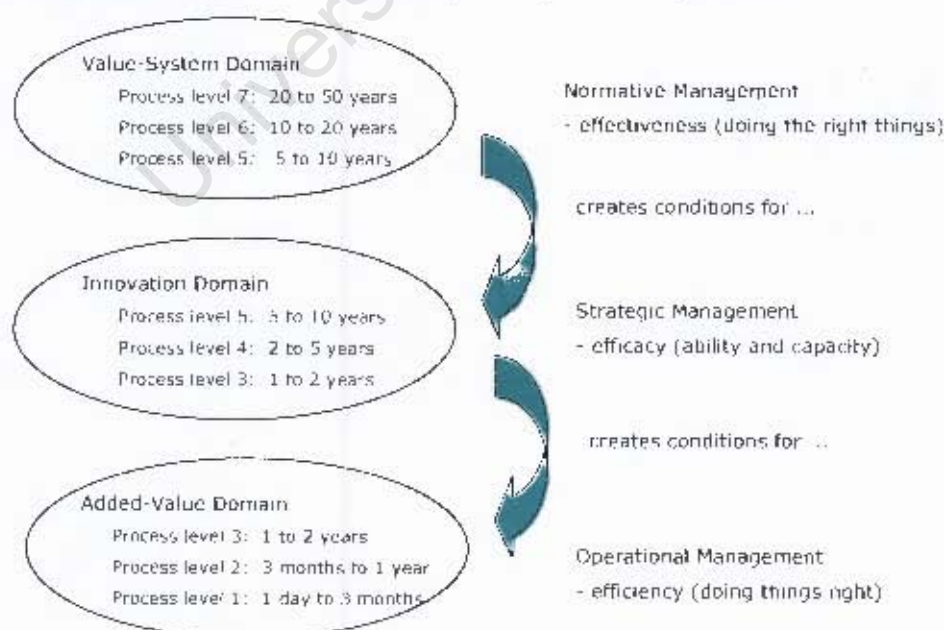


Figure 3.8: Illustration of the Work System Domains and Process Levels

3.5.4.1 Added-Value Domain

The Added-Value domain focuses on operations management and the efficiency of the applied competencies in the creation of value. It spans a time frame of 1 day to 2 years divided into three process levels, that is:

- Process level 1 – time span of 1 day to 3 months;
- Process level 2 – time span of 3 months to 1 year; and,
- Process level 3 – time span of 1 to 2 years.

Four attributes of the output of the work system in the added-value domain are:

1. Throughput time – the time between requirement formulation and client satisfaction.
2. Volume requirements – relevant number of items of a product or service for a client.
3. Quality requirements – emergent systemic quality that the client appreciates.
4. Price requirements – the price a client is willing to pay, which is directly related to client appreciation.

In terms of personal change management, the added-value domain is where the “action is”. The participants would be hearing rumours of change, seeing change occur all around them. Some changes would be affecting them, with others to a lesser degree. Participants would be planning for impending changes in their personal positions, and implementing already planned activities, while the organisational changes progress as follows, for example:

- Process Level 3 would be when rumours of major organisational change begin to circulate. Executive and senior management call for information, possible team restructures and accommodation requirements are investigated, computer system implications are analysed, and plans are made.
- Process Level 2 would be implementing a new computer system, having the new offices built, looking for residence in another city, or being interviewed for a new job.
- Process Level 1 would be learning how to operate a new system, physically moving to the new office or city, or walking into a new job.

The Added-Value domain would be where the reality of the situation and decisions, or lack thereof, are actually experienced, where the truth tests assumptions, concerns and expectations. This journey into reality starting in Process Level 3 becomes more and more acute as Process Level 1 is approached.

3.5.4.2 Innovation Domain

The Innovation domain focuses on strategic management and the efficacy of the work system. This means ensuring that the necessary ability and capacity is created in the work system to ensure the creation of value in the future. It thereby creates conditions for managing the added-value domain. This domain spans a time frame of 1 to 10 years and is divided into three process levels, that is:

- Process level 3 – time span of 1 to 2 years;
- Process level 4 – time span of 2 to 5 years; and,
- Process level 5 – time span of 5 to 10 years.

Four attributes of the output of the work system in the innovation domain are:

1. Desirability – relationship between innovators and stakeholders measured by the degree of positive effort made by each.
2. Feasibility – relationship between innovators and stakeholders measured by the degree of defensive effort made by each.
3. Transferability – degree to which innovation can be distributed in the added-value domain.
4. Systemicity – degree to which an innovation can be conceived, including interfaces with other areas.

In terms of personal change management, the Innovation domain is where the participants would be planning their medium to long-term futures, for example:

- Process Level 5 would be visualising their personal careers in 5 to 10 years, and planning and implementing accordingly, such as choosing a relevant qualification and starting a course to obtain it.
- Process Level 4 would be refining plans to follow a specific career path based on knowledge learned from courses taken and impending qualification.
- Process Level 3 would be searching and applying for the next career position on the road to the 10 year target.

Unpredicted events in the Added-Value domain will most likely constantly disrupt the Innovative domain. However, a properly developed Innovative domain should not be dramatically affected, which should be the case if this domain is based on true and realistic attributes of desirability, feasibility, transferability, and systemicity. A properly developed and stable Innovative domain should act as a stabilising factor to the Added-Value domain of the participant, as it provides a planned basis to weather the uncertainty and unpredictability of short-term storms. This an importance reason for the careful development of the Innovative domain.

3.5.4.3 Value-System Domain

The Value-System domain focuses on normative management and the effectiveness of the work system. This means ensuring that the right culture is developed to create the conditions to support the development of ability and capacity required in the Innovation domain. This domain spans a time frame of 5 to 50 years and is divided into three process levels, that is:

- Process level 5 – time span of 5 to 10 years;
- Process level 6 – time span of 10 to 20 years; and.
- Process level 7 – time span of 20 to 50 years.

Four attributes of the output of the work system in the value-system domain are:

1. Generative – theories to develop new behaviours to cope with their environment.
2. Tolerant – acceptance of other world views or values without trying to convert them.
3. Dialectical – mutual trust and appreciation between of human beings despite adversity through contradictory world views and values.
4. Congruency - between changing worldviews, value systems, traditions and own humanity.

In terms of personal change management, the Value-System domain is at the outer boundary of the participants' long-term futures and planning, for example:

- Process Level 7 would be at a self-actualising level as described by Maslow (1970), where participants contemplate their individuality, the meaning of their lives, and their personal contributions to human kind.
- Process Level 6 would be visualising their retirement and their children's careers. They would include taking out retirement policies and savings accounts for their children.
- Process Level 5 would be visualising their personal careers over the next 10 years, amending plans and implementing accordingly, such as changing courses towards a different qualification.

Unpredicted events in the Added-Value domain should have very little impact on the Value-System domain, and a properly developed Innovative domain should also translate into a relatively stable Value-System domain. This is because the Value-System is a reflection of an individual's long-term aspirations, which should be the basis of the Innovation domain. This shared stability factor apparent between the Innovation and Value-System domains indicates the importance of the careful development of both of them.

Using the three domains of the WS Model gives important time and stability perspectives to systems in terms of managing viability of the short to long-term future. This is important for individuals, who should actively manage their change situations to achieve their personal objectives despite uncontrollable factors of the external environment.

Understanding the importance of the roles and interactions of each of the WS domains gives rich meaning to the importance of short, medium and long-term planning and implementation at a personal level. Where long and medium term planning provides a critical, sanity-protecting stability to individuals undergoing continuous, severe and disorientating change. The WS Model is therefore effective in complementing its time frame and stability factors to the VSM, with its focus on systems complexity and variety.

3.5.5 Combining the VSM, WS Model and the Time Perspective

The Work System model establishes the management dimensions necessary to prepare the individual for the opportunities and threats presented by change over the short to long-term. Combining Figures 3.6, 3.7 and 3.8 thereby creates a model, Figure 3.9 below, illustrating how individuals move in a time and personal position spiral.

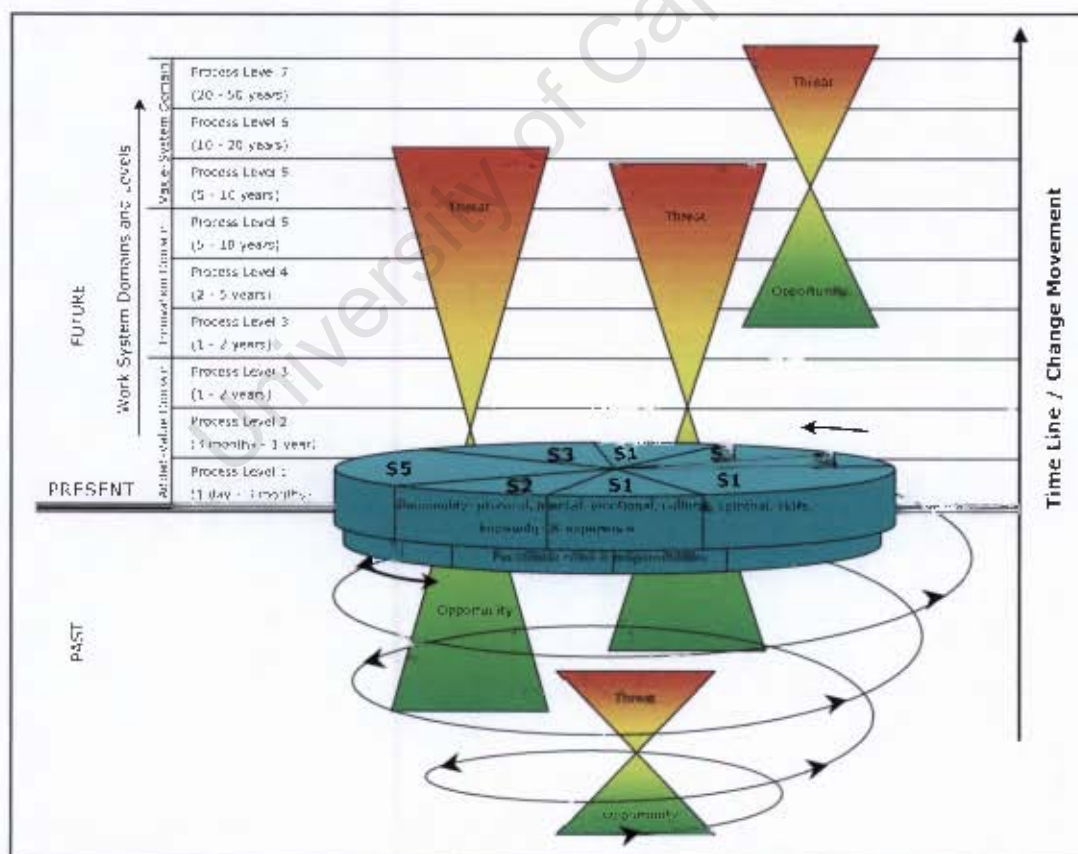


Figure 3.9: A Model of an Individual's Journey of Change through Time

Figure 3.9 above includes the complex personal and functional aspects of an individual that constantly changes relative to others. The spiral is also an adaptation of Kolb's learning cycle (Kolb *et al* 1995), where, instead of the cycle looping back to the starting point, learning actually ensures that an individual can never return to a previous point. That is, individuals may believe that they return to the same situation, but time, opportunity and learning have moved. Change is not simply an attribute of a changing world, but the world itself is a moment in a more fundamental process of change. Bohm's theory of organisations as flux and transformation states that while there may be an appearance of stability, it is usually underpinned by flux and change (Crainer 1999). This is demonstrated by the analogy of a whirlpool, which while existing as a constant, recurrent, and stable phenomenon, its very existence is in the movement of the river in which it occurs.

As individuals increase their capacity and productively the spiral expands, broadening the scope for opportunity, or narrowing if they allow their relative value-adding competencies to dwindle through lack of learning according to the environment's changing requirements, allowing unnecessary threats to develop. The participants are constantly faced with new times, new opportunities and new threats, that only they as individuals can manage through proactive planning for all levels of functionality over the entire spectrum of their expected life. Although the future cannot be accurately predicted, individuals can envision future probabilities that can then be managed accordingly to achieve the best possible personal outcomes.

3.6 Summary

The review of theory in Chapter 2 identified seven variables, involved in the personal change management behaviour. The Systems Thinking approach was then identified as the most appropriate management approach as the basis of this project.

This chapter reviewed the Systems Thinking and Cybernetics principles and characteristics to confirm their application and relevance to individuals as complex systems. A strong argument was made to the effect that people could be viewed as integrated systems composed of physical, mental, emotional and spiritual sub-systems.

Given this, a model was then developed to understanding the relationships between the seven main cause and effect variables involved in personal change management behaviour, so that this cause and effect behaviour can be understood. Several well-established Systems Thinking models were also reviewed to illustrate and understand the functioning and mechanism involved in human understanding and personal change management. The VSM and WS model were combined to create a single model to do this. The next chapter reports on the research design in the application of this model as an intervention.

Chapter 4

Research Design

As discussed in Chapter 1, this research is based on Epistemology; the Philosophy of Knowledge, and a non-positivist qualitative methodology was applied to determine how the members of the BA Team understood change and managed it.

Chapter 2 investigated the literature and models relating to change, the human understanding and reaction to change, and finally general and personal change management. Seven key variables relating the human understanding and personal change management behaviour were identified namely; change, anxiety level, resistance level, level of understanding, levels of ability to change, level of effort, and level of success. The Systems Thinking management approach was then identified and selected as a basis for this study.

Following this, the Systems Thinking approach was reviewed in Chapter 3. It was then established that people are integrated systems composed of physical, mental, emotional and spiritual sub-systems. A consolidation of the VSM and WS Model enabled the researcher to develop a single model describing the complexity of an individual within a changing environment.

This chapter will describe how a design for the empirical research was developed and applied to the BA Team.

4.1 Qualitative Research Methodology

There is a wide range of qualitative research methodologies that have been developed over time, some of the most popular being:

- Action Research: aims to contribute to the practical concerns of people in an immediate problematic situation (Rapoport 1970). It is outcome-orientated, focused on the collaborative of the researcher and participants to solve particular problems;
- Case study Research: an empirical inquiry that investigates a contemporary phenomenon within its real-life context (Yin 2003);
- Ethnography: an inductive methodology that seeks to discover constructs and propositions, beginning with empirical observations and resulting in theoretical categories (Struwig & Stead 2001), and;
- Grounded Theory: an inductive, theory development methodology grounded in empirical observations or data (Myers 1997).

From the list of the methodologies above the case study investigates by nature investigates a single case implying a relatively static once-off situation. Ethnography and grounded theory are focused on developing hypotheses built on observation. Action Research specifically "aims to contribute to the practical concerns of people in an immediate problematic situation", and it is focused on collaboration between observer and participants to address a particular problem.

It must be kept in mind that in a situation such as that of the BA team, data cannot be collected as a mechanical activity. This is because the observer is also a social actor, and it is realised from ethnomethodological enquiry and discussion that social encounters are creative constructions of those participating in them (Turner 1988). There are two fundamentally different ways of interacting with people in research (Heron 1981). These are:

1. Interaction based on participants making no direct contribution to the formulation of propositions, where they remain ignorant of the research propositions and do not contribute to the formulation of hypothesis at any time.
2. Co-operative Inquiry, where the researcher and participants contribute directly to developing the hypothesis through their co-operative interaction. This interaction may be strong, where the participant actively contributes to the creative thinking process or *weak*, where the participant is only invited to comment. Only when the participant agrees with the research findings does the participant become a 'co-researcher' in the tradition of 'action research' (Reason & Rowan 1981).

This inquiry is based on the BA Team members being full participants. That is, the researcher sees that the participants should personally benefit from this project as far as possible in terms of improving their personal change management. That means that it should be relevant to them. That means that they should contribute as far as possible. As discussed above this requires that the co-operative inquiry approach be taken. Action Research was therefore the chosen methodology to address the problem of personal change management.

4.2 Action Research

Action research is a flexible process where the solution emerges through cycles of refinements based on observation and reflection of reality. It is a cyclic process of planning, action, observation and reflection:

- Planning includes gaining an understanding of the situation and the relevant variables
- Interventions are then planned and applied
- The effects and outcome are then observed, analysed and reflected on to develop a deeper understanding of the issues, which is then used in the next planning stage to develop the next intervention

The action research cycle can also be regarded as a learning cycle since it has the potential to increase the amount practitioners learn from their experience and application of that learning to carry out change. It gives research a direct and obvious relevance to practice as it is usually participative, which implies a partnership between the researcher and other participants so it is more ethically satisfying. As the dynamics of a social system are often more apparent in times of change, learning and change can enhance each other.

The problem statement suggests that truth and meaning of the changing situation is a complex interaction of physical realities of economics and the mental understanding and behavior of individuals according to their experiences and perceptions of social situations and concerns. As change occurs, experiences and perceptions will be influenced, developing new understanding and new behaviors. This ongoing practical construction of an understanding of truth and meaning ties into the constructionist approach to research. Rather than simply evaluating value judgments or estimating the social impact, this project seeks to develop a framework whereby the research process is part of a valuable learning technique that can be developed by the individual participants. This could then become part of their individual and ongoing research approach in their quest to develop an understanding of truth and meaning in their own individual circumstances. This objective indicates that action research should be the primary methodology applied.

Action research is qualitative and participative. It is applied here as it simultaneously develops an understanding of the social system and determines the best action to increase the understanding of the researcher and the participant stakeholders to bring about positive change.

Three well-established types of Action Research are Action science, Evaluation and Participatory Action Research. These are now discussed in more detail with a view to selecting one for this project.

4.2.1 Action Science

Action Science can be seen as a strategy to cultivate effective ways of directing any type of organisation within a framework of learning. Its main focus is on looking inward at the group or organisation, learning new frameworks, and establishing new ways and routines. It does not focus on the individual's skills or on external environmental changes.

4.2.2 Evaluation

The Evaluation method describes a generic approach of diagnosing or evaluating a process, program, project or a unit (for example, a team or an organisation) in order to bring about change. For example, what are the resources, activities, effects and targets of a specific process, and how do they compare with the ideal.

This generic approach includes any action research method that can be used to create performance indicators to estimate effectiveness of the system, and feedback loops for use to improve the system.

4.2.3 Participatory Action Research (PAR)

Participatory Action Research (PAR) involves a researcher and clients who participate actively throughout the process. This contrasts to the conventional model of pure research where participants are treated as passive subjects. When participants view themselves as clients rather than as subjects they are often more highly motivated to ensure that all of the relevant data is available. The amount of investment that clients are willing to make and the quality of their attention is often higher. Broader participation can lead to stronger consensus for change and sounder models, as participation is more likely to integrate the interests and commitment to continual adjustment and reinvention.

In PAR the focus is on the involvement and participation of all the role-players in the particular research project, where the truth (research) and solutions (action) to concrete problems occur simultaneously. Researchers and participants are therefore equally involved in the process and take equal responsibility for the outcome. PAR is an integrated activity that combines social investigation, educational work and action. The PAR model is also connected to self-reliance, which is a driving force for creative activity that requires an awareness of one's creative assets, confidence in one's ability to solve life's problems, the courage to take on challenging tasks, and the stamina to make

sustained efforts to accomplish them. It requires a major shift in attitudes and behaviours related to power, which enable people to solve their own problems (De Vos *et al* 2003, Wadsworth 1998).

Some of the important characteristics of PAR that have been identified are (De Vos *et al* 2003):

- PAR tries to understand the role of knowledge as an instrument of power and control;
- PAR seeks a more holistic understanding and better ways of achieving change than is possible through traditional research;
- PAR can be considered as an applied research that is directed at practical problem solving;
- The PAR process is based on the principle of self-development;
- A systems approach to PAR is important, where a systems resolution to the problem that emanates from the larger social structure is important;
- The ultimate goal of PAR is to improve self-esteem, self-reliance, and self-determination; and,
- Members must be encouraged to reflect critically on the findings and to make adjustments if necessary. Action can then be based on the endorsed findings of the particular project.

PAR empowers people because they learn how to learn. This enables them to create new possibilities for action, to gain new insights and understanding, and new possibilities that they discover as they develop explanations about their social world. This means that PAR is primarily a learning strategy that empowers participants and produces research in the conventional sense as a by-product.

4.3 Choice of Research Type

In contrast to PAR, Action Science focuses on a group's internal operations. It endeavours to develop learning frameworks that can be applied within an organisation to enhance the organisational operations. It is not focused on the individual level or on the individual's experience of change that is substantially influenced by their external environment, which is the focus of this study. Action Science is therefore not suited to this project.

This research is specifically focused on investigating an individual's experience of change, where there is no specific process, program or project. That is, this study requires a method that explores an individual's current change experience with a view to creating possible solutions that can assist the individuals to improve their personal change management. Therefore, while evaluation is important to assess the current situation

against targets and provide feedback, this investigation requires more than evaluation. Evaluation is therefore not the ideal method for this project.

While PAR as it is discussed above would have been the preferred research option, the participant's time and work constraints, as well as the sensitivity of the situation prevented these individuals from giving the necessary commitment to their full participation. PAR could therefore not be applied in its pure form on this project. However, no research is ever pure. Research is the "art of the possible" (Buchanan *et al* 1988:55). This follows the tradition that "*there are many researchers, especially in the management field who adopt for a pragmatic view by deliberately combining methods*" (Easterby-Smith *et al* 1991:22).

The type of research applied is therefore a hybrid of PAR; a combination of participant observation and interviews. Collaboration was limited to interactive and co-operative discussion during the interviews. The interventions were in the form of discussions about the models to clarify the change management concepts and how exposure to these concepts affected the personal change management of the participants.

4.3.1 Participant Observation

Observation is the process of gathering information of behaviour, either in experimental or natural situations (Bergh & Theron 2001). Participant observation is an active enquiry and data collection method where an intimate working relationship with the research subjects facilitates the unobtrusive collection of data from "real" situations and behaviour, rather than by simulation. Participant observation is a qualitative research procedure that studies the natural and everyday set-up in a particular community or situation. It is the typical qualitative approach to data, which implies that data cannot really be reduced to figures (De Vos *et al* 2003, Struwig & Stead 2001).

The disadvantages of participant observation are (De Vos *et al* 2003):

- Data gathered can seldom be quantified because of the small numbers of participants normally used in studies of this nature
- There may be too little control over extraneous variables and thus the notion that this procedure is of lower scientific value if it compared to a scientific experiment
- Participants may not act naturally in the presence of the observer
- Validity is a problem as observers are forced to rely mainly on their own perceptions and are therefore more susceptible to subjective prejudices and selective perceptions
- Reliability is problematic as it is difficult to ensure that findings are valid and not merely the effects of change, that is, generalisation of findings can be an obstacle

This inquiry concerns a very small number of participants so the data will not be quantifiable. The relative trends over time will be monitored and agreed with the participants to overcome this.

The variables being investigated, as identified in Chapter 2, are mostly localised in terms of the human "systems" concerned. The only extraneous variable, being change itself, has been specifically noted as such and it is considered as a given 'input' in this case.

A major challenge faced by the researcher was that the natural situation of the research participants should not be disturbed or changed. As their team-leader in the work context, the researcher had the responsibility of motivating the participants. The adoption of PAR also meant that there is action by both the researcher and the participants to improve a situation. However, the researcher had to continually consider his actions to prevent distorting the actual situation, and the participant's perceptions and behaviour in terms of the "reality" of their situation. For example, simply by receiving a request for an interview participants may experience an increase in anxiety. This could be the result of questioning the real motive behind the request for information, or because of their time constraints and current workloads, or because they fear possible consequences for their openness.

The other disadvantages noted relate to subjectivity, objectivity, validity and reliability.

Subjectivity is the consciousness, or thinking, or perceiving a subject or ego as opposite to reality due to one's own feelings or capacities, rather than being actually existent; imaginary (Sykes 1980). In contrast, objectivity is not belonging to the consciousness, or perception, or thinking, but what is presented to this, external to the mind, real, dealing with outward things, exhibiting actual facts uncoloured by exhibitor's feelings or opinions (Sykes 1980).

Validity is the psychometric requirement for a measurement technique to measure what it is designed to measure (Bergh & Theron 2001). It is the degree by which we can rely on the concepts, methods, and inferences, or tradition of inquiry, as the basis of our own theorising and empirical study (Stuwig & Stead 2001). This project was particularly focused on the validity concepts (Trochim 2000), which are:

- Conclusion validity to determine whether the variables identified are related;
- Internal validity to determine whether there is a causal relationship between the variables;
- Construct validity to determine whether the objective of this research was reached and according to the intended process; and,

- External validity to ascertain if the findings can be generalised to other similar external situations.

Reliability concerns the consistency of measurements (Bergh & Theron 2001). Reliability in qualitative research is synonymous with consistency (Struwig & Stead 2001).

Reliability and validity are serious threats to the researcher applying participant observation, as it is impossible to arrange for exactly the same situation in order to reach the same results. This is influenced by random error produced by random factors, such as participant's emotional state at the time of the interview, as well as systematic error or bias, such as shared interests or concerns (De Vos *et al* 2003).

The researcher was the team leader of the team in focus. The advantage of this participant observation was that the researcher was in a position to acutely witness and observe the impact of information flows, miscommunication, uncertainty, and all the other effects of change. However, the subjectivity, or subjective prejudices and selective perceptions of the researcher were a threat to the validity and reliability of this research. Therefore to ensure objectivity, the researcher's understanding of observed behaviour was guided by the broadest possible basis of experience, which in this case is the literature discussed in Chapter 2, and also by interviews, as discussed below.

4.3.2 Interviews

Interviewing is the predominant mode of data or information collection in qualitative research and they are used to validate observations, to understand the world from the participant's point of view, and to unfold the meaning of people's experiences (De Vos *et al* 2003). An interview is a technique for discourse or interaction between two or more people, where verbal and non-verbal communication is used to gather information, give information, or influence behaviour (Bergh & Theron 2001). They would therefore also reduce the effects of subjectivity, and so increase the confidence level of the research validity and reliability.

Standardised interviews are planned in detail beforehand, comprising a set of formally structured questions. In unstandardised interviews, the researcher facilitates communication, observes behaviour and does not ask too many leading questions. A semi-standardised interview is a combination of the two, where predetermined questions are posed in a systematic way but participants are given the opportunity to discuss issues beyond the questions confines (Struwig & Stead 2001). Qualitative studies typically apply unstructured or semi-structured interviews (De Vos *et al* 2003).

Unstructured, or in-depth, interviews are conducted without utilising any of the researcher's prior information, experience or opinions. The objective of the unstructured interview is to gain an understanding of the experience of participants and the meaning they make of the experience. It is to enable the researcher and participant to explore the issue, to determine the related perceptions, opinions, facts, forecasts, and their reactions to the initial findings and potential solutions.

Semi-structured interviews focus on a particular interest, but allow considerable flexibility and scope. They are used to gain a detail picture of the participant's belief about, or perceptions or accounts of, a particular topic. A set of predetermined questions is compiled, but only as a guide and not to be strictly adhered to.

Interviews are useful to get large amounts of data quickly. However, they require participant willingness, involvement and cooperation (De Vos *et al* 2003).

Informal observational unstructured interviews were followed as a working method. They were conducted to facilitate the explanation and testing of different perspectives of the observed reaction to change, and to human behaviour and interaction under these conditions. The interviews focused on current feelings and thoughts to test the validity of the researcher's observations.

The participants of this research, discussed below, were totally involved in the problem situation. They were therefore particularly interested, willing and co-operative in their participation to improve their personal predicaments.

4.3.2.1 Participants

Due to frequent and radical change occurring over relatively short time periods, and workloads and responsibilities increasing, the time pressures were real and an extremely sensitive situation arose within the team in focus. An equally sensitive approach was therefore required to effectively observe the subtle behaviour adjustments that are made by the individuals in the team through the change process. This situation therefore limited this study to a single team, acknowledging that certain biases may be present that might limit the generalisation of any subsequent findings. This was the BA team, positioned within a larger Support Services Team of an organisation. The participants were chosen on the grounds that they constituted the entire team in focus, which was of direct concern to the researcher.

The research focused on these participants in the context of their business roles, because this is where they indicated their biggest problems with change were experienced. They

were happy to participate in the research within their time and personal sensitivity constraints as it presented them with opportunities to express their feelings about and experiences of change, which is a subject they continually encountered and wrestled with. They were also verbally assured of confidentiality through anonymity by the researcher, who was the only person who would manage research data relating to their identities. Their confidence in this assurance was based on a long-standing relationship of mutual trust between the researcher and the participants.

The management who were responsible for driving change in the organisation were not included as participants of this study. The reason is that they are seen as part of the “reality of change” variable, which is outside the manageability scope of the participants. This study focuses on the participants and the environment that they experience, where they are simply expected to comply without any detailed decision-maker data being available to them.

The profile of the participants were:

- Three Business Analysts;
 - One woman and two men between the ages of 27 to 45 years.
 - One held a matric exemption, one various business diplomas, and one a BCom degree.
 - All three were studying part-time at a university.
- Two Senior Administrators; and,
 - Two women between the ages of 42 and 52 years.
 - Both held matric exemptions and business school certificates.
 - Both were studying part-time at a university.
- One Systems Administrator.
 - One man aged 25 years.
 - He held a matric exemption.
 - He was currently studying towards a BCom degree.

4.4 Data

Data is a collection of raw facts. These isolated facts convey meaning, but generally are not useful by themselves (Whitten *et al* 1994). Information is data that has been manipulated. Data is information, such as pictures, words, and numbers, which is gathered according to scientifically accepted procedures (Struwig & Stead 2001).

The researcher views data as behavioural measurements or raw facts related to a specific context. Isolated from the context, the raw facts have very little, if any, value. Therefore data that is analysed and structured according to the correct context becomes valuable information.

The data in this project was collected, structured and analysed in three cycles within the context of the change events described in Table 4.1 below.

Period of Focus	Cycle	Change Event
1998 to 2000 (2 Years)	Cycle 1	The establishment of a new BA Team and the beginning of an increasing rate of change of the team structure, work pressure, uncertainty through to the first round of retrenchments in the broader Support Team.
2000 to 2001 (6 months)	Cycle 2	Another round of BA Team restructuring and broader Support Team retrenchments to achieve cost reductions in an uncertain business environment.
2001 To 2002 (6 months)	Cycle 3	New developments pointing to further restructuring, retrenchment and forced location changes.

4.4.1 Sampling

Sampling is the selection of information-rich participants who manifest certain characteristics that the researcher is interested in (Struwig & Stead 2001). Sampling in qualitative research is less structured, less "quantitative" and less strictly applied than in quantitative research due to the method of qualitative data collection (Sarantakos 1998). That is, for instance, while applying observation, field researchers attempt to observe everything within their field of study; thus in a sense they do not sample at all (Babbie 1992).

Purposive sampling is when a particular case is chosen because it illustrates some feature of process that is of interest for a particular study (De Vos *et al* 2003).

The six participants described in section 4.3.2.1 are central to the issue studied. They each contributed by bringing their own perspective to the subject of personal change management. These contributions were based on their different backgrounds, personal responsibilities outside the workplace, level of education, etc.

With the research design having considered the methodology, research type, the participants and the context of the data, the research framework can be established.

4.5 Research Framework

The function of a research framework is to define and direct the structured enquiry, analysis, evaluation, and learning necessary to understand and effectively solve the problem. As discussed above, this research framework is based on action research methodology and primarily applies participant observation and interviews to identify the main behavioural responses to change and management activities during data collection activities.

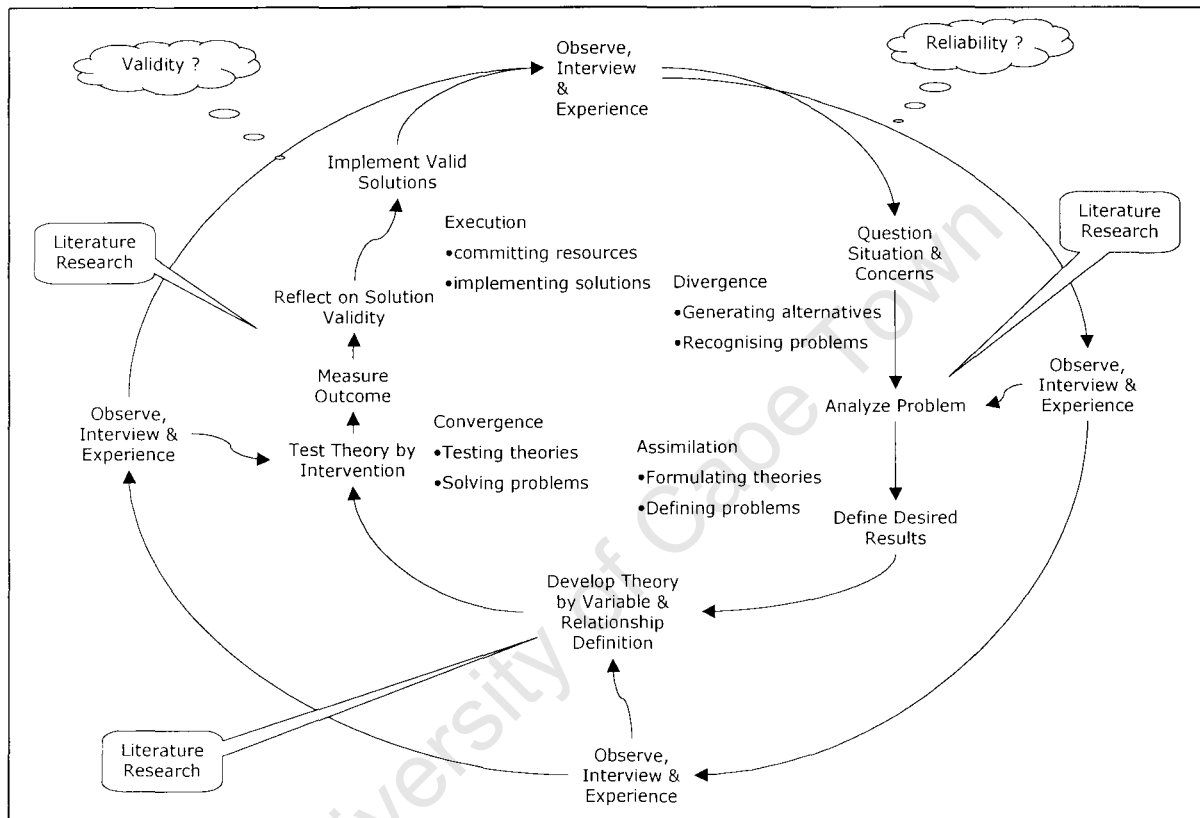


Figure 4.1: Research "Learning Cycle" Framework applied

Figure 4.1 above illustrates the cyclic enquiry process that was applied, building on qualitative methodology, participant observation research and Kolb's learning process (Kolb *et al* 1995). That is, to determine the objective reality of the problem statement by confirming the key aspects of the problem exposed by the literature reviewed through the:

- Collection of data from the participant observation and interviews;
- Analysis of the data by focusing on the relevant variables and defining or refining the results in the appropriate systemic context;
- Further development of understanding of the problem, based on the analysis of the variable behaviour relationships; and,
- Testing the new understanding by further observation and interviews.

Participant observation and interviews were conducted over three cycles (see Table 4.1 above) of change to identify and confirm the continued relationships between the relevant variables, to monitor and receive feedback, to gain fresh insights into the people's behaviour according to the identified variables' relationships, and to confirm or reconstruct perspectives according to the observed phenomena.

The concerns of subjectivity, validity and reliability were carefully considered against the literature researched in the analysis and conclusions drawn, as the environment is one where frequent changes appear to cause people's emotions, including the researcher's, to oscillate radically. Also, to reduce the effects of random error each specific interview cycle was conducted over as short a period of time as possible to isolate the effect of the discussion to a specific time and situation.

4.5.1 Data Gathering Methods

As described in 4.3 above, participant observation and informal observational unstructured interviews were the two data gathering methods utilised on this project. The practicalities and protocols surrounding the collection of data are described below.

4.5.1.1 Participant Observation

The participants were observed during their day-to-day activities within their work environment. The data collected includes behaviour observed as well as comments made in the normal work situation, when a new change was announced or during general discussion amongst the team members. These comments were perceived to reflect the real understanding and response to the situation.

The news of change was usually communicated via e-mail, verbally through management "road-shows" or through the structured management channels.

The results of these observations were grouped into seven categories according to the personal change management variables identified. These results are recorded in Appendix A.

4.5.1.2 Interviews

Three cycles of interactive unstructured interviews were conducted in this study:

1. 3rd Week in January 2001 - The first round of interviews was carried out at the end of the first cycle to establish a basis to compare to the personal change management behaviour of the following cycles.
2. 2nd Week in June 2001 - The second round of interviews took place during the early stages of the second cycle of change. That is, as the realities of the impact of the changes were becoming apparent.
3. 3rd Week in December 2001 - The third round of interviews took place just as the second round of changes were reaching completion and the next cycle of change was being announced.

All these interviews were held with each participant individually, in an office to ensure confidentiality. The office was in the environment so as not to dilute the relevant atmosphere of the problem environment with other external factors.

The participants answered the same six questions in each interview in each cycle. These questions were based on the six personal change management variables, and were repeated to determine the relative changes in the participant's approach to personal change management. These questions were:

Question 1: Discuss your "level of anxiety". What are the negative and positive aspects of anxiety, has it improved and why?

Question 2: Discuss your "level of resistance". What are the negative and positive aspects of resistance, has it improved and why?

Question 3: Discuss your "level of effort to manage change". What are the negative and positive aspects of the effort to manage change, has it improved and why?

Question 4: Discuss your "level of understanding". What are the negative and positive aspects of understanding, has it improved and why?

Question 5: Discuss your "level of ability to change". What are the negative and positive aspects of the ability to change, has it improved and why?

Question 6: Discuss your "level of success in the changed environment". What are the negative and positive aspects of success in the changed environment, has it improved and why?

These interviews were also used to discuss the concepts; including the literature, variables and models reviewed, selected and developed in Chapters 2 and 3, with each of the participants individually. The value of such awareness to these concepts was also

discussed. These discussions acted as the feedback mechanism to assess the impact of the awareness of the concepts on the actual behaviour of the participants. This research framework was also explained to each participant so that they were aware of the process and purpose of this study. The content of these discussions were:

- **Cycle 1:** Basic concepts of change in general and related human behaviour were discussed, based on the literature reviewed in Chapter 2 and in the context of the participants' change experiences. This established the participant's own perceived level of understanding and change management.
- **Cycle 2:** Systems Thinking concepts and models, as developed and presented in Chapter 3, were discussed with the participants and examples applied to their specific situations. This demonstrated the ability of these concepts and models to define change aspects and related behaviour in their environment.
- **Cycle 3:** Further explanation, discussion and application of the Systems Thinking concepts and models presented and developed in Chapter 3. The Work Systems questionnaire was also completed to simultaneously assess the planning focus of the participants, to demonstrate its function as part of the personal change management model developed in Chapter 3, and as a tool that they could use in future. This assessed the effects of the previous discussions and any developments in the participant's personal change management approach.

The participants were encouraged to apply the concepts discussed between the interviews to develop their understanding of their situation and behaviour related to the changes they were experiencing and managing. This was done by facilitating the participants to view their situations more objectively using a systemic approach to analyse every perspective and understand every opportunity and threat to their personal well-being. Thus a conscious effort to understand and manage the relationships between their behavioural variables was encouraged.

4.5.2 Data Analysis

The data analysis was done immediately after each cycle's interviews were all completed, before the effects of any new changes are experienced.

Data from the participant observation (Appendix A) was compared with the answers to the six questions (Appendix B) to confirm or correct the perceptions of the researcher. This included the positive and negative aspects observed and compared to the actual situation as presented by the participants. Based on the literature reviewed and the models developed, the researcher considered the negative aspects of a change to be any aspect of that change that reduces a participant's effective personal change management

behaviour in any way. For example, any anxiety caused by change that reduces rational thinking, which leads to a worsening of change management. Anything that improves a participant's effective personal change management is considered to be positive. For example, a new responsibility that promotes a sense of success and self-confidence, leading to more effective change management activities.

The data from cycles 2 and 3 were also compared to the previous cycles to determine relative changes in each participant's perceived levels of understanding and application of personal change management. This was carried out to confirm the reality of the change management variables and their interrelationship as the participants experienced change.

Problems or opportunities exposed by these comparisons were then used to adjust the interviews discussion focus for the next cycle. Applying the previous and current cycle's data to identify relevant, useful and valuable learning that could positively influence the participant's personal change management.

This data analysis is therefore in accordance with the objectives set in Chapter 1, which were:

1. The reality and impact of change on the participants, including the positive and negative aspects.
2. The reality of the change management variables and their expected interrelationships, and the personal change management experience of the participants.
3. To identify relevant, useful and valuable personal change management lessons where possible.

4.6 Summary

This chapter has established the research design. The approach is based on epistemology, according to an explanatory applied, qualitative and non-positivist research approach.

The methodology applied is participant observation and interviews, and the research framework is a cyclic enquiry process of; data gathering through observation and unstructured interviews, data analysis and understanding, and appropriate adjustment of the intervening interviews. This was repeated three times to confirm, reconstruct or refine the observer's perspectives and understanding of the problem statement, and identify and adopt all relevant, useful and valuable learning opportunities.

The next chapter presents the findings and analysis of the data collected.

Chapter 5

Findings of the Study

The previous chapters have identified the field of study and the problem statement. The related literature reviewed has established the dynamics of change management and the related human understanding and behaviour. Systems thinking concepts were then applied to facilitate a greater understanding of the variables of the problem statement. A qualitative research framework was then designed and applied to suit this study.

This chapter discusses the analysis and findings of the data collected according to the research design established in Chapter 4. That is, as three significant change events unfolded they were observed, discussed, recorded and analysed as cycles of the research framework.

The data that was recorded was analysed to achieve the aim and objectives of Chapter 1.

5.1 Findings

"A finding is a conclusion reached by judicial or other inquiry" Sykes (1986:364). The findings of this research inquiry, according to the aims of this project, are discussed below.

The data collected in this research is recorded in Appendices A through C. The results of each cycle are illustrated in Appendix B to give a visual perspective of the relative differences indicated by the participants as they experienced these changes.

The findings are presented according to the analysis discussed in Chapter 4 and the objectives listed in Chapter 1.

5.1.1 Cycle 1 - Interviews in 3rd Week in January 2001

Cycle 1 covered the period of radical change during the establishment of the BA Team, through the first restructure in 1998. It also reviewed the past changes experienced by the individuals of the Support Services Team, to establish a basis of understanding of the real situation both for the researcher and the participants. The researcher focused the discussion on the concepts of change in general, and specifically how it affected each participant in their work environment, in terms of the change variables identified in

Chapter 2. These discussions were aimed at establishing the participant's own perceived level of understanding and change management.

The participants agreed that their experiences of the personal change management variables identified by the literature reviewed in Chapter 2 were real and meaningful to them. They therefore had no problems relating to and answering the six questions that were developed in Chapter 4.

The positive aspects of the participant change experience and the variables involved in Cycle 1 were:

- Anxiety and resistance levels were low relative to the participant's effort to change, their understanding of change, their ability to change and their levels of success. They projected confidence in their personal abilities. They believed that they were better able to manage their changing situations than the rest of Support Services Team and that they had a higher success rate due to a better understanding of change.

The BOT developed in Chapter 3 indicated that anxiety and resistance levels are relatively low if the levels of understanding, effort to change, ability to change and successes achieved are relatively high. This is the case in terms of the positive aspect of Cycle 1 above.

The negative aspects of the participant change experience and the variables involved in Cycle 1 were:

- Participants indicated that they had a narrow focus on physical and mental issues such as the environment and management, yet they sidestepped real emotional issues. However, this is viewed as a negative for the individual because, according to the Systems Thinking concepts and models presented and developed in Chapters 2 and 3, all elements of any system, including these human "systems", need to be addressed for balance and effective performance. Unbalanced individuals are therefore unlikely to manage change effectively.
- Resistance appeared to be more internal and personal rather than a verbal or physical action at an individual and team level. This suggests that the individual "system" is not conversing with the environment, which is not conducive to effective "system" performance, according to the Systems Thinking literature reviewed.
- Indications were that individuals adopted a passive acceptance of the changes and resigned themselves to the notion that there was nothing that they could do to prevent the changes. This is reflected in the fact that resistance levels were mostly lower than the levels of anxiety. While it is positive that resistance is low, it is negative in terms of passive submission.

The literature reviewed suggested that the negative aspects noted above should negatively affect personal change management. However, the positive aspect above seems to have disproved this in terms of the expected interrelationships and behaviour illustrated by the CLD in Chapter 3. An explanation could be that; it is true that there is a destructive imbalance in the system, but that the effects of this expected imbalance has not yet worked its way through the entire system. It could also be that; the relative proximity and impact of the changes experienced were minimal, in terms of being a threat to these individuals. As the threat was perceived to be irrelevant, the emotional element would not be significantly active and therefore have no significant effect on the "system". For example, this argument is valid if the individuals believe they are indispensable to the organisation, and therefore their future job security is guaranteed irrespective of any foreseeable change.

Relevant, useful and valuable learnings from Cycle 1, as discussed above, were;

- The seven personal change management variables identified in Chapter 2 were real and meaningful to the participants.
- The interrelationships between the variables, as illustrated in the BOT and CLD in Chapter 3, held true within the specific situational context of this study, where their effort to change, their understanding and ability, and their levels of success reduced the participants' anxiety and resistance levels.
- The data indicated an imbalance in the personal change management approach. That is, emotional, resistance and submissive issues were not openly and actively managed. The Systems Thinking theory implies that this cannot sustain effective system performance and should therefore be addressed.
- The internal validity of the variable interrelationships proposed is in question as the positive and negative aspects identified in the data contradict each other in terms of expected Systems Thinking behaviour. This may be due to the imbalance noted in the previous point. However, this validity will need to be closely examined in the following cycles, to verify whether or not the possible explanations for the unexpected behaviour are true.

Given the above, and accepting the possible reasons for point 4 above, the data is consistent with the literature reviewed. This indicated that the data, and findings of Cycle 1 were valid and reliable.

As the system imbalances highlighted above was the main concern from Cycle 1, it was a specific focus of Cycle 2.

5.1.2 Cycle 2 - Interviews in 2nd Week in June 2001

Cycle 2 covered the post-retrenchment phase through the second restructure and other changes during the years 2000 and 2001. It reviewed the current change experiences of the individuals in the Support Services Team, as well as discussing the aspects of change management at the participant's individual level. This was to continue the development of understanding of the real situation for both the researcher and the participants that had started in Cycle 1.

The researcher focused the discussions on Systems Thinking concepts and models as discussed and developed in Chapter 3. These were related to the participants' own situations in terms of the variables highlighted in Chapter 2. Specific attention was paid to the system imbalance issues highlighted in Cycle 1. This was to test the internal validity of the personal change management variable interrelationships that were proposed in Chapter 3, according to Systems Thinking characteristics. The researcher presented these concepts, models, variables and examples of their application to the participants, who were then encouraged to apply them in a similar but personal manner to further develop their understanding of their situation and behaviour related to the changes they were experiencing and managing. In other words, to apply a systemic and objective approach to their situations and to analyse every perspective and understand every opportunity and threat to their personal well-being, and so consciously make an effort to understand and manage the relationships between their behavioural variables.

The positive aspects of the participant change experience and the variables involved in Cycle 2 were:

- The participants believed that their level of understanding increased and their resistance decreased. The reasons given for this were that experience of the specific type of change was developing, and an increasing knowledge of fellow team member behaviour facilitated better support through change.
- The participants believed that their ability to change had increased, due to their experience of change and the environment and technical abilities learned.

Both these positive aspects were according to the interrelationships indicated by the BOT and CLD in Chapter 3, thus supporting their internal validity. There was also an indication that an awareness of the behavioural variables and the application of Systems Thinking tools are believed to be a real practical benefit.

The participants felt that these positive aspects were not applicable to the rest of the Support Services Team, who faced situations not previously experienced, and who did not understand them because they did not have the benefits of discussing the implications of the changes facing them.

The negative aspects of the participant change experience and the variables involved in Cycle 2 were:

- The participant's indicated that their anxiety levels rose. They suggested that these levels would have been higher if they were more directly affected and lower if they had clarity in their roles, their future, goals, and relevant learning.
- The rest of the Support Services Team's ability to change was perceived to drop due to the new situations that the changes presented.
- The participants continued to focus on physical and mental activity only. This indicated a dependency on experience, technical learning and similar environment and type of change. The fact that the ability of change goes beyond such issues only surfaced after specific questioning to raise awareness of the emotional and personal issues involved.
- A strong focus on efforts to manage operational issues by the participants, but very little indication of effort was presented in terms of managing personal change aspects, despite specific questions in that regard.
- The number of successes achieved dropped, according to the participants, even though the levels of effort, understanding and ability to change were increasing. However, each of the individuals achieved their individual organisational tasks and goals according to their individual performance management reports. The reason presented for this was that personal goals and self-fulfilment were not sufficiently achieved. That supports the argument that effort, understanding and ability are focused on physical and mental ability rather than including personal self-actualisation.

In this cycle anxiety had risen and successes dropped, but not because of direct change implication, according to the first "negative" point of this cycle. This increase in anxiety and drop in successes, according to the participants, was despite an increase in their levels of effort, understanding and ability to change, and a decrease in their resistance level. This, in a similar way to the behaviour in Cycle 1, contradicted the expected behaviour according to the BOT and CLD in Chapter 3.

In this cycle the participants noted, in the first negative point, that their anxiety would have been lower if they had "clarity in their roles, their future, goals, and relevant learning". But, the last negative point indicates that each of them had "achieved their individual organisational tasks and goals according to their individual performance management reports". So their perceived lack of clarity did not manifest itself in operational performance deficiencies. However, the participants had continued to ignore the emotional aspects of change, and their own personal change management. This is therefore a strong Systems Thinking argument that the participants had nurtured the

systems imbalance exposed in Cycle 1, which had now filtered through the system as a deficiency and manifest itself in their anxiety, and a drop in their personal management success. In accordance to the BOT and CLD of Chapter 3, their poor efforts to change their emotional position towards the changes would lead to a poor understanding and ability to make emotional adjustments, leading to the drop in success in this area. The combined drop in understanding and success will lead to an increase in anxiety. An increase in anxiety will lead to an increase in resistance, which has not yet happened in this cycle simply due to the time lag. This effect should therefore be expected in the next cycle.

The above argument would therefore verify the participant behaviour in this cycle and also verify that the previous cycle's apparent contradiction was due to time lag, and the concern noted was valid. On this basis, the internal validity of the BOT and CLD is supported in Cycles 1 and 2. This argument also raises the level of the importance of time within personal change management behaviour.

The relevant, useful and valuable learnings that emerged from Cycle 2 were:

- The data indicated that the participant's change resistance levels reduced as their understanding and experience of change increased. The data also indicated that their ability to change increased by experiencing change and their efforts to learn about their environment.
- An increase in anxiety levels was attributed to greater change impacts, and also to a lack of understanding of the latest changes, however, the arguments according to the literature and data strongly suggest that the anxiety actually arose because of the participant's lack of effort to address their emotional change management.
- The cycle's data also indicated an imbalance in the personal change management approach. That is, emotional, resistance and submissive issues were again not openly and actively managed. Participants also indicated that they experienced a decrease in the number of personal successes despite achieving all their work related targets. These two deficiencies confirmed the importance of this cycle's focus on discussing a balanced approach, as implied by Systems Thinking.
- A critical element of personal change management is time.

Based on the above, the findings of Cycle 2 are consistent with the literature reviewed. The interrelationships between anxiety, resistance, understanding, effort, ability and success are according to the literature reviewed, thus confirming the data and findings of Cycle 2 to be valid and reliable.

The system imbalances highlighted in Cycle 1, and confirmed in Cycle 2, continued to be the major concern going into Cycle 3.

5.1.3 Cycle 3 - Interviews in 3rd Week in December 2001

Cycle 3 covered the situation developing as new pressures arose and radical changes become imminent during the latter part of the year 2001 and through 2002. It was a review of the Support Services Team individual's approach to pending change, as well as investigating further development in the participants' approach to managing change at their individual level. Again, this was to build on the understanding of the real situation both for the researcher and the participants that began in Cycle 1 and was continued in Cycle 2.

The researcher continued the discussions with the participants on the concepts, literature and models discussed and developed in Chapters 2 and 3, as they related to the participants' individual situations. The system imbalance issues highlighted in Cycle 1 and confirmed in Cycle 2 was raised again, and the importance of balance was emphasised. This was done to confirm that the internal validity of the personal change management variable interrelationships held true according to the BOT and CLD proposed in Chapter 3, according to Systems Thinking characteristics.

Again, all these concepts, models, variables and examples of their application were presented to the participants, who were again encouraged to actively apply them in a similar but personal manner. This was to continually develop their ability to apply a systemic and objective approach to understand their situation and behaviour related to the changes they experienced and had to manage. The Work Systems questionnaire (Appendix C) was also completed to assess the personal management planning focus of the participants, and to provide and demonstrate another tool that they could use.

The positive aspects of the participant change experience and the variables involved in Cycle 3 were:

- The personal effort to manage change held a fairly consistent level, while the perceived effort of others dropped. The reasons given for this lack of movement in effort was that although the growing experience of change reduced the effort required to manage known change issues, the unknown factors introduced by change pushed the levels of effort back to their previous levels.
- The participants, who had been exposed to the discussions, rapidly recovered composure through application of the "learned" and applied reasoning and returned to a level of positive behaviour, while the others generally continued in their past behaviour of disillusionment and despair.

These positive aspects were an indication that the prior interventions were helping the participants to understanding and improve their personal change management. They were beginning to relate to personal change management in terms of interrelated variables that they could manage. For example, the participants talked about the level of effort to manage change as it relates to the unknown factors of change. The participants were also able to manifest positive change management behaviour within shorter time frames, such as a mature and composed response to and assessment of the realities of change. This "improved" behaviour was reflected in the literature reviewed in Chapter 2.

The negative aspects of the participant change experience and the variables involved in Cycle 3 were:

- Reality of the impact of change generated dramatic reactions, as emotions came to the fore. The participants only comprehended the extent and level of the impact of the changes when the detail was made explicit and they came face to face with the direct affect on their individual situations. It shocked them. Anxiety levels soared and resistance increased. They neglected their tasks in favour of drawing together in huddles of discussion and mutual support.
- Levels of anxiety did drop when the changes did not seem to directly affect particular participants, but anxiety has tended to increase through the cycles. The reasons given for this are that the progressive changes have consistently brought the direct impact of the changes closer to the participants. They are thus increasingly being faced with uncertainty and an unknown environment.
- Participants indicated that change represented a risk because of the unknown factors involved, which presented probable situations of lack of control. When a benefit was perceived in taking a risk, the participants were more positive towards it, otherwise the changes were treated as threats and resistance increased. That position was maintained until the change was presented in such a way that its viability and benefit became believable. This included the perceived match to cultural expectations and other personal priorities.
- The level of understanding of the reasons for the changes and what should be done did not increase as much as anxiety and resistance. Individuals became engrossed in fervent activity and questioning between themselves to try to clarify the situation in terms of the future. There were efforts to manage the changes, but this was being done in a state of confusion, uncertainty and haste, with no real medium to long-term planning. There were many requests for more information, time to plan, and time to wait for opportunities to become clearer.
- The previously claimed ability to change by participants appeared to significantly decrease, manifest by sudden irrational activities and lack of confidence attacks that appeared to spring from emotions bordering on despair, hopelessness and resignation to fate. The number of successes achieved through change cycle three

was very low, where participants were unsure about their decisions, their futures and their actions to follow. Many resigned themselves to the fact that their futures in the organisation are out of their hands and they adopted a wait and see stance.

- The data indicated that the participant's positive responses to change during the first two cycles were nullified by this third cycle of change.
- The Work System Model data, Appendix C, indicated that the participants did not plan for their future sufficiently to deal with change, thereby allowing time and events to control their destinies. The survey also indicated that the limited planning and information that was applied focused on personal issues such as retirement and not balanced with a career focus, that is, the expectations of people's personal futures are not clearly grounded in a plan and managed to achieve them.

The responses described in the negative aspects above were all according to the BOT and CLD described in Chapter 3. When change was faced, anxiety and resistance levels increased. The levels of constructive effort to change dropped, leading to a drop in the levels of understanding and ability to change, finally leading to a drop in the success achieved. At face value the negative aspects raised by this cycle may be disappointing in terms of an action research result that has a clear solution to a problem. However, this cycle supports the BOT and CLD proposal of behavioural interrelationships between each of the variables identified in Chapter 2. It is therefore argued that these models are valid.

Relevant, useful and valuable learning that emerged from Cycle 3 were:

- While obvious, the important fact is that the effects of change on behaviour did not go away, however, the radical behaviour such as outbursts was dampened and change management behaviour is improved over a shorter period.
- The data indicated that the participants had to consistently apply the same levels of effort to achieve the same levels of success. The effort could not be reduced by experience due to the nature of change, which implies that new and different factors are always being introduced.
- While the effort of managing change could not be reduced, experience and understanding did have the benefit of improving change management behaviour. That is, change was perceived and managed with increasing levels of positive maturity. Even when anxiety and resistance levels soared, they were reduced faster than before, while the levels of the other variables were increased.
- This cycle's data also indicated an imbalance in the personal change management approach. That is, emotional, resistance and submissive issues were again not openly and actively managed. Participants generally continued to ignore these aspects. However, where they believed they could do nothing about certain changes, and resigned themselves to the outcome, their efforts, learning and

consequent understanding, and success rate reduced, while their anxiety and resistance soared.

Given the above, the findings of Cycle 3 are consistent with the literature reviewed. The interrelationships between anxiety, resistance, understanding, effort, ability and success are according to the literature reviewed and the BOT and CLD models that were developed from the literature reviewed, thus also confirming the data and findings of Cycle 3 to be valid and reliable.

The system imbalances from a lack of engagement of the emotional elements in Cycle 1 and confirmed in Cycle 2 continued to be indicated as a problem area in Cycle 3.

5.1.4 Consolidating the Findings of the Three Cycles

The first objective of this study was to verify the researcher's perceptions about the reality and impact of the change affecting these individuals by exposing the negative and positive aspects of the specific change environment as described by the BA Team members.

The positive aspects of the participant change experience and the variables involved in this research were:

- Although everyone shared similar personal circumstances, they had all expected changes, and they had been equally encouraged to prepare for it at the physical and mental levels, the BA Team appeared to accept the impending changes as a reality and prepared for it on more personal levels. This was the aim encouraged by the discussions and models exploring the complexity and dynamics of personal change management.
- The participants benefited from the interviews as the variables indicated more favourable levels than for the rest of the Support Services Team.
- As the understanding of change increased through discussion, the other variables reflected more positive levels than those of the rest of the Support Services. Observation indicated that those with more insight to change experienced lower rates of anxiety and resistance increases, and higher rates of effort to understand change, perceived understanding of change, ability to change, and success achieved. They became more aware of their own behaviour, that it was not abnormal, and that they had full responsibility for their own futures. At each cycle of interviews, as information and effort to address change was applied, the participant's abilities to manage their own personal change situation improved, indicated by the reduction of the rate of negative responses, illustrated in their approach to change, and their increasing confidence and achievements in their changing environment.

- When new and unexpected change loomed, the old responses were again apparent, but not to the same extent, indicating that a learned response started taking root. That is, by making an effort to understand change, and accepting personal responsibility to change, individuals were able to moderate any negative reaction to improve their situation.
- At the time of the first interviews most of the variables moved favourably, even those of the non-participates. Thereafter the non-participants change management behaviour deteriorated consistently as change affected their situation, while the participant's remained relatively favourable. On reflection, the reasons for this could be that the Support Services Team had a strong position for a number of years and the individuals had not been dramatically affected by excessive ongoing changes. When the first sign of change was noted the workshops that were conducted by management might have been understood at a superficial level only. However, the reality of dramatic change and its impact became real around the time of the second cycle. Thereafter change became something to be disliked and avoided by the weary non-participants. The participants, who were also being worn down by the incessant changes, were able to discuss change management and demonstrated more ability to counter their natural negative responses by learned change management reasoning and techniques.

The major positive aspects of the study and the interventions are that the participants claimed to be more enabled to manage personal change management. Improved personal change management variable levels, and mature behaviour that is contrary the poor responses towards previous changes demonstrate this.

The negative aspects of the participant change experience and the variables identified in this research were:

- The results of the interviews were not consistent due to the various factors impacting on individuals.
- Participants understood the changes and the effects from different mental models. For example, one participant believed that their personal studies played a key role in change management, another believed that team orientated workshops are the answer, others focused on communication and information as being the key to improve one's individual situation. The negative aspect is, as the literature explains, that the root causes are not being addressed, such as deeply rooted personal behaviour that needs to be understood and actively managed.
- The change success levels of those who were not exposed to the discussions appeared to be the lowest. Their change management variables traced the exact negative behaviour suggested in section 3.3. These individuals have been at the

forefront of the most dramatic and disruptive change, but they have also displayed the lowest inclination and effort to study and develop their abilities beyond their current job descriptions. They simply continued their normal experiences of anxiety and resistance, battling with their effort to understand change and allow others to manage their futures around them.

- The participants did not plan for their future sufficiently to deal with change, thereby allowing time and events to control their destinies.
- Although participants may be confident that things will "turn out right", this is clearly an external focus. Indications are that as their external focus increases, their motivation, responsibility, and success in solving problems decreases.

As discussed above, the major concerns highlighted by this investigation are the lack of medium to long-term planning by the participants, the tendency towards external focus, and the lack of engagement of the emotional element.

Relevant, useful and valuable learning from the three cycles was:

- Discussions and consequent learning of the change management concepts, models and variables, exploring the complexity and dynamics of personal change management indicated an improvement in the personal change management efforts of the participants.
- The variables and their interrelationships identified by the literature were confirmed by the data collected and analysed in the previous sections.
- While not eradicating negative change responses in the short-term, the data indicated that learned responses based on the interactive observation and interviews assisted participants to moderate any negative reaction to improve their situation.
- The participants are not doing sufficient planning.
- All elements of the participant "system" such as emotions are not being adequately managed. These system imbalances, highlighted in each of the cycles, appeared to be the major area that still needs to be addressed by the participants. This suggests an inability and/or resistance to changing their personal change management approach to include the area of understanding and managing their emotional behaviour that drives their anxiety and resistance.

Given all the discussion above, the findings of the research are consistent with the literature reviewed. The interrelationships between anxiety, resistance, understanding, effort, ability and success are all according to the literature reviewed and the models developed from that literature, thus also confirming the data and findings to be valid and reliable.

5.2 Objectives Achieved

The findings discussed in section 5.1 satisfy the first objective of this study; to verify the researcher's perceptions of change about the reality and impact of the change affecting the participants. This was achieved in that the above analysis described a definite relationship between the participants and change, which affected the participants.

This study highlighted seven interrelated personal change management variables through literature reviewed. These are:

- Reality of change – participants acknowledge change without question
- Understanding – critical to effective change management
- Resistance – is always present in varying levels and for different reasons
- Anxiety – fluctuates according to understanding
- Ability –personal ability to change
- Effort to manage change – ability to manage change is dependent on effort
- Success achieved – managing change situations favourably

The findings of the analysis above (section 5.1) indicate that as the literature based concepts and realities of change, personal change management, the interrelated variables and models were discussed with the participants; that the participant's personal change management understanding improved, resistance and anxiety reduced and personal successes were recorded. Examples of this are:

- Anxiety and resistance are low when participants project confidence in the personal abilities, which include their ability to change
- The participants believe that they are better able to manage their changing situations and have a higher success rate due to a better understanding of change, and therefore experience less anxiety and demonstrate less resistance
- The participants believed that their level of understanding increased and their resistance decreased, due to their experience of the specific type of change
- The participant's indicated that their anxiety levels would have been lower if they had clarity in their roles, their future, goals, and relevant learning
- The participants believed that their ability to change increased due to their experience of change and the environment and technical abilities learned
- Anxiety levels soared and resistance increased. They neglected their tasks in favour of drawing together in huddles of discussion and mutual support
- The previously claimed ability to change by participants appeared to decrease significantly, and there were many requests for more information to become clearer, that is, understanding

These findings are therefore a strong argument for the reality, relevance and interrelationships of the seven variables of personal change management. This satisfies the second objective of this study; to identify and explore the relevant variables and their interrelationship as they influenced the personal change management efforts of these individuals.

The following lessons drawn from this study is to fulfil the third objective; to identify relevant, useful and valuable personal change management lessons where possible.

These personal change management lessons are specifically related to the participants in this research situation. They are a summary of the relevant, useful and valuable learning from the three cycles of data collection and analysis discussed in sections 5.1 and 5.2 above:

1. All aspects of human behaviour must be balanced for effective personal change management. That includes all the physical, mental, emotional and spiritual aspects. A narrow and unbalanced understanding of the human "system" will result in unbalanced actions and functioning of that system. It is therefore important to uncover and deal with all resistance and other personal wants and needs appropriately, rather than attempting to suppress them and thereby experience irrational thinking and inappropriate behaviour.
2. There should always be a concerted effort to understand change, as this reduces anxiety and resistance levels that are generated by the unknown, and increases the ability to change and the levels of success, which will support further change efforts through rationalised confidence and self-belief. Even when anxiety and resistance levels soar, which is natural behaviour; they can be reduced more effectively when managed with the rational and positive maturity gained from conscious change management efforts.
3. Take responsibility for personal change management, and never be passive or resigned to the outcome of change as it relates to personal issues.. As individuals are different, they each understand issues from different perspectives and have particular individual requirements. Also, achieving each individual's personal change management objectives is not likely to be the focus of the larger environment, and so an individual's goals are unlikely to be achieved without personal proactive attention. Therefore, although personal change management requires assistance from others to determine as many perspectives and possible solutions as possible, it is ultimately an individual responsibility.
4. Even though the ability to change increases through learning and experience, the effort to manage change must be consistent and cannot be reduced by experience, as new and different factors will always be faced due to the nature of change.

5. Use appropriate models that will help to explore all the complexity and dynamics of each change situation.
6. Planning is critical, including short, medium and long-term. Do not allow new change situations to catch one unawares, but attempt to prepare for all possible changes, including opportunity and threats, and plan accordingly with relevant information. By nature, no two change situations are exactly the same and so the approach to specific changes will most probably require a plan allowing for flexibility and adjustments as events unfold.

5.3 Summary

Although the discussions did not consistently improve personal change management of the participants, the data indicates that the interrelationships between six main manageable variables, identified in Chapter 2, hold true.

The data indicate that the behaviour through change in this case is generally consistent with the variables and their interrelationship defined by the models developed in Chapter 3. That is to say that, when change occurs anxiety increases, raising the level of resistance, reducing the level of change management effort, which reduces the level of understanding, the caused ability to change, and the ultimate level of successful change achieved. By increasing the level of understanding the anxiety and resistance levels dropped and the ability and success levels relating to change increased.

The results have shown a positive response to the discussions about change management and the models presented and specifically applied, producing the desired results for each variable in most cases. Observation indicated that individuals in the rest of the Support Services Team, who were not exposed to the discussions, continued to oscillate at their original levels of personal change management. It is therefore argued that the level of understanding a key variable to personal change management for these participants. That is, as the various aspects of personal change management were discussed during the interviews, thereby increasing the understanding of change, the other variables did not react as poorly as was apparent with those of the non-participants.

Chapter 6 summarises the findings, presents topics for further research, and concludes this project.

Chapter 6

Summary and Conclusion

The aim of this research was to address a problem faced by a specific group of individuals in an environment of dramatic and constant change. That is, how they as individuals perceived, responded to, and managed their personal change experience in the absence of effective assistance from the organisational structures. Objectives were defined to; verify the perceptions about the reality and impact of the change affecting these individuals, identifying the personal change management variables involved and their interrelationships, and practical lessons to understand and improve the personal change management efforts of these individuals.

Theories of change, human behaviour, management and systems thinking were reviewed to develop an understanding of the interrelated dynamics and variables involved in personal change management. A Participatory Action Research framework was designed and applied to gather and analyse the data collected from the participants during informal observational unstructured interviews that also served as the awareness interventions.

Ideas for future research, generated by this project, are discussed before the project is concluded.

6.1 Summary

This research investigated the change experiences and the resultant behaviour of the individuals within the BA Team, which was a team responsible for the Business Systems Analysis and Systems Administration functions of a business organisation.

The problem statement of this research is; that within a period of significant organisational change there was a lack of management intervention to assist individuals in dealing with their personal change management within the BA team, and that this resulted in negative consequences in individual behaviour that impacted on the performance of the team.

The aim of this research was to investigate personal change management within the BA Team in the absence of effective assistance from the organisational structures, exploring

how these individuals perceived and responded to their changing environment, and to provide practical suggestions to them to improve their personal change management efforts

The objectives of this research, designed to achieve this aim, were to;

1. Verify the researcher's perceptions about the reality and impact of the change affecting these individuals by exposing the negative and positive aspects of the specific change environment as described by the BA Team members.
2. To identify and explore the relevant variables and their interrelationship as they influenced the personal change management efforts of these individuals. That is,
 - 2.1 What did these individuals see as the change variables they were dealing with;
 - 2.2 How they acted to decrease the negative aspects of the variables;
 - 2.3 How they acted to improve the positive aspects of the variables; and,
 - 2.4 Their ability to effectively manage their personal situations within their changing work environment.
3. To identify relevant, useful and valuable personal change management lessons where possible.

Due to the nature of the study the appropriate research methodology was qualitative research. The research continued by reviewing the literature of relating to the concepts and theory of the change, human change management behaviour, and management as it relates to change. This led to the identification of the main personal change management variables. Systems Thinking was identified as the most appropriate management approach for this study, and so the concepts and theory were discussed and applied to understand the context, interrelationships and dynamics of the variables identified.

The research design was based on Action Research. A combination of Participatory Action Research, observation and interviews was applied in this study. The concepts of data and sampling within the context of the participant profile were determined. Subjectivity, objectivity, validity and reliability were also explored in the context of the researcher as observer.

The research framework was thus established as a cyclical investigation over three cycles of informal observational unstructured interviews. Six standard questions were discussed, together with the literature and models reviewed and developed in Chapters 2 and 3. The findings from the data gathered are presented in Chapter 5.

Concluding reflections from the researcher are discussed below.

6.2 Concluding Reflections

The following discussion is a general reflection of the main observations and learning from this study.

6.2.1 Systems Thinking

The approach used to reach the findings of this research was action research based on Systems Thinking principles, which holds that appropriate action to solve problems is only possible when all the relevant elements and issues are understood correctly. This study has demonstrated the usefulness of Systems Thinking concepts and models to investigate, understand, and determine an approach to improve the efficiency and effectiveness of an individual's personal change management journey, as they:

- Prompted critical thinking of other related studies and the current situation, which helped to identify the strengths, weaknesses, opportunities, and threats of the situation
- Uncovered and explained the variables, interrelationships and their responses within the related "systems" and the overall "systems" behaviour
- Assisted the participants to understand the dynamics of personal change management and their own related behaviour, which assisted them to understand and improve their personal situations and behaviour
- Provided an approach to successfully negotiate personal change situations

Using Systems Thinking concepts effectively would however require that the BA Team individuals spend time and effort studying the subject.

Notwithstanding the complexity and effort required to use this approach, Systems Thinking methods appear to assist the management of personal change and can be applied in this situation. Even though refined processes and models may not be available for this particular purpose, the benefits in terms of the four points noted above, are apparent in their case.

6.2.2 Understanding

The experiences of the BA Team and literature make it clear that there are different levels of change, that is, at the individual level there could be any combination of physically, mental, intellectual, psychological, emotional, and spiritual change. A change at one level may in turn affect other variables, creating either a vicious cycle of negativity or a virtuous cycle of positive thinking and action, as is explained in section 3.3.1 and

illustrated by the CLD, Figure 3.4. Fear of the unknown or a lack of understanding and motivation are some reasons why the participants do not appropriately explore change. Therefore an increase in the conceptual awareness of what change is and the critical role it plays in their lives is required.

Human behaviour is highly complex and is driven by assumptions and perceptions developed by the participant's life experiences and culture, thus proving very difficult to change over a short time period. Effecting desired behavioural change without first understanding the complexity of behaviour is very difficult, if not impossible. It follows that personal change management also requires self-understanding and self-knowledge of behavioural factors, that is, where assumptions, perceptions, natural differences and culture are carefully considered and managed to produce the desired behaviour, as illustrated by Figure 2.1. However, individuals still fall back to "old habits", indicating the strong influence of the human behavioural factors that resist change over the short-term. The participants, who displayed the most self-knowledge and self-understanding, coped most successfully with change in terms of achievements, low stress levels, and living at full potential.

The BA Team members have demonstrated their ability to apply this research's conceptual presentations to manage their personal change more effectively. It has also encouraged these individuals to view and use change in a positive way, as a means to achieve personal goals rather than as an obstacle. An example of this is that most of the team have moved to Johannesburg and have thus improved their career prospects. The others, who have resisted similar changes, have lost their jobs.

The dangers of success are an important concept that was not consciously discussed in the BA Team. The main focus was on daily operations and how to deal with imposed change, and so they usually used the same 'successful' operational and change processes without question, thereby running the real risk of failure in dealing with any radically new change. Past success can prevent further essential and effective change as they hang on to "what they know". This "comfort zone" can therefore be extremely dangerous as they may do this at the expense of learning new and more relevant skills. They should therefore be wary of conditions of success that may too easily convince them that more of the same behaviour will result in continuing success, prompting systems, procedures and routines to ensure continuation of those "successful" practises. Valid standards and norms should be adhered to, but if and when ineffective past practises are clung to, causing performance lags, a gap will open between the desired and actual positions. Any further reluctance to change sets a cycle of failure in motion, and ground is lost as rigidities maintaining the inappropriate practices continue to affect behaviour. Failure becomes inevitable. Success is dangerous as it develops conditions and momentum that

may prevent recognition of underlying problems and the subsequent actions to correct them. When positions are protected rather than focusing on changing business needs, problems are created (Kanter *et al* 1992).

Applying the concepts of Mental Models, Transactional Analysis, Rational Emotive Therapy and Systems Thinking can develop an understanding of the basics of personal human behaviour; similar to the way they are presented and applied in Chapters 2 and 3. These provide a possible basis for the mechanism of human understanding that drives behaviour. This facilitates more effective, rational behaviour management during change. These concepts provide powerful models that explain human behaviour based on the complex functioning of human thinking processes. This enables realistic understanding about the personal ability to manage change and the impact of the relevant change situations, and so develop the appropriate positive self-belief and attitude toward change. This self-knowledge and approach can then be applied to the change situation to ensure personal issues are adequately addressed.

6.2.3 Resistance

Literature and this research indicates that resistance springs from a basic mismanagement of human issues that affect personal interests and goals through a perceived loss of control and personal identity, more uncertainty, and more effort. It is a function of communication and human behavioural factors based on individual interests and goals. Feeling excluded, adversely affected, or disenfranchised by organisational changes create overt as well as covert resistance to change. Resistance is linked to losses that changes bring, which should be overcome by relating to the positive gains that the changes represent. Crossed communication transactions have the potential for counter-productive misunderstanding. For example, an essential change poorly communicated may be opposed with negative consequences for all stakeholders, while even a poorly motivated change can produce positive results due to good communication, participation and co-operation.

Exposing resistance issues enables effective management of negative resistance it becomes the basis of irrational thinking and inappropriate action. That ties back to the understanding variable in that the implications must be investigated with all who can contribute.

6.2.4 Effort to Change

This research shows that successful personal change management for the BA Team members involves their entire being, depends on a vast range of factors, and requires a personal leadership and management role, including accepting full responsibility for their own futures. It is completely dependent on their positive and proactive commitment to understand themselves and to interact with each other for their common good. When they allow others to control their futures, in an external locus of control mode, their own personal development and goals are replaced by the objectives of those in control.

By being specifically focused on the concept of change and their own behaviour the BA Team members have become more appreciative of the variables at play, and their own responsibility of making the effort of active involvement in preparing for and dealing with change. They are now more comfortable facing risk as problems no longer represent a disaster to them but only temporary setbacks or challenges to overcome along the road to success. However, they still favour an external focus and so prefer others, usually the nebulous term "management", to make things right.

The team concept has also been highlighted as important as it promises real synergy and develops perseverance through mutual support, demonstrating the importance of a supportive network and being open to help from others.

While the organisation employing the BA Team consists of people with different preferences, organisational change plans are implemented without individual consideration. Those who are not accommodated are therefore left behind, finding it difficult to move into the new responsibilities and roles expected of them, and their potential contribution will be lost. Opportunities rapidly change into threats as competitors run into the future, leaving those whom will not change in the recesses of history. Therefore each of the BA Team members should continue to develop a deeper understanding of the valuable benefits of managing change within themselves as opposed to the real dangers of ignoring or resisting change.

Learning is a fundamental concept directly linked to ongoing change and must therefore also be ongoing. The model of "human understanding and reaction", Figure 2.1, illustrates the fundamental importance of experience and learning, which develops self-knowledge, personality, culture, assumptions and perceptions, human behaviour and further learning. Effective and efficient learning at all levels is critical in a situation of rapid change, therefore the key is learning how to learn. Learning is not just a classroom activity, a practical lesson, or examination preparation. It is not automatic but requires effort. It is not only for intellectuals, nor is it just finding out what other people know.

Learning in some form or another takes place at every cognitive interaction that a human encounters, whether consciously or otherwise. It is the fundamental process of growth. Effective learning is action learning, which can be seen as immersion in the changed situation. Action learning, converting theory into practice, is a method to develop a belief in one's own abilities through the reinforcement of practice. This includes being allowed to fail, and learning from that. Theory and practice must be more effectively linked, that is, learning about the fundamental and detailed aspects of the theory and practising it is essential to its application (Cunningham 1999). Change is about learning, but that to produce changes in behaviour by changing attitude and knowledge is fundamentally flawed because individual behaviour is powerfully affected by roles. Therefore, changing people's context, roles, responsibilities and relationships is the most effective way to change behaviour as it forces people to develop new attitudes and behaviours (Beer, Eisenstat & Spector 1990).

Planning, organisation, leading and control are the four pillars of management, as explained in Chapter 2. Information is the fundamental component for each of these. Different approaches may well be taken in dealing with change, however, without these basics, the change management efforts cannot be directed with any certainty, and are therefore likely to be haphazard, with a high risk of failure or inefficiency. Effective communication, the conduit of information transfer, is therefore also critical. These elements will not guarantee success, but they will improve the chances. The managed changes experienced by the BA Team were more successful than other unexpected 'crises', as the necessary resources were prepared and the stress levels were lower. Hoebeker's Work System model presents the key role of these elements in Chapter 3 is integrated into the model of the individual's journey of change through time, Figure 3.9.

The effort to change refers to accepting change as a reality and accepting personal responsibility to manage it. Proactively developing an understanding of themselves and all possible change situations, including as many perspectives as possible and all possible opportunities and threats, facilitates flexibility and adjustments as events unfold.

6.3 Proposed Topics for Future Research

This project has exposed a number of other related areas of research that could be explored. These are:

- How to achieve a self-perpetuated enthusiasm for change? - To be successful, individual research would have to be driven by enthusiasm. Suffice to say that certain members of the BA Team have shown that success builds on success. Their careers are being built by change, and it is critical that they understand that and use it positively. Others, unfortunately, appeared to resist change and have created huge hurdles for themselves by choosing to reject the opportunities presented by change, take the "easy way out" and have lost their jobs
- The spiritual aspect of personal change management - Observation led the researcher to believe that some individuals believe that nothing they do will change their fate, so why bother. Others suggest that there is no God and that they have to do it all themselves. Many deny the existence of a God during good times, but as bad situations arise they can be found on their knees, or at least questioning the meaning of life. As part of the "whole system" this aspect needs attention, which would be the basis of an entire project on its own. Suffice to say that it is apparent that spirituality is also part of the introspection that these individuals must take responsibility for
- Physical fitness levels - Observation and experience suggest that individuals with higher fitness levels are better able to change. What is the true impact of physical fitness on the ability to change?
- Chemical balance/imbalance within the individual "system" - How do chemical imbalances impact on personal change management? How does the constant rush of adrenaline affect change management? It may have individuals itching to change initially, only to burnout soon thereafter. The stress may cause other organs to reduce or increase certain chemical production. Prescription drugs may in fact inhibit the change management process. There is also the whole area of the affect of substance abuse and dread diseases that could plausibly have direct effects on change ability
- The real impact of people support organisations - Why do substance abusers relapse after a lot of rehabilitation? Do motivational courses really change individuals in the long term?
- What impact does the personal situation and vision of the individual have on change management, that is, for example their level of education, state of wealth, family responsibilities, age and experience, and external support base?

6.4 Conclusion

This research attempted to obtain knowledge in a recent change situation where management is fluid and change must be viewed in a positive light. Literature presents the general effects of change and how organisations should handle it, but the key issue highlighted in this investigation is that neither the participants nor the rest of the Support Services Team individuals effectively manage change. Each of them experiences it, yet change is treated as something boring and irrelevant. Even though the focus of this investigation is of dramatic importance to them, the participants, and others the researcher has spoken to for insight, considered the subject to be "old-hat" and not very interesting. The change management workshops presented by the organisation are only attended under threat and any lessons presented are put at the back of the priority list.

However, for all the new technologies sweeping the globe, for all the cultural happenings, new people being met, or simply growing up, the huge underlying concept called change is the conduit, the "electricity", energising every event and action. This is driven by the need to be different, the need to "survive"! This is the nebulous mystical phenomenon called change that, without a real understanding of it, can distort into a menacing monster during stress related irrational thinking, as demonstrated by individuals in the Support Services Team.

This "old-hat" picture of change is actually its sting in the tail. The simple fact that personal change management was not initially considered to be important by these individuals caused them not to plan and prepare for it, which is evident from the research data. And that is a likely reason why it is difficult to cope with, and why it is avoided, which is a basic vicious cycle. Therefore, the underlying message of this project for the individuals in the BA Team, and possibly for individuals in general, is that the complexity of change largely lies in the human behaviour it prompts.

The various aspects and specific situations have clearly impacted individuals differently according to their different perceptions, involvement and relationship to specific changes. However, it is clear that, even through setbacks from major change shocks, the variables and interrelationships identified by this research are valid in this case, as the discussions have demonstrated positive effects. That is, although they could not completely extinguish anxiety and resistance, they did dampen them. The discussions did show an improved effort and ability to understand change, which led to an improved ability to change and succeed through change. Successful personal change management for the BA Team members is therefore about understanding human behaviour, which has been confirmed by this research, that is, the "understanding" variable is key because it is manageable by each participant, developing a better understanding of themselves and

how they should approach change.

There is no simple or easy answer to manage change, but life teaches that no matter what happens and no matter how people deal with change, everyone will be affected by it at some time or other. In this case responsible personal change management is the active exploitation of change situations that present opportunities within socially accepted parameters. Passive change management simply allows external factors and individuals to control the situation and future. The only probable outcome of passive change management must be uncertainty, risk and understandable concern and anxiety.

This project has demonstrated to the BA Team that their reaction to change is not unreasonable, but is actually natural and manageable. The future can thus be managed from a personal point of view within the context and limitations that the environment may present. It gives reasons why they should take control of their own destiny rather than passively allowing others to determine their destiny. It suggests that taking personal charge of change is exciting and energising, while being at the receiving end of change is draining and unpleasant. This demands that the BA Team members choose to work positively with change or choose to work against it at their peril.

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Appendix A
Observation Notes of Variables

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Appendix A

Observation Notes of Variables

The information below has been accumulated from the researcher's observation and comments made during interviews with the BA Team individuals. It is grouped according to the seven variables highlighted by the literature reviewed in Chapter 2, which are considered to be the main personal change management variables.

A.1 Reality of Change

- Everything is changing all the time.
- I frequently deal with new things, activities and responsibilities.
- Daily, to remain competitive.

A.2 Anxiety

- Change creates apprehension.
- Feel alone through change, so need to support individuals and build them up to face change.
- Negative effects of change include uncertainty, job losses, reduced feelings for others and self-preservation, which reduces support for others in need.
- I first feel anxious, but then deal with it by breaking it down into elements.
- Question the future and the amount of participation. Concerns are more about appreciation of effort, warm and fuzzies and future well-being rather than just money.
- I feel anxious and sceptical.
- Cautious apprehension comes from uncertainty while assessing how I will be affected.
- There is general concern about losing colleagues and their support.

A.3 Ability to Change

- Have to learn to deal with new responsibilities and situations.
- The basis of how to change must be managed and supported.
- Don't feel part of the process and decision-making believed to be helpful to improve change outcomes.
- Feels that does not cope with change and is passively pushed into it.
- Important to have someone to push, encourage and support one through change.
- Change that is perceived as positive is liked and it motivates people.
- The controlling position seems to be changing.

- People learn to manage by grouping together for support.
- Necessary to have different types of leadership styles for different situations.
- Important factors in accepting change are self-esteem, conditioning, self-belief, state of energy, mental and physical health, relationship, vision, capacity and handling of ambiguity. These can be learnt.
- Need a common understanding, same background, experiences or intuition.
- Age plays a role in how change is dealt with.
- Unknown element excites me, where I have knowledge and skills to perform the tasks and I understood the conceptual requirements.
- I looked forward to new challenges of managing the team where people were changing from their traditional ways, reducing their resistance to change through participation and by seeing the benefits of change.
- Teamwork is the only way effective change happens, considering all skills and perspectives.
- Reasonable timing must be allowed, applying project methodology that considers all issues.
- Enough resources and expertise is essential to deal with requirements.
- Emotional problems cause staff de-motivation, increased errors, reduced productivity, increased no-care attitude, increased late-coming incidents, increased smoke breaks, increased feeling of powerlessness, reduced authority and empowerment, increased levels of de-motivation, stagnation, skills not being used, feeling of being handicapped.
- Personality allows one to cope with change. Also having children increases one's ability to adapt to change through necessity.
- Emotional Intelligence (EQ) is more important than IQ as those who can work with people and human behaviour are better equipped to deal with change than academically gifted people.
- Always guard against doubt in self, other individuals, organisation or the chosen change.

A.4 Effort to Change

- Need to learn from change to cope with future change.
- Acquire new skills even though may not like change as it makes them do things other than what they are used to, it forces them to think and to move outside of the rut.
- Everyone from the top to the bottom is responsible for change.
- Must be relaxed and not under other pressures and overloaded by current work. That implies timing is important.
- Talk to people to understand concerns, vision and requirement and so reach a common ground.

- An autocrat may have a good vision, but may lose valuable people or waste potential.
- Should be a detailed cost vs. benefit analysis by consolidating combined input.
- Everyone needs to hold together in line with the organisational goals, yet the higher goals are not clearly and consistently made known.
- Higher strategies are either not set or not communicated.
- Uncertainty and no involvement.
- The ideal is that everyone is exposed to and buys into what is going to happen.
- Things must be done, rather than talked about.
- Brainstorming, clear roles and responsibilities identified and applied
- Be open and aware of the ever-changing environment, as tomorrow is never the same as today.
- This is a constantly changing environment, increase your skills, multi-skill, look for opportunity to move outside of your job description, and apply learning,
- Collaboration and participation must be maintained in an environment of trust and mutual respect, keeping the channels open to reduce conflict and deal with change.
- Talk to each other and help each other, increasing our contribution to the team effort through learning.
- Continuity and reassurance of well-being for the future.
- Involvement to have a say
- Change should not be avoided, it is necessary to improve.
- Characterised by a lot of activities over and above other activities.
- Before change it appears that strategic development is a knee jerk reaction to senior executive requirements. During change no realistic deadlines, agreements or expectations are set. After change there is not enough time to celebrate benefits achieved. There is no post-implementation review and no reflection at a strategic level. There is usually only blame and finger pointing concerning the things that did not go according to plan even though they are insignificant in terms of the entire change effort.
- Never have full participation from the beginning, and voids of silence during the change, which develops the perception that decisions have already been made.
- Final comment is that it is important to involve all staff as they may have answers that will improve the outcome for everyone.
- There should be sessions in the organisation to manage levers of change and identify the variables involved. Look at improving one's own skills and commitment to the organisation. But that commitment must come from the organisation as well.

A.5 Successes Achieved

- A lot of aspects impacted - responsibilities and liabilities have increased.
- Change is necessary to remain effective and efficient.
- Meaning of change is sometimes lost, so cannot contribute positively – frantic activity but not effective or efficient to achieve the goals and objectives.
- Positive effects of change include learning, interaction, and environmental awareness.
- Accept that change is necessary if it has value and is properly analysed.
- Change is dependant on client requirements, survival, and technology.
- No change would reduce market share and create stagnation.
- Most people do actually adapt.
- Feel good about personal growth relative to my studies and other development.
- New work is a challenge, seeing things come together giving personal growth, benefit and value.
- New system development, where there was motivation to get the new system benefits, and it was under our control.
- Change was presented in a way that everyone could understand, it was exciting, and there was responsibility and reward for effort.
- From experience all organisations are basically the same, dependent on the genuineness and integrity of the change managers and communication.
- Generally all organisations are the same, where the executives look after themselves and force decisions onto the lower levels.
- Worse than other places because communication and feedback were haphazard with large timing voids, which caused unnecessary concern.
- Generally all organisations are the same because you hear the same problems from other people.
- Still not completed! Loss of control, forced staff movements, changing roles and responsibilities creating discontinuity, negative impact of people leaving, new people, loss of skills, bad communication to clients, who do not understand and who do not care, but rightly expect service.
- Goal posts changed from what was promised, unhappy clients, executive decide but do not follow through, unfair audit due to inherited problems, unpleasant working conditions due to client reaction relating to inherited problems.
- Personal growth benefits are apparent through increased skills from diverse training, skills development and working together as a team.
- More interactive, self-directed, but no real change in terms of overall approach to change.
- It was sad to lose colleagues, friends and expertise, it was unpleasant and not to our advantage.
- Good effort to make change easier for those leaving.

A.6 Understanding

- How to cope in unknown environments
- Everyone needs a true understanding of roles and a clear understanding of management meaning.
- Valuable for another perspective of the practical elements of change and so sensitise people to change.
- Outcome should agree with the people so that they can and will apply it as a reference guide in times of change.
- Needs to know and be guaranteed of the value of the changes.
- Coping mechanism is being reassured of the value and a concerted effort by management and others to make aware and focus on strengths and encouragement.
- Management introduction of pending change is important, must present a practical plan. A sounding board is also necessary so that one can voice concerns and issues and so become familiar with the changes and all the implications.
- Past change has been implemented from the start as a team, but now it looks as though it is everyone for themselves. This may be due to the weaker market share and lack of communication of the strategy.
- Customer requirements and satisfaction, climate, globalisation, strategy, economics, technology, legislation, demographics, organisational profile, which links mainly to information.
- Change is dynamic and revolves around persuaders and the power they wield. It is not necessarily rational argument and can therefore create chaos.
- I believe that people use the change word without understanding what change is. It is used in the wrong context as a one-off thing and not an ongoing process.
- There is an apparent lack of understanding or a lack of desire to understand.
- The perception of what a problem is appears to be incorrect.
- Does it fit your personal future plans, as you should change your career path earlier rather than later. Base your decisions on information rather than assumptions.
- Ability to deal with change has improved due to sensitising to change.
- Definitely helpful to develop an understanding where change resistance and other aspects of change come from. And that applies to both the change managers and the people affected by the change. You can be more positive if you know how to handle change.
- Good to sensitise people to mutual feelings. Management must recognise and must have support groups and sessions such as diversity training and organisational development workshops.
- If the correct meaning to what change is, and the people support the idea then yes it will enhance the whole process, but change has become a long series of events and not continuous process as I think it should be viewed. Senior executives talk about

change as a quantum leap rather than a process. What is needed is co-ordination and to be in sync to achieve clear goals and objectives rather than exposure to retrenchment and other negative perceptions of change because of haphazard leadership.

- Biggest problem is communication.
- No communication, uncertainty, fear, anxiety, misinterpretation, rumour.
- Aware of impending change yet do not know what or how it will affect the current situation or how it will affect individuals.
- Management communication appears contradictory, so it is unclear who is leading the change.
- Value in surfacing ideas and support thinking from veterans of restructuring.
- Uncertainty about the organisation
- People need certainty to go forward rather than in a haphazard fashion.
- Unsure and uncertain because of bad communication and the general environment.
- More information within the context to clarify understanding of the situation.
- Information must be shared.
- Information to be able to decide and act on options.

A.7 Resistance

- Past experiences teach results are punishment or reward so may need to avoid
- Change simply for the sake of change is unnecessary.
- Everyone can benefit from change, but it is associated with threat to the environment, safety and well being and so do not like change.
- Change is threatening and has a negative connotation, rather than something exciting.
- Become cynical because of the repetitive cycle of change that simply ends up where it started.
- Has developed comfort zones of secure surroundings and activities and does not like to disturb.
- Change is more easily accepted when one is younger.
- Change that is perceived as negative is disliked and is bad, where people are felt to be pushed and they experience loss.
- Current apprehension and potential conflict expected.
- Resist until benefits are proved.
- I used to resist change due to my comfort zone, but I changed my view because I realised that I must think about how it actually affects me, which may be for the better.
- Moving to Johannesburg because of the unknown factor and whether or not my family and I will fit in.

- Being given responsibility for something that I do not know anything about.
- I am reluctant to speak to people I don't know to get the right outcome.
- Moving to a new team due to the uncertainty.
- Quick change is bad as there is no planning or surety of the future.
- The splitting of the book was done with no time, bad planning, no training, and no client consideration. We also lost a large portion of our business and decentralised operations and control.
- Look for advantages because the first reaction is usually resist.
- Leave the organisation, personality changes to moody and aggressive, attitude changes, general housekeeping deteriorates, absenteeism increases, sick-leave increases, enthusiasm drops, and no extra commitment is shown.
- By complaining because of no detailed information and therefore no understanding of how change will affect them.
- Leave or threaten to leave the organisation.
- Some become negative, while others passively resign themselves to whatever outcome with the least amount of involvement possible.
- People hold on to the belief that they are not impacted or benefited and are therefore not involved.
- Barriers built with lots of immaterial reasons, facts and examples of why the change cannot work.
- People do not try to understand real abilities or opportunities.
- More negative feelings than positive, as people did not really accept the changes.
- This reinforced the thinking from the first round. There was a lot of negativity, which still persists. People still see themselves as being set-up to be got rid of.
- The perception is that leadership do not know where they are going. People do not talk because it does not matter, but the perception is that it can always be held against you.

Appendix B
Investigation of Differences in the Approach to Personal
Change Management

University of Cape Town

Business Analyst 1

Cycle 1 = Time of joining the BA Team, through Y2K and retrenchment phase

Cycle 2 = Time of post-retrenchment phase, through studies and team changes

Cycle 3 = The looming changes ...

Rating Key: VH = Very High, FH = Fairly High, H = High, N = Neutral

L = Low, FL = Fairly Low, VL = Very Low

Change variables		Cycle 1		Cycle 2		Cycle 3		Reason/s given by participant for differences
Rate from VL-VH		P	O	P	O	P	O	P = Personal, O = Others
1	Level of anxiety (uncertainty, fear, misinterpretation, vulnerability)	VL	VH	FH	H	VH	H	Cycle 1 was good from my perspective so I did not feel any anxiety, but rather it was a challenge and I felt safe from retrenchment. Others were directly impacted. I still felt secure in cycle 2, but it was not what I wanted. Others were also secure and all that concerned them was how. In cycle 3 I am directly impacted and do not like the options. As the change becomes more real confusion develops and I feel closer to the cross-roads of options. Others are still uncertain about what the change is, and it is becoming worse as change becomes closer.
2	Level of resistance (passive, active, cynical)	VL	VH	FH	H	VH	FH	Same reason as above for cycle 1. In cycle 2 I was angry because I believe that people were not considered, and so a lot of emotional turmoil were felt and were evident. The level of resistance followed the level of anxiety. As change becomes more real my internal resistance remains at near maximum, and others rises as their anxiety rises.
3	Level of effort to manage change (evaluate, cope, positive)	VH	H	H	H	L	L	Same reason as above for cycle 1 for me. Others took more time to apply effort. My effort was still high in cycle 2 as I have a fighting spirit and I try to make the best of it with a positive attitude. We essentially had no option and I did learn new things, which was good. In cycle 3 I have avoided actively thinking about it. Others have no clear direction or thoughts about it. As change becomes more real the levels of efforts remains low due to a wait and see attitude.
4	Level of understanding of (of change and how to manage it)	VH	L	N	H	H	L	Same reason as above for cycle 1. What also helped me to understand change is a "self-understanding" course. Others did not have previous experience of major change. Cycle 2 caused me to feel some self-doubt, which affected my understanding. I think that understanding depends on whether the change is perceived as good or bad. Others increased through the first experience. Cycle 3 has built on my experience and learning during cycle 2. Others seem to be unseeing and unreal in cycle 3 as they are depending on others rather than themselves. As change becomes more real I still understand how to deal with it, but the others seem to be more unsure.
5	Level of ability to change (confident, development, rational perception)	VH	FH	H	H	FH	L	Same reason as above for cycle 1. I was able to change sufficiently in cycle 2. The others were able to adapt to more or less as required, but in cycle 3 they are in danger of underestimating the extent of the changes they require, which will most probably affect their ability to change as effectively as possible as they are not planning. As change becomes more real I am still confident in my abilities, but others seem less so.
6	Level of success in the changed environment (achieve personal & organisational goals)	VH	FH	H	H	FH	L	Same reason as above for cycle 1. Others have taken longer to achieve success, but they have nevertheless. I achieved sufficient levels of success under the circumstances of cycle 2. I have succeeded so far in cycle 3. Others have not taken the change seriously yet. As change becomes more real I am still being successful in achieving the organisational and my goals, but others seem to be coping less effectively.

Participant's general comments:

I believe that a strong motivator in a changing environment is the longing for power and recognition.

Business Analyst 2

Cycle 1 = Time of joining the BA Team, through Y2K and retrenchment phase

Cycle 2 = Time of post-retrenchment phase, through studies and team changes

Cycle 3 = The looming changes ...

Rating Key: VH = Very High, FH = Fairly High, H = High, N = Neutral
L = Low, FL = Fairly Low, VL = Very Low

Change variables		Cycle 1		Cycle 2		Cycle 3		Reason/s given by participant for differences
Rate from VL-VH		P	O	P	O	P	O	P = Personal, O = Others
1	Level of anxiety (uncertainty, fear, misinterpretation, vulnerability)	L	H	H	FH	L	VH	In cycle 1 I had the knowledge and confidence of not losing my job, but others faced job losses. In cycle 2 there was an increase in uncertainty from a lack of direction and planning from top management. More direct change and the long time to decide on and implement the change affected the others more. In cycle 3 I have many opportunities. The BA Team has many beneficial opportunities but individuals are unsure of their possible roles, but the other team has less and is unsure about their future.
2	Level of resistance (passive, active, cynical)	L	H	VL	H	VL	H	I was not directly affected in cycle 1. Others had set skills and did not want to change. Cycle 2 offered me many good options, thus I did not feel threatened, but challenged. Others had unclear communication and were unclear about the future. In cycle 3 I am positive about benefits made clear through open communication. The BA Team although uncertain has beneficial opportunities, but the others have less.
3	Level of effort to manage change (evaluate, cope, positive)	H	N	FH	H	H	N	In cycle 1 I was very clear about the change and that I was able to manage everything. The other's efforts were to reduce the increase in negative aspects. In cycle 2 the necessity was clear, but the direction was very unclear and was changed regularly. The others actually had clearer direction and less job threat. In cycle 3 timing and direction is a problem. The others are also concerned with the uncertainty and continually changing plans, but we are all doing our best.
4	Level of understanding of (of change and how to manage it)	H	H	FH	FH	FH	H	I learned from cycle 1. Others also built on experience of the past, but the latest developments are a new type of change for some.
5	Level of ability to change (confident, development, rational perception)	FH	H	FH	H	FH	FH	Living in a changing environment I was able to confidently adapt. I believe those problems and resistance comes from being in a comfortable non-changing zone for too long. We have all built on past experience, but there will always be uncertainty due to unknown factors.
6	Level of success in the changed environment (achieve personal & organisational goals)	FH	H	FH	FH	FH	H	I was not really directly affected in both cycles, which gave me comfort. I have coped with change successfully as has everyone else.

Participant's general comments:

I think that if I were adversely affected I would have given different ratings. My anxiety and resistance would have been higher and effort, understanding, ability and success would most probably have been lower. That is my behaviour is affected by knowledge of security and the future.

To improve the above ratings there should be an effort to clarify roles and the future, and focus on clear goals. Personalities react differently to change based on perceived outcomes. Resistance levels depend on whether the change is perceived as good or bad and whether the individual is taken out of their comfort zone. Studies prepare people for change through awareness in general and by understanding group dynamics, and how individuals can play a positive role. Studies are a big factor to learn about the changing environment and how to change along with it. I would say that it helped me change my personal ratings from neutral to fairly high.

Business Analyst 3

Cycle 1 = Time of joining the BA Team, through Y2K and retrenchment phase

Cycle 2 = Time of post-retrenchment phase, through studies and team changes

Cycle 3 = The looming changes ...

Rating Key: VH = Very High, FH = Fairly High, H = High, N = Neutral

L = Low, FL = Fairly Low, VL = Very Low

Change variables		Cycle 1		Cycle 2		Cycle 3		Reason/s given by participant for differences
Rate from VL-VH		P	O	P	O	P	O	P = Personal, O = Others
1	Level of anxiety (uncertainty, fear, misinterpretation, vulnerability)	H	VH	H	H	H	FH	In the first cycle 1 I was the youngest and least experienced so I felt very vulnerable. In my favour was my youth and ambition. Others feared retrenchment. In cycle 2 my experience and learning had increased and gave me more confidence and I believed more in myself. Others were less threatened but uncertain about future. In cycle 3 my job is threatened but I'm more confident in my ability and opportunities. One team has job security and opportunity (rating 4), while the rest face job losses.
2	Level of resistance (passive, active, cynical)	N	FH	FL	N	FL	H	In cycle 1 I was concerned with the impact of change and how I would cope. Other faced retrenchment and having to learn new skills. In cycle 2 I had more experience and I wanted to change for career reasons. Others had the same job but new management. In cycle 3 everyone's future is unclear, but one team (rating 2) has an opportunity identified.
3	Level of effort to manage change (evaluate, cope, positive)	H	H	VH	FH	FH	N	In cycle 1 my high level of anxiety increased my effort. We also worked as a team to motivate each other. In cycle 2 I had more experience of change and I could identify the opportunities of change more easily. Others were excited about new management structure and learning new skills. In cycle 3 I look forward to change, but have fears of job future. One team has job security and identified opportunity (rating 9), and the rest face job losses.
4	Level of understanding (of change and how to manage it)	L	H	H	H	FH	FH	In cycle 1 I had a limited understanding of change, but others had experience. In cycle 2 I had more experience of change, but moving to a new job made me doubt my understanding. Others built on their previous experience. In cycle 3 we have all become more experienced.
5	Level of ability to change (confident, development, rational perception)	N	L	FH	H	VH	N	I doubted my ability to change in cycle 1. Others seemed stuck in old ways. In cycle 2 I was more experienced and I could find benefits and positives. Others also seemed to have more confidence in my ability to change, even in my new job. Others also became more used to change, but are not looking for opportunities. In cycle 3 I'm very confident in my ability as I face new opportunity along with the one team. The rest face job losses.
6	Level of success in the changed environment (achieve personal & organisational goals)	FH	H	FH	FH	H	N	I think I was consistently successful through change. I believe I would improve by success rating by playing more major roles in the change processes as well as further studies. In cycle 1 others were stuck in old ways and only did what was necessary. In cycle 2 new people joined, learning was taking place and relationships had improved. In cycle 3 one team are achieving success (rating 9), but the others face job losses and are doing only what is necessary.

Participant's general comments:

Studying has definitely helped me personally and at work in terms of change. I think it has improved my ratings above. I also think that new changes in unfamiliar territory would push my levels of anxiety and resistance back to those for cycle 1. I think that those who are not studying will be anxious throughout change as they would feel constantly threatened, irritable and have high resistance.

To improve people's personal ratings I believe their value to the organisation should be increased through and increase in knowledge and experience. Everyone should learn to manage change. That is to think it through and look for positives. They should be talked to on an individual level about the concept of change in general and its impact and effect on human behaviour.

Senior Administrator 1

Cycle 1 = Time of joining the BA Team, through Y2K and retrenchment phase

Cycle 2 = Time of post-retrenchment phase, through studies and team changes

Cycle 3 = The looming changes ...

Rating Key: VH = Very High, FH = Fairly High, H = High, N = Neutral

L = Low, FL = Fairly Low, VL = Very Low

Change variables		Cycle 1		Cycle 2		Cycle 3		Reason/s given by participant for differences
Rate from VL-VH		P	O	P	O	P	O	P = Personal, O = Others
1	Level of anxiety (uncertainty, fear, misinterpretation, vulnerability)	L	H	N	N	H	VH	I was not directly affected in cycle 1 because of my skills and experience, while others appeared more anxious. In cycle 2 good communication and teamwork reduced anxiousness. My level of anxiousness has increased in cycle 3 due to my age, but others are higher due to more family commitments and economic conditions. As change becomes more real, clarity reduces my anxiety, but others appear to stay the same.
2	Level of resistance (passive, active, cynical)	N	FH	L	L	N	H	In cycle 1 I was very verbal, but others were more vocal and actively resistant. In cycle 2 good management increased the comfort level. Also familiar work in a familiar environment and team was easy. In cycle 3 my resistance is internal rather than external. It is now higher due to the direct impact of change. And no clear direction. Others are higher for the reasons given above. As change becomes more real the levels of resistance remain constant.
3	Level of effort to manage change (evaluate, cope, positive)	H	N	FH	FH	FH	H	I need to be convinced of value and benefits of change, which were not apparent in cycle 1. Others were affected by other major changes in other business units. Communication and information was from higher levels and was lacking. Cycle 2 was better because of the higher level of communication, information and control. In cycle 3 I have made concerted effort to manage change within myself because of the circumstances. Others seem to have accepted change due to the ongoing experience, management lead, and their own (high-quality) personalities. As change becomes more real everyone's level of effort to manage change seems to be dropping due to the effects of the resistance taking effect..
4	Level of understanding of change and how to manage it	H	N	VH	H	VH	VH	As a manager of the team I knew everyone and how they would react, but they did not understand to the same level. In cycle 2 there were less people, and they were at a higher level of experience, grade and understanding. In cycle 3 I believe everyone's level is high due to experience. As change becomes more real everyone's understanding of what is coming is very good.
5	Level of ability to change (confident, development, rational perception)	FH	H	FH	H	H	H	In cycle 1 I was confident as I operated at a higher level, but others listened to rumours and were allowed less information due to sensitivities. In cycle 2 the others had no experience and the change was not seen as a major threat. In cycle 3 people are all at the same level of ability to adapt through experience. As change becomes more real everyone is less confident about their futures.
6	Level of success in the changed environment (achieve personal & organisational goals)	FH	H	FH	FH	N	N	In cycle 1 people were concerned about how the change would benefit them. In cycle 2 there was more experience and learning by the others. The current problem with cycle 3 is that there is no clear plan enabling people to make personal decisions. As change becomes more real the successes achieved remain mediocre.

Participant's general comments:

Studying has not help to a great extent as events have overtaken them. Practical workshops may be more helpful to deal with current issues. Studying has helped during change in terms of increasing awareness, understanding and knowledge.

A major problem is that there is no apparent clear strategy and direction, which generates uncertainty. Losses that people experience are difficult to accept. Also, people become comfortable with and expect change regardless of value. This indifferent expectation reduces the effect of communication, commitment and increases scepticism.

Senior Administrator 2

Cycle 1 = Time of joining the BA Team, through Y2K and retrenchment phase

Cycle 2 = Time of post-retrenchment phase, through studies and team changes

Cycle 3 = The looming changes ...

Rating Key: VH = Very High, FH = Fairly High, H = High, N = Neutral

L = Low, FL = Fairly Low, VL = Very Low

Change variables		Cycle 1		Cycle 2		Cycle 3		Reason/s given by participant for differences
Rate from VL-VH		P	O	P	O	P	O	P = Personal, O = Others
1	Level of anxiety (uncertainty, fear, misinterpretation, vulnerability)	FH	FH	N	H	H	H	There were a lot of rumours. The change affected me directly and I had a lot of uncertainty of my new role. There was a lack of communication and experience of major change. Cycle 2 did not affect me directly and I knew I had done all I could and felt more confident and valued. Others did not want the change, they feared the change of role and the future consequences of the change. They felt vulnerable and noted the advantages of studying. In Cycle 3 I have done all I can to improve my situation and myself. Others are again unsure of the direction and future. As the changes become more real my level has increased due to the increasing number of factors involved that seem to be out of my control.
2	Level of resistance (passive, active, cynical)	H	FH	VL	H	FL	H	In cycle 1 my resistance was internal due to the unknown and no control. Cycle 2 did not really impact me, but others felt they were going backwards. In cycle 3 I have more confidence in my self, while others are against the big change with little opportunities. As the changes become more real everyone's resistance seems to be increasing.
3	Level of effort to manage change (evaluate, cope, positive)	H	H	H	N	H	L	In cycle 1 the others and I tried hard to prove our worth and value. Cycle 2 did not affect me. Others now had new manager. In cycle 3 I am again working to prove value and worth, and others are unsure and are only doing the necessary. As the change became more real my efforts are constant, but others seem to be dropping.
4	Level of understanding of (of change and how to manage it)	L	L	N	N	N	L	In cycle 1 no one had much experience of such big change. In cycle 2 we could understand why but character dynamics were unpredictable. Different people have different issues from factors external to work, upbringing, expectations and experience. In cycle 3 I have more experience, but there is increased uncertainty from unknown types of change. I have more confidence in myself and my studies than I think others have in themselves. As the changes become more real everyone's level of understanding seems constant.
5	Level of ability to change (confident, development, rational perception)	L	L	N	N	N	L	In cycle 1 I had no experience and was unsure of my abilities, while others had experience. In cycle 2 I was not directly impacted, had gained experience and was studying. Others had realised the importance of studying. In cycle 2 I am confident to tackle change, but still need to consolidate my development. Others have more experience and drive, while the rest are less able through stagnation. As the changes become more real this seems constant for everyone.
6	Level of success in the changed environment (achieve personal & organisational goals)	H	H	H	H	H	N	In cycle 1 I achieved my goals. The others survived. In cycle 2 I did not achieve my goals of career growth as I underestimated the disruption of change. Others achieved organisational goals but not all their personal goals. In cycle 3 I am confidently moving forward, while others are uncertain. As the changes become more real my success is constant, but others have a changed mind-set and their success seems to be dropping.

Participant's general comments:

I believe that the one team has higher ratings than the other because of the different environment, type of work and way they work. Characteristics that make a stronger team are that of consistently being driven and goal orientated to achieve beyond the confines of fixed working hours and effort. Open communication, studying, management and team

member support helps performing teams to increase their performance and develop an underlying strength. Individuals feed of each other's enthusiasm and motivation.

Systems Administrator

Cycle 1 = Time of joining the BA Team, through Y2K and retrenchment phase

Cycle 2 = Time of post-retrenchment phase, through studies and team changes

Cycle 3 = The looming changes ...

Rating Key: VH = Very High, FH = Fairly High, H = High, N = Neutral

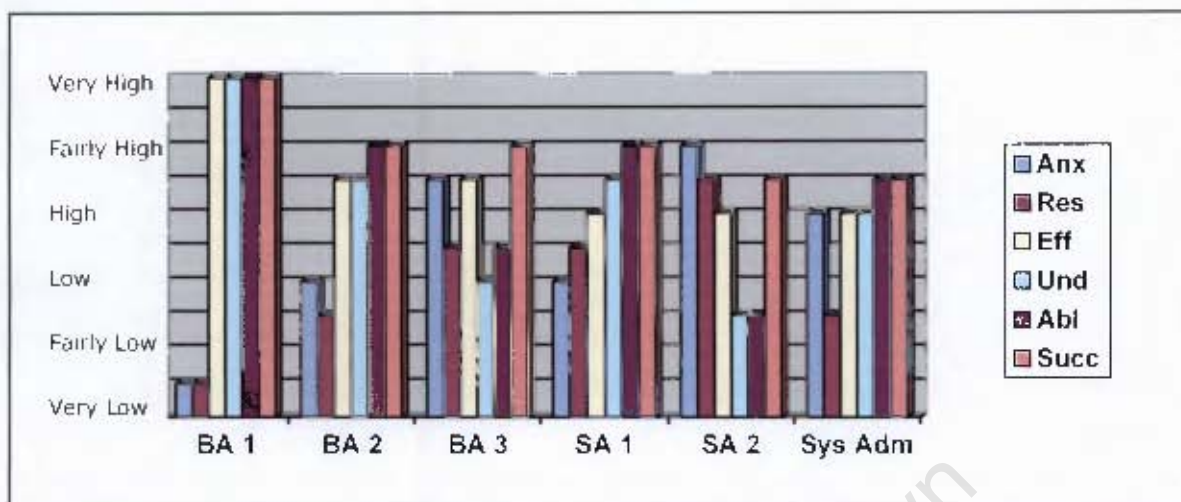
L = Low, FL = Fairly Low, VL = Very Low

Change variables		Cycle 1		Cycle 2		Cycle 3		Reason/s given by participant for differences
Rate from VL-VH		P	O	P	O	P	O	
1	Level of anxiety (uncertainty, fear, misinterpretation, vulnerability)	H	FH	L	N	H	FH	Although cycle 1 was a major change for me it had no direct impact on me having a job, while for others it meant possible retrenchment. Cycle 2 meant less dramatic change and job insecurity. Cycle 3 promises a lot of practical change, but the organisation still need my skills. The other jobs are at risk. These levels are rising due to increasing uncertainty and apparent management politics and control issues.
2	Level of resistance (passive, active, cynical)	L	L	L	L	L	FH	In cycle 1 and 2 the resistance was based on negative feelings, but requirements were carried out because it had to be done. In cycle 3 the internal resistance increased because of the previously inexperienced type of situation of a totally different operating environment for the one team. The other team faced job losses, does not understand the business reasons and feels discarded. As the changes become more real those most likely to be negatively affected have indicated increased resistance, but everyone else is constant.
3	Level of effort to manage change (evaluate, cope, positive)	H	H	L	H	FH	L	Change is not natural but it has to be done. The impact and lack of choice provides the drive to manage it in cycle 1. Cycle 2 did not directly impact me. Cycle 3 means a new environment and many questions that need to be answered for the one team and me. The other team has the same work to get on with initially and that is their focus. As the changes become more real those most likely to be negatively affected have indicated reduced efforts, but everyone else is constant.
4	Level of understanding of (of change and how to manage it)	H	L	H	N	H	L	In cycle 1 I benefited from my studies, while the others had little personal development in this area. This did not change for me in cycle 2 due to the many unknown factors, but others had learned from the last experience. In cycle 3 the one team and I are benefiting from the strong communication and team relationship, while the other team faces a new situation. As the changes become more real everyone's understanding seems constant.
5	Level of ability to change (confident, development, rational perception)	H	H	H	H	FH	H	I believe everyone including myself was unsure of our ability to change because the situations were new in cycle 1 and 2. It also depended on the support we would receive. In cycle 3 we are more used to change and have more confidence to do what needs to be done. As the changes become more real those most likely to be negatively affected have indicated reducing change abilities, but everyone else is constant.
6	Level of success in the changed environment (achieve personal & organisational goals)	H	H	H	H	H	H	Throughout change we have all achieved what was necessary, but not 100% of that which we had set as our target due to circumstance and other changing factors. As the changes become more real success levels have been constant.

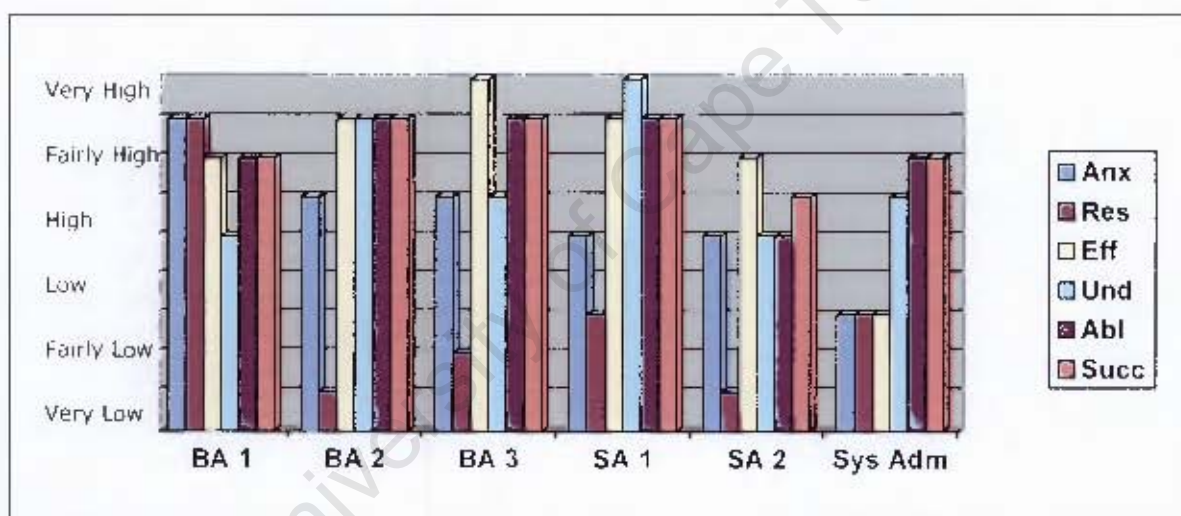
Participant's general comments:

Communication and information are the keys to improve things at an individual level. So that judgements and decisions can be made on facts rather than on perceptions and rumours. There should also be structures and trust in place to deal with issues and allow and enable individuals to change with fear of retribution.

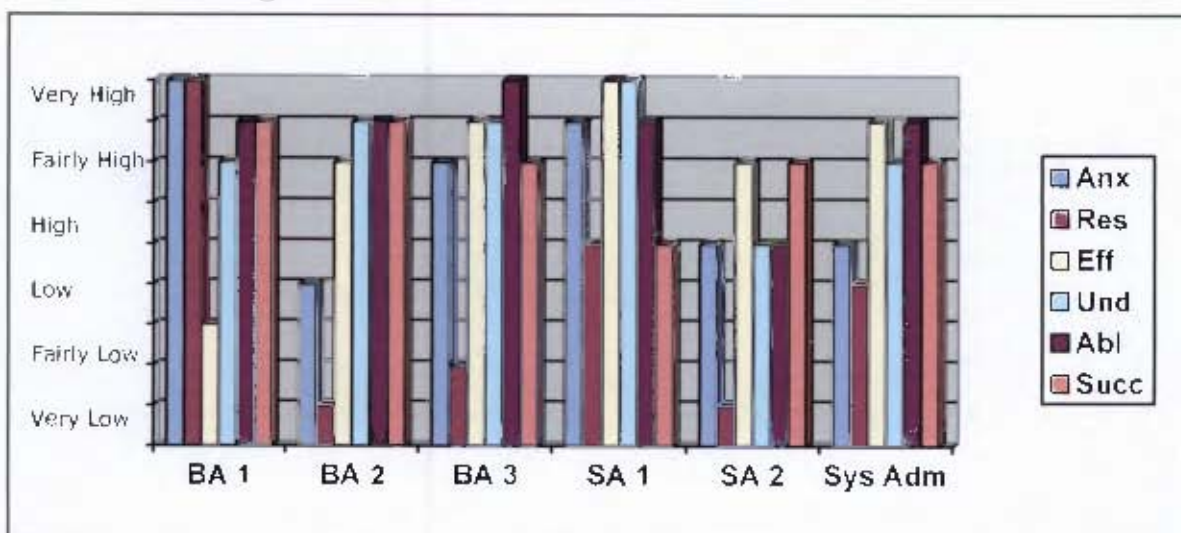
The graphs below, B.1 to B.3, are simply visual aids to illustrate the relative differences indicated by the participants that occurred between the change cycles investigated. They are in no way intended to indicate any quantitative measurements.



Graph B.1: Results of Cycle 1



Graph B.2: Results of Cycle 2



Graph B.3: Results of Cycle 3

Appendix C
Investigation of Individual Planning and Information
Management

University of Cape Town

Appendix C

Investigation of Individual Planning and Information Management

This investigation is based on Hoebeker's Work systems model as described in section 3.5.4. The process levels applied in this exercise are:

Added-Value Domain

- PL1 – day-to-day output (work & general tasks) "apply new learning"
- PL2 – prepare for day-to-day output (detailed planning & preparation for work & general tasks) "plan and prepare to apply learning"
- PL3 – produce alternative output (high-level planning and implementation of changes) "engage in learning activity"

Innovation Domain

- PL3 – develop alternatives (brainstorm scenarios of change) "select learning subject matter"
- PL4 – prepare stakeholders (communicate changing needs) "talk to affected parties"
- PL5 – sense value system changes (perceive changing needs) "experience heightened interest in learning and its value"

Value-System Domain

- PL5 – consequences of value system changes (different way of living and interacting with people) "acceptance of learning requirement"
- PL6 – referent group value system changes (change your associates) "action learners"
- PL7 – develop new culture (change beliefs and values) "action learning"

Business Analyst 1

Rating Key: VH = Very High, FH = Fairly High, H = High, N = Neutral
L = Low, FL = Fairly Low, VL = Very Low

1. Between VL (poor) and VH (very good) what do you consider to be your level of personal management in terms of your future? H

Specific reasons: I always think about the future, but I have trouble acting on making things happen due to uncertainty.

2. Rate personal management and information quality for each level in terms of:

I = Importance (between VL and VH)

A = Actual (between VL and VH)

Functional Area	Added-Value (Time, Vol., Qty, Price)						Innovation (Desirability, feasibility, transferability, systemicity)						Value-Systems (Generative, tolerant, dialectical, congruent)					
	PL1: 1D-3M		PL2 3M-1Y		PL3 1-2Ys		PL3 1-2Ys		PL4 2-5Ys		PL5 5-10Ys		PL5 5-10Ys		PL6 10-20Ys		PL7 20-50Ys	
	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A
Personal management	VH	VH	VH	VH	FH	L	FH	L	H	L	VL	VL	VL	VL	VL	VL	VL	VL
Information	VH	FH	VH	FH	FH	H	FH	H	H	L	VL	VL	VL	VL	VL	VL	VL	VL

Observation: This participant did not appear to be focused the future in excess of one year.

3. Rate the following (L-Low, A-Acceptable, H-High):

Level	VSM Components at a personal level	Rating
1	Direct interaction the environment (value add and receive)	H
2	Co-ordination of the information elements and resources (understanding and use)	H
3	Self-management (audit and control of personal actions in terms of social and personal)	H
4	Interaction with the environment to ensure personal relevance and effectiveness in the future	A
5	Match current and expected work situation to your ideals (personal policy)	L

Business Analyst 2

Rating Key: VH = Very High, FH = Fairly High, H = High, N = Neutral
L = Low, FL = Fairly Low, VL = Very Low

1. Between VL (poor) and VH (very good) what do you consider to be your level of personal management in terms of your future? L

Specific reasons: I have adopted a wait and see position rather than a proactive one.

2. Rate personal management and information quality for each level in terms of:

I = Importance (between VL and VH)

A = Actual (between VL and VH)

Functional Area	Added-Value (Time, Vol., Qty, Price)						Innovation (Desirability, feasibility, transferability, systemicity)						Value-Systems (Generative, tolerant, dialectical, congruent)					
	PL1 1D-3M		PL2 3M-1Y		PL3 1-2Ys		PL3 1-2Ys		PL4 2-5Ys		PL5 5-10Ys		PL5 5-10Ys		PL6 10-20Ys		PL7 20-50Ys	
	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A
Personal management	FH	H	H	L	H	N	H	N	H	N	H	N	H	N	FH	N	FH	N
Information	VH	FH	H	N	FH	H	FH	H	FH	H	FH	H	FH	H	H	L	H	L

Observation: There is a dip in the 3 month to 1 year personal management efforts as the participant believes that the short-term can be coped with based on current strengths and opportunities. In the medium to longer term things are unclear and provision for retirement is important so management and information for those periods become more important again.

3. Rate the following (L-Low, A-Acceptable, H-High):

Level	VSM Components at a personal level	Rating
1	Direct interaction the environment (value add and receive)	H
2	Co-ordination of the information elements and resources (understanding and use)	A
3	Self-management (audit and control of personal actions in terms of social and personal)	A
4	Interaction with the environment to ensure personal relevance and effectiveness in the future	A
5	Match current and expected work situation to your ideals (personal policy)	H

Business Analyst 3

Rating Key: VH = Very High, FH = Fairly High, H = High, N = Neutral
L = Low, FL = Fairly Low, VL = Very Low

1. Between VL (poor) and VH (very good) what do you consider to be your level of personal management in terms of your future? H

Specific reasons: Change affects plans and direction radically and does not facilitate personal management within the available knowledge and individual influence.

2. Rate personal management and information quality for each level in terms of:

I = Importance (between VL and VH)

A = Actual (between VL and VH)

Functional Area	Added-Value (Time, Vol., Qty, Price)						Innovation (Desirability, feasibility, transferability, systemicity)						Value-Systems (Generative, tolerant, dialectical, congruent)					
	PL1 1D-3M		PL2 3M-1Y		PL3 1-2Ys		PL3 1-2Ys		PL4 2-5Ys		PL5 5-10Ys		PL5 5-10Ys		PL6 10-20Ys		PL7 20-50Ys	
	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A
Personal management	FH	FH	H	N	FH	N	FH	N	FH	L	FH	L	FH	L	FH	H	FH	H
Information	FH	H	VH	L	VH	L	VH	L	FH	L	FH	FL	FH	FL	FH	FL	FH	VL

Observation: Personal management and information remains important, however this participant is only focused on short-term and long-term personal management to function effectively in the present and to provide for the post-work period.

3. Rate the following (L-Low, A-Acceptable, H-High):

Level	VSM Components at a personal level	Rating
1	Direct interaction the environment (value add and receive)	A
2	Co-ordination of the information elements and resources (understanding and use)	A
3	Self-management (audit and control of personal actions in terms of social and personal)	A
4	Interaction with the environment to ensure personal relevance and effectiveness in the future	A
5	Match current and expected work situation to your ideals (personal policy)	L

Senior Administrator 1

Rating Key: VH = Very High, FH = Fairly High, H = High, N = Neutral
L = Low, FL = Fairly Low, VL = Very Low

1. Between VL (poor) and VH (very good) what do you consider to be your level of personal management in terms of your future? H

Specific reasons: I am active in self-development and try to control my own future.

2. Rate personal management and information quality for each level in terms of:

I = Importance (between VL and VH)

A = Actual (between VL and VH)

Functional Area	Added-Value (Time, Vol., Qty, Price)						Innovation (Desirability, feasibility, transferability, systemicity)						Value-Systems (Generative, tolerant, dialectical, congruent)					
	PL1 1D-3M		PL2 3M-1Y		PL3 1-2Ys		PL3 1-2Ys		PL4 2-5Ys		PL5 5-10Ys		PL5 5-10Ys		PL6 10-20Ys		PL7 20-50Ys	
	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A	I	A
Personal management	FH	H	H	N	N	L	N	L	N	L	N	FL	N	FL	N	FL	H	H
Information	FH	H	VH	H	N	L	N	L	N	L	N	L	N	L	N	L	H	N

Observation: High personal management effort in the short-term and provision for long-term, but there is a waning effort in the medium-term.

3. Rate the following (L-Low, A-Acceptable, H-High):

Level	VSM Components at a personal level	Rating
1	Direct interaction the environment (value add and receive)	A
2	Co-ordination of the information elements and resources (understanding and use)	A
3	Self-management (audit and control of personal actions in terms of social and personal)	H
4	Interaction with the environment to ensure personal relevance and effectiveness in the future	A
5	Match current and expected work situation to your ideals (personal policy)	L

Summary

This survey, recorded as Appendix C, was conducted to investigate the individual planning and information gathering relevance and effort.

At the Added-Value domain, process level 1, individuals experience direct and immediate physical interaction with their environment, including other individuals. It is therefore reasonable to expect personal management and information to enjoy a high importance and priority. The data reflects this with a high rating for the importance and actual application of both personal management and information.

The data illustrates that after process level 1 the "importance" ratings drop off at a gradual and constant rate with a small increase right at the end. The "actual" ratings however show a significant drop immediately after process level 1, and then gradually fade with a small recovery right at the end. Even though none of the "importance" levels where low, the "actual" levels remained low after the first year. That indicates that neither the actual personal management nor the actual informations is satisfactory to the participants. According to the Work Systems model, this indicates that the individuals are unable to plan or effectively make decisions after the first year. That implies that the necessary preparation in terms of self-development also cannot be effective, which leaves the individuals at risk in terms of their future viability, and they must constantly react to change rather than be proactive.