



Strategic Management of Change within the Production Department at the Rosslyn Plant of Nissan South Africa

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by

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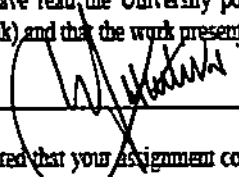
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(II) LIST OF ABBREVIATIONS FIGURES AND TABLES

ii. List of Abbreviations:

DECIDE:	Define, Estimate, Form a crew, Improve, Innovate, Deploy and Evaluate
ERP:	Enterprise Resource Planning
GK:	Genba Kanri (Shop floor control)
HK:	Hoshin Kanri (Management by objective / process)
NSA:	Nissan South Africa
NRP:	Nissan's Revival Plan
PDCA:	Plan, Do, Check and Action
RMA:	Rosslyn Motor Assemblers
SCORE:	Select, Clarify, Organise, Run and Evaluate
SAP:	Systems applications and products
SBL:	School of Business Leadership
Value-up:	Nissan's global principles contributing to added value
V-Pilot:	Business improvement facilitator/coordinator
V-Up:	Nissan's global PMO (Project management office) facilitating projects of added value and business improvement



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(V) EXECUTIVE SUMMARY

In the heart of the well-known industrial area, Rosslyn, just north of Pretoria, lies one of several formidable motor manufacturers. Nissan South Africa, (from here on known as NSA) is currently on the rise to become one of the global competitors in the global Japanese family of Nissan (Ghosn, 2005). Having excelled in the 80's, struggled in the 90's and after a global revival plan, under the direction of Carlos Ghosn, has continued through the last decade to surprise our local consumers with it's impressive line-up of luxury and sporty automobiles, receiving accolade after accolade in both manufacturing as well as after market service and support. (Ghosn, 2005). With a work force boasting 924 salaried employees, 300 temporary staff and 1590 hourly paid employees, NSA contributes around 55000 vehicles per annum combined to either the domestic market or West African export market.

An unusual event took place recently at the Rosslyn plant, which was to change the face and attitude of the manufacturing team at NSA. The organisation was about to join it's competitors and roll out it's plan for a new, fully integrated ERP-system in the form of SAP. This project began in July 2003 and through some hard work and combined effort of the organisation's staff and it's IT partner, EDS (Electronic Data Services), was eventually rolled out to business on July 11th 2005.

With SAP being the chosen tool, the eventual implementation and roll-out of the ERP-system to NSA, particularly to the manufacturing division was not seen as a great success. The organisation found itself with tremendous inventory inaccuracies and as a result brought it's manufacturing facility to a grinding halt several days after the go-live date, triggering the need for emergency proposals and counter activities to take place. The resulting impact on NSA, it's marketing and sales division and ultimately it's dealer network and consumers was catastrophic. This put incredible pressure on not only NSA's executive and staff but had Japan and it's executive suddenly scrutinise their overseas market with intensive interest.



This is the reason why the researcher has chosen the topic of attempting to understand the real issues that NSA were exposed to during this period of 2003–2005, and identify the root cause of the temporary cease of production within NSA's manufacturing facility. The findings were analysed from a set of data captured as a result of a survey that was presented to a sample group of employees and contractors associated specifically to the production activities and production supporting departments. Further data was captured as a result of structured interviews with a select group of individuals representing the senior executive within NSA that were particularly involved in the ERP-project as a whole.

As a result of a survey which was conducted during late September 2006, areas such as resistance to change, the lack of participation, training issues and general "buy-in" from the employees within NSA during this period prior to the go-live stage of the ERP-project were explored. A review of supporting literature will be shared to determine some of the reasons why the organisation was faced with such a difficult task of implementing an ERP-solution for NSA, as well as establish typical norms within industry that contribute to failure in these areas. Furthermore, the researcher will, with the help of business models, attempt to understand some of the issues that could have been avoided, and of course focus on those areas which were seen as being unsuccessful and possible contributing factors to the lack of success of the ERP-project implementation.

Areas such as lack of participation, lack of project awareness and general resistance to change were found to be significantly high during the survey conducted during September 2006, approximately 14 months after the actual go-live activity. The data will be reported and discussed within chapter 5, and made visual to the reader. The paradigm chosen for this research project is phenomenological due to the large impact on the human issues and requires both quantitative data types found in the questionnaire as well as qualitative data found during the structured interview sessions, where open ended questions were posed to the executive.

Once the data was analysed and processed for understanding and presentation, a number of conclusions were then drawn to allow focus on particularly the vital few areas where the organisation can seriously understand, accept and through adapting their business can



avoid a re-occurrence of this in the future. We will discuss the importance of models such as organisational learning, as well as the typical PDCA-cycle, which will be explained later and with the introduction of supporting literature be able to provide the organisation with justified recommendations. These recommendations are aimed at returning to basics and are designed to be in line with Nissan's global strategic requirements and most importantly should be seen as realistically possible to implement. The proposed recommendations will also be a result of a number of structured interview sessions conducted with the NSA executive to determine the reality and sustainability of the management of change and transformation within NSA regarding future projects. The interview sessions will be a discussion with the executive regarding the results of the questionnaire, and their input regarding possible contributory factors to these results.

Some of the recommendations include, a suggested return to basics, improved communication and a commitment from senior management to ensure that NSA follows the advice and way forward provided to us by our Japanese colleagues in the form of "The Nissan way", Genba Kanri, Hoshin Kanri and Nissan's newly added V-Up methodology.

Finally after recommendations to NSA's top executive, the researcher will reflect on the journey taken to get to the stage where all the models, the literature and the understanding have almost become a day to day activity of seeking continuous improvement both within it's own manufacturing boundaries as well as those of it's suppliers. This important reflection will hopefully provide guidance to future students and possibly offer areas that can be further investigated or researched.



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CHAPTER 1. BACKGROUND AND INTRODUCTION TO THE PROBLEM

"We must become the change we want to see"

Mahadma Gandhi

1.1 Introduction:

Nissan South Africa, from here on known as NSA, has established itself as a major competitor in the local automotive manufacturing arena. With the continuous pressures associated with imported brands and the race to provide the consumer with an effective dealer network to support their sales, NSA has managed to sustain local market share in a competitive playing field (Reported at NML annual consolidated financial reports 2005). With this in mind, all at NSA will have to transform the organisation swiftly and efficiently in order to remain competitive. Therefore the need to manage change and ultimately transformation as efficiently and effectively as possible.

Product ranges at NSA include locally manufactured units as well as imported (CBU) units both contributing to the reported monthly NAMSA (National automobile market of South Africa) market share report. The organisational structure at NSA, is made up of multi divisions, each focussing on specific mid term goals provided to them by NML (Nissan Motor Company Japan). Our aim within this research is to focus on one specific division within this organisation, that of it's manufacturing facility and more specifically, the Production environment within the Rosslyn Plant of NSA.



Research objectives:

1. To identify the challenges that the Production department has undergone within the past 12 months.
2. To investigate the reasons why, during this period, change almost seemed difficult.
3. To develop and propose a strategic framework/model for the successful management of future transformation within NSA.

Qualifications:

The author is currently employed within NSA as Manager, Corporate planning, focusing on potential business improvements within the Manufacturing area.

Having originally qualified as a Tool and Jig maker and later moved into an academic background. Having completed a 2 year post graduate qualification from Potchefstroom University through AGN and an MDP from Unisa SBL, while currently studying towards an MBA from the same institute. In addition to this the writer has 18 years experience within a production environment with a specific passion for operations management and the dynamics associated to continuous transformation as a result of the need for change.

1.2 The Problem review:

NSA continues to focus on issues such as:

Are we mature enough as a Company to accept the responsibilities enforced on our manufacturing division by the effects of globalisation and its associated need for change?

Further questions continuously come to mind and need to be addressed namely:

Can NSA as an organisation manage the transformation required to meet the challenges associated to change, and most importantly can these challenges be met in time? Can NSA seriously assign the organisation, as a manufacturing division to ensure that the



extensive list of demands will be met, and if so, is there an easy way to communicate these needs and change requirements as well as facilitate the obvious mind set change to the employees in such a way that it can be met with a positive and participative attitude? The answer to all of the above questions could quite simply be yes, through participative change management and facilitation, as well as a clear understanding of the needs of the employees who will be directly affected by the changes, only then can the goals possibly be met.

The aspect of testing the organisation's readiness and the preparedness for this challenge associated to globalisation, becomes paramount at this stage of the game. Further questions may be asked by the business, management and the employees, such as:

- Why is change necessary for NSA to survive?
- How will NSA benefit from this change and what is expected from employees?
- Is NSA capable of implementing and sustaining these requirements?

Are these questions really that obvious to any human resource department facing inevitable change? Where the difference is really measured, is the ability to pro-actively address these issues as early as possible and to have a clear communications plan thus ensuring that change is gradual and progressive rather than forceful and directive.

1.3 The problem statement / Research question:

The purpose of this research report, is to highlight, within manufacturing, the preparedness of the production department of NSA (a local automobile manufacturer) to meet the demands associated to the management of change and the effect on the organisation. The change should be well facilitated in order not to discard issues such as participation or cultural influence. The final objective of this research will be to provide a framework whereby NSA, can utilize a simple set of rules to avoid disappointing results regarding the implementation of typically large projects.



1.4 Sub-problems:

This research report will focus on investigating the following sub-problems:

Sub-problem A: An investigation into the previous approach to change management during the recent implementation of the ERP solution within the Production environment of Nissan South Africa between the period, 2003 – 2005.

Generally it can be said that in order to make a success of any project it is important to involve the participants, in this case the production personnel at NSA, and of course the users of the proposed SAP-system. During the initial phase of the ERP project (Beginning July 2003 and ending July 2005) the general consensus was that this particular aspect was not carried out, so much so that even the representatives that were responsible to analyse and capture current state were not aware of the full extent of the project charter. This could point to poor communication even at the off-set of this project.

It is important to understand why NSA embarked on the need for an ERP (Enterprise Resource Planning-solution) in the first place. The need for standardisation of working platforms becomes essential should globalisation in any organisation become a need rather than a competitive advantage, keeping in mind that when NSA adopted the ERP-solution, most other automotive manufacturers had already completed their implementations or were at least nearing completion.

When looking at globalization, it is now no longer an objective but imperative, as markets open and geographic barriers become increasingly blurred and even irrelevant. Corporate alliances, whether joint ventures or acquisitions, will increasingly be driven by competitive pressures and strategies, rather than financial structuring (Slater, 1993). As stated above, Slater (1993) makes mention of the blurring of geographic barriers, here we see in South Africa the increased imported range of motor vehicles available to the consumer. With this obvious infringement into our "back yard", the only alternative besides losing market share is to retaliate by competing for market share on a global scale, and not restricting NSA



South Africa to the domestic market. Notwithstanding the obvious increased opportunities that extend from globalization such as increased economies of scale, reduction in costs and the potential maximization of profits.

With this in mind, the poor implementation of the adopted ERP-solution for NSA, that of the introduction of SAP to the entire business, with the exclusion of the HR, QM and BW-modules is reviewed (Human resources, Quality management and Business warehouse modules). During the initial phase of the project in April of 2003, a number of strategic requirements for the project were implemented, such as:

- Crew forming (gathering of necessary resources for the particular modules);
- Establishment of the project charter (Definition of project scope);
- Potential barriers to successful implementation (Risk analysis);
- Stakeholder analysis (measuring the buy-in from senior management);
- Establishment of a communication plan (Which remains dynamic throughout);
- Overview and basic training for project business representatives; and
- Setting of ground rules and expectations from project management.

One can see from the above preparation phase, that the ideal scene was beginning to take shape. However, there were some shortcomings with regard to issues such as resource gathering and stakeholder analysis. As one senior manager stated: "One can see from the analysis that there are a number of burning platforms" (Stated during an executive feedback session on the status of the ERP-project roll-out.)



1.4.1 Resource gathering:

When embarking on a project the size of the NSA ERP-project, one cannot help but wonder if the organisation has the correct number of resources in comparison to those numbers of consultants whom are obviously required to assist and guide. The consultant/business representative ratio is important to the success of the project and can be measured using bench-marking of other auto-manufacturers implementing similar solutions. Unfortunately NSA was found to be under-staffed in these areas and as a result of this are still today mapping processes and "tweaking" the SAP-system to provide the ultimate solution based on best practice as there was no time nor sufficient resources to spend on detailed solutions. (Currently the situation, as noted during a discussion with the project team manager, addressing, amongst other things, the need for continued support.)

1.4.2 Stakeholder analysis:

During the initial phase the stakeholders were to be evaluated and mapped according to a matrix.. The purpose of the stakeholder-mapping was to determine the feelings of participants involved in the project as well as the level of progress. The stakeholder analysis also assisted project management in the assessment of potential risks associated to the successful implementation of the project.

Table 1.1 details the need for, firstly establishing stakeholder's position, with regard to personal views as well as a recommended position for the project management team to ensure deliverables are met with a positive attitude through the assurance of participation during the initial planning phase. Furthermore, stakeholder-analysis allows the gathering of sufficient data concerning all areas that may influence the outcome of the project in order to assist project management, in pro-actively mapping areas of concern, while at the same time, prioritizing areas in order to ensure that sufficient time is allocated to remove potential obstacles.



Table 1.1: Stakeholder analysis

Stakeholder analysis							
Names of Stakeholders	Division	Strong negative (-2)	Negative (-1)	Neutral (0)	Positive (+1)	Strong positive (+2)	Reasons for attitude
Production	Manufacturing		○	→	→		Past experience
Production control	Supply chain management				○	→	
Operations management	Supply chain management				○	→	
Press shop	Manufacturing			○	→		
Engine plant	Manufacturing		○	→	→		
Purchasing	Supply chain management	○	→	→			Reserved
Sales & Distribution	Marketing				○	→	
Warehousing	Manufacturing			○	→	→	
Maintenance & Engineering	Manufacturing		○	→	→		
Finance	Corporate			○	→	→	Need to be positive
Line supply	Manufacturing			○	→		
Planning	Supply chain management			○	→		

Source: V-Up Training material (2005).

The stakeholder matrix-mapping, was unfortunately, not carried out and resulted in a lack of focus on what the customer ultimately sought after, as opposed to what the project team was actually about to deliver, leading to the unsuccessful implementation of the proposed ERP-solution. This resulted in the question posed: what could have been done to avoid a disappointing project implementation at NSA?

Sub-Problem B: An investigation into the reasons for the previously identified strengths and weaknesses of the past change management strategy.

It is important that any person would want to avoid making the same mistake over again, this is understandably just as true for any organization implementing change. The importance of registering mistakes, taking cognizance of those mistakes and most importantly, learning from those previous mistakes. This is therefore paramount when any organization considers embarking on transformation.

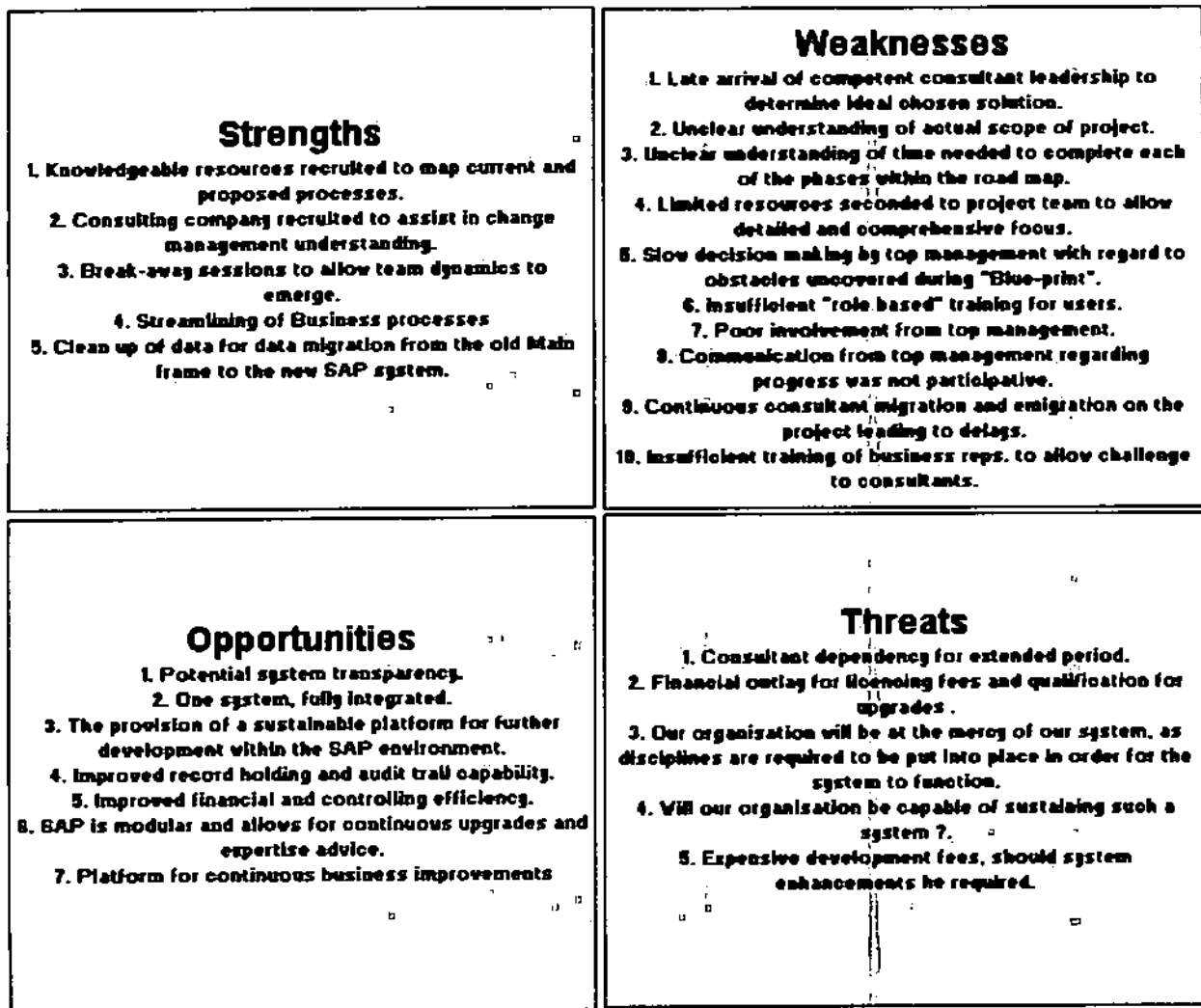
NSA has a tool that is used to continuously evaluate the status of any particular project. This tool is known as the PDCA-cycle, and focuses on ensuring that the project team moves continuously around the cycle, focusing on areas such as: Plan, Do, Check and Action. The data is then evaluated and the cycle begins again. In this way one is ensured of a proper evaluation during various stages of the project. This type of focus has been



rooted into the V-UP methodology that has been adopted by Nissan from a global perspective, with the project management's need for "tollgate" signoff at the end of each stage prior to allowing the team to continue to the next stage of the project. This type of approach would have been beneficial to the project team during the ERP-implementation, as there seemed to be areas of concern regarding what was in scope and what was not. (this was a comment made several times during the weekly meetings held between NSA, whom was seen as the client and EDS, representing the service provider.) The V-UP strategy would have pointed out, almost immediately that the scope of the project was unclear and pre-determined milestones would have been required to define the exact scope of the project before continuing.

By using the results of a survey conducted within the business, and by focusing on three groups of people, namely those involved in management, those from the business team and finally those employees that will eventually be known as the users, NSA was able to measure the preparedness of the staff whom would directly be impacted by the ERP-implementation. Twenty-one questions were asked in the survey, and the same questions were asked on four different occasions, allowing consistency in measurement. However, the researcher wishes to focus on the possible weaknesses as well as the strengths identified during a prior survey conducted at various stages between September 2003 and March 2005. Figure 1.2, in the SWOT-analysis describes areas of weaknesses as well as NSA's strengths during the project implementation.

Figure: 1.2 SWOT- analysis on NSA's ERP- implementation



Source: Contemporary strategy analysis, (2002).

The above SWOT-analysis, allows NSA to realise the areas where weaknesses may have been experienced during the roll out of ERP-Areas such as limited knowledge, training, and understanding are all seen as weaknesses, while, consultant dependency, expensive licensing and lack of discipline to sustain the system going forward are seen as current as well as future threats (Results obtained during an internal E-Mail request for comments from the ERP-project team 8 months after Go-live had been realized) The above SWOT-analysis identifies weaknesses and threats, which NSA should pro-actively address and manage in future.



Important areas of strength were realized such as: business knowledge, change management training and team-building. While these are vital to the success of any project, one needs to point out that these areas should have been focused on the eventual end-user and not only the project implementation team. The knowledgeable resources that have been highlighted, was unfortunately limited to a small number of business representatives that the organization could spare. As mentioned previously, there was a need for additional skilled representation to allow proper mapping and development of business processes. This proved to be one of the major contributing factors to the poor implementation of the project at the "go live" stage. The team was too thinly spread across the operations environment and this resulted in massive workloads on limited resources where problem solving and user assistance were required and expected.

There are a number of pitfalls, when using a tool such as a SWOT-analysis. Although the tool serves its purpose well when used in the context of the ERP-evaluation and potential opportunities moving forward. However if this tool is not used correctly, one may find a situation where the organization is limited to its current strengths and weaknesses and the users of this tool may find this limiting during a strategic planning session. Furthermore one can understand that if the organization was to focus particularly on its weaknesses, the executives may find themselves locked into detail concerning reasons for non achievement rather than attempting to challenge the boundaries of the organisation's possibilities.

Sub-Problem C: An identification of the factors that facilitate and contribute to successful implementation of organisational change whether planned or unplanned.

Participation has always been identified as a potential remedy for resistance to change (Lewin, 1947). Keeping in mind that at this stage no suggestion is being made by the researcher nor by NSA, whether resistance was present or not. I do however suggest that there are a number of issues in specific areas that could have been avoided or found themselves better prepared for what we see as continuous, inevitable change.

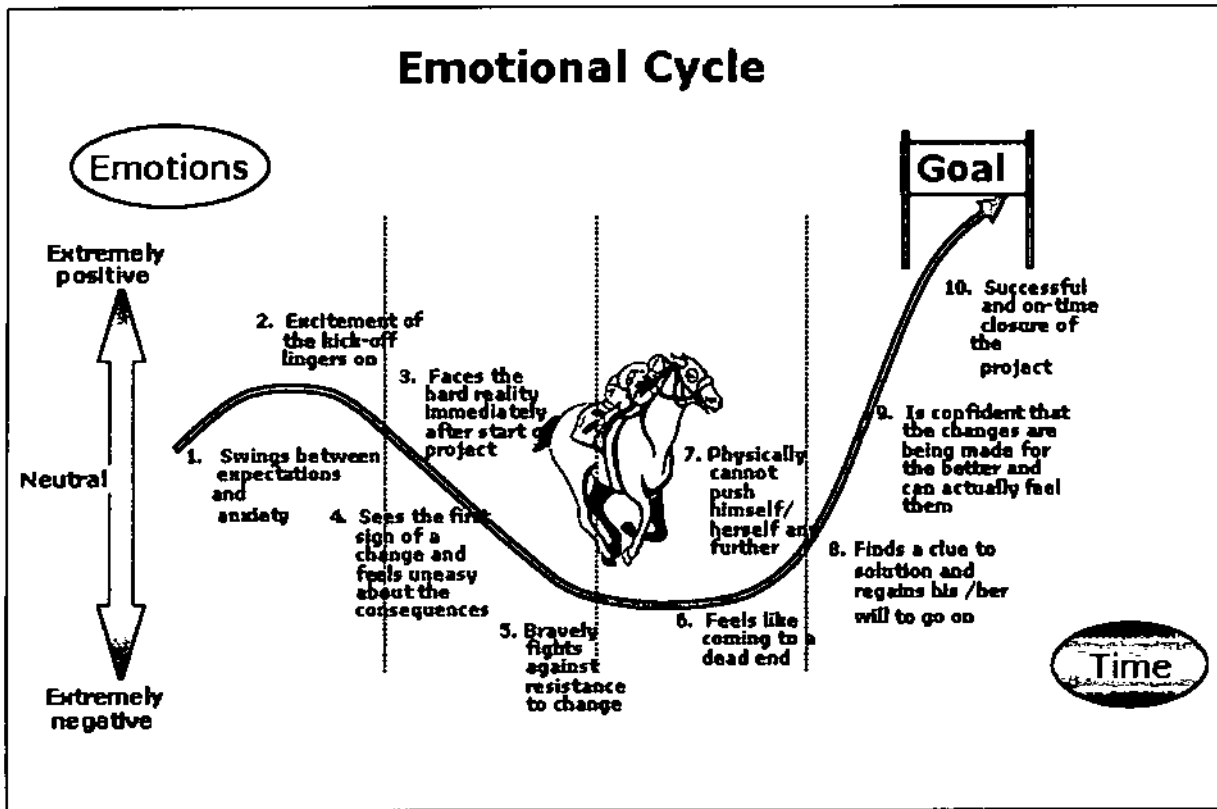


"The methodology used when businesses are expected to implement such large projects, as well as the unavoidable re-engineering that comes with it, is quite straight forward and has been enhanced over the years based on experience" (Botes; 2005). The business gets exposed to the proposed methodology and advice is given on the preferred approaches to be taken. "I remember at one stage where the project was seen by senior management as nothing more than a "plug and play", in fact everyone was looking for the disk" (A comment made by one of the project team members during a weekly feedback session regarding ERP-project status and readiness.) Such a comment indicates that there was minimum change management and/or involvement from top management toward the actual understanding of the goals and objectives of the project.

Thus, with the expertise of the experienced consultants who have witnessed the "change curve" on a regular basis, (as they have been involved with many similar projects), should come the ownership by the business and ultimately the human resource department, to slowly guide the organisation through a well-developed communication plan. This communication plan should not only focus on the outcomes but on the need to change thus explaining the bigger picture and not just focussing on directed change, but rather a planned change.

The next section focuses on the change curve and the impact thereof in managing employees perceptions.

Figure 1.3: The change curve



Source: V-Up methodology training manual (2006)

1.4.3 The change curve in perspective:

One can see the relevance of the emotions (Y axis) over time (X axis) plays an important role, and the understanding of these emotional dips is crucial to the correct management of the staff that are subject to the project implementation phases.

It is vital for the change agents, in most cases a specific team of individuals focussing on the needs and reactions of the different groups of people directly and indirectly affected by the proposed project, to monitor the different phases of the change curve and assist where necessary in directing or supporting at the relevant times. Trying to build a bridge across the curve and effectively shorten the journey would prove to be disastrous; the journey is the important aspect of the experience during the transformation period (Davis and Dean, 2005).



1.4.4 Directed change:

Directed change is a top down focus type of change management. This type of change management requires less communication to the work force as it is seen as a non-negotiable strategic part of the business going forward. Senior management therefore feels that it is necessary and therefore almost forces the change into place.

1.4.5 Planned change:

Planned change however is a little different in the sense that it involves a lot more communication and of course the inevitable participation of the stakeholders, which obviously includes the employees.

The use of change management tools are not being disputed by the researcher but are found to be rather commendable in such areas as the securing of the services of change agents and consultants to assist in the process, break-away sessions to create an ideal work environment and change management facilitation work shops. However the change management was focused on the business representatives as well as the consultants, who were in a way themselves, "agents of change" due to the role they were expected to play in the ERP-project implementation. The business representatives were participating in the planning phase and therefore more accommodating as far as change was concerned.

Sub-Problem D: To provide recommendations and formulate a strategic framework / model for future management of change at NSA.

NSA would want to pro-actively, measure the preparedness of the various divisions and departments. NSA would wish to make use of a survey as well as interviews to capture the results of the recently implemented ERP-solution at NSA, with specific focus on the production department of the manufacturing facility at Rosslyn, South Africa in order to prioritise specific needs. In hind sight, after the chaos of the ERP-introduction, one could back track and evaluate the state of preparedness that the production department was at. This result would be a frightening eye opener for any change management facilitator or project manager, which by the way was highlighted by the project team (All team leads as



well as project management) prior to the project completion at a "go/no go" decision meeting (These meetings are held at strategic milestones of the project where top management, as a steering committee, gets to evaluate the current status of the project and when and where relevant then authorise the continuation of the project representatives of NSA, were not the only employees who were to be exposed to the new processes and systems, therefore the facilitation offered by these change agents should have extended to the business as a whole, and been offered as soon as possible during the project.

There are a number of change management tools available to the NSA business manager, however, what will be investigated here, is the correct tools as well as the correct use of these tools to drive the desired results. The recognition of "resistance to change", the proactive approach to the management of that so called inevitable potential resistance, together with the relative and carefully chosen tools of change, will bring NSA to a point where we would be in a position to provide recommendations to the business to best address the department's needs (those areas that were found to be lacking within the organisation during the go-live and post go-live stages of the project.) In some cases management may well be able to point out a few areas where there should be additional focus, if the organisation saw there was a need for a significant shift in the business and it's day to day activities.

1.5 Research objectives:

The objectives of this research project are to identify and address the following issues:

- To identify the change management challenges that the production department at NSA has recently undergone;
- To evaluate the lessons learnt from these type of changes, and how could NSA be better positioned to address these continuous dynamics; and
- The development and proposal of a strategic framework / model for the successful management of change at NSA.

1.6 Importance of this research:

The importance of this research is to ensure that the report is meaningful in the sense that should NSA consider transformation as a result of external changes, the organisation should be able to benefit from the discussion and findings covered within this document. In addition to this, there is the need to point out the strategic importance to NSA, thus that NSA will generally deliver late on projects, resources will not be adequate in numbers to support the required objectives, while adequate training may be found to be lacking in some areas.

Furthermore, there is an opportunity to investigate the frequently discussed and debated relationships between areas such as resistance to change and participation, as well as the cultural influence when change is considered within different companies or companies within different countries. There are three attitudes that an organisation's employees might have regarding the need for change. (Elizur and Guttman; 1978) and re-affirmed by Dunham, *et al.*,(1989). These attitudes are categorised as:

- **Affective**, having a feeling of being linked to satisfaction associated to the change.
- **Cognitive**, the organisation's opinions and knowledge needed to address the change successfully (Later measured as "Organisational").
- **Behavioural** attitude, where the employee's behaviour or intended behaviour related to the change is known (Later measured as "Individual").

These attitudes, when known, can help NSA in determining the approach to change in order to minimise the impact on the employees, and ultimately on the company's bottom line. Should the cognitive approach be used early on in the road map of change, resulting in the early address of NSA's opinion toward the change, the organisation might be able to benefit by indirectly effecting the behavioural attitude as a result, therefore leading to a more successful implementation of change. However, if handled incorrectly, or misunderstood, the organisation may find itself in an uncomfortable situation.



The study will attempt to identify and present recommendation to NSA on possible shortcomings related to the complexities of change management.

1.7 Research overview:

Nissan South Africa has had a number of extreme pressures placed upon the organisation over the last number of years, with the period 2003 - 2005 being no exception. With the realisation of increased globalisation and the obvious need to adapt the systems to the "new" common platform, it has become necessary for NSA to approve and implement an extensive ERP-system, something that will give NSA the edge to compete both globally and within the domestic market. This choice was made in the form of SAP (Systems Application and Processes). A well established system with obvious advantages of standardisation, fully integrated transparent functionality, with the just as obvious difficult task of design and implementation.

The focus of this dissertation is therefore to evaluate where NSA could have been more pro-active, in the sense of improved communication, continuous feedback to the business on the changes continuously taking place regarding process mapping. Training in the form of "role based" rather than "process based" was never presented as an option, while configuration was left to consultants with absolutely no input allowed from business representation, which inevitably leads to consultant dependency. A situation in which NSA currently finds the organisation in, which relates to the original "threats" in the SWOT-analysis, previously discussed in Figure. 1.2.

Participation within NSA was recorded at its lowest level, during a human research and development survey conducted midway through the implementation (NSA Human resources department, September, 2004). The questions therefore which this dissertation will focus on are:

- Could this poor participation, poor ownership and ultimately poor implementation have been avoided?



- Could the dramatic impact on production have been minimised?, and
- Could the loss of volume with regards to manufacturing been prevented?

The dissertation will explore the detail and analyse the facts with reference to NSA's implementation of change management.

1.8 Limitations and delimitations:

1.8.1 Limitations of this report:

Limitations are defined by Collis and Hussey (2003) as the constraints within the research project or study being conducted.

The purpose of this report is to highlight the need for specific tools in the management of change. It is not directed at any specific shortfall in management's ability, nor does it try to assume that tools were not used or at least presented to management during the project-implementation phase. The focus rather remains on the importance of the tools and attempts to measure the result or failure should the methodologies and / or tools be ignored during a significantly large business transformation taking place in the future.

1. The study will be based on interviews with internal employees of different levels, but will focus specifically on the Production environment.
2. This study will include a survey conducted internally, representing a sample of the NSA manufacturing population, spanning across gender, age and position, to ensure an un-bias picture is captured of the feelings associated to NSA's approach to project-implementation.

1.8.2 Delimitations of this report:

Delimitations are defined by Collis and Hussey (2003) as the reservations of the study.

While the introduction of the new ERP SAP-solution was aimed at, and impacted directly on, NSA as a whole from the financial planning, purchasing and manufacturing



responsibilities through to the sales and dealer networking areas, the report will only, due to restrictions of time and resources, be focussed specifically at the manufacturing division. Further focus on the production activities will allow a considerable amount of detail to emerge and further enable the researcher to address specific areas of improvement within the production facility at Rosslyn, South Africa. With this said, no generalisation can be made regarding the motor industry as a whole, as only NSA employees are to be surveyed and interviewed. If change is therefore seen to be inevitable, then NSA should best equip the organisation with proven methodologies to assist with the facilitation of the transformation processes if the organisation is to expect positive results regarding buy-in to the complex task of change management.

It is therefore vitally important to understand and recognise the issues that may hinder the process, and equally important to do something about these. Furthermore, the researcher would expect NSA to be in a position to find this report meaningful when considering future long term projects and to be in a position to investigate the possibility of further improvement and benefits from the results obtained from this dissertation.

Finally the objective of this research will be to provide NSA, particularly the production department, with recommendations on some of the areas discussed as well as to provide factual detail to support the recommendations that may enable NSA to learn from past experiences and better equip the organisation for the changing road ahead.

1.9 Conclusion:

After having been introduced to the background of NSA's business as well as the objectives of this dissertation report, it can be established where the boundaries, of such a large scope of ground to be covered, are placed. As the field into which this report will attempt to explore and research is so widely spread, it is important for the reader to understand that the specific areas of change management, preparation for change as well as the management of eventual transformation will be discussed and evaluated.



A structured approach has been used in order to deliver this dissertation. Various chapters have been well structured to ensure that all the sub-problems are addressed, and that valid and reliable data is obtained from the research. The data has been carefully analysed so that the data is transformed into useable relevant information, which is robust enough for good management decisions to be formed. A detailed discussion on the objective and importance of the study will be introduced in chapter 1.

An analysis of the problems within NSA forms the focal point for Chapter 2. This chapter has been written using various models and theories, which have been applied to the NSA Production environment.

A literature review has been explored within Chapter 3, herein a critical analysis has been conducted on available relevant material, which focuses on the topic. The literature review considers the points of view of many authors, and considers the applicability of these works to the solving of the sub-problems.

Chapter 4 considers the method used in this research project. Once again the methodology has been formulated to best answer the research problem, and the associated sub-problems.

A questionnaire has been used to interact with the production employees at NSA to determine what their views are with regards to change management. The results of the questionnaire have been analysed and collated to indicate areas of focus and are presented and discussed in chapter 5. This information has been used to formulate findings and recommendations for NSA, these findings pertain to all of the sub-problems as recognised in Chapter 1. Furthermore, these findings and implications discussed in chapter 5, will be followed by conclusion and recommendations to management recorded in Chapter 6 of this dissertation report.



Finally, the opportunity for the researcher to reflect on areas that have been rewarding both during the complete MBA programme as well as the research project. Those lessons learned and opportunities for further study will be discussed in chapter 7.



CHAPTER 2. EXPLORING THE PROBLEM

"To live a creative life, we must lose our fear of being wrong"

Joseph Chilton Pearce

2.1 Introduction:

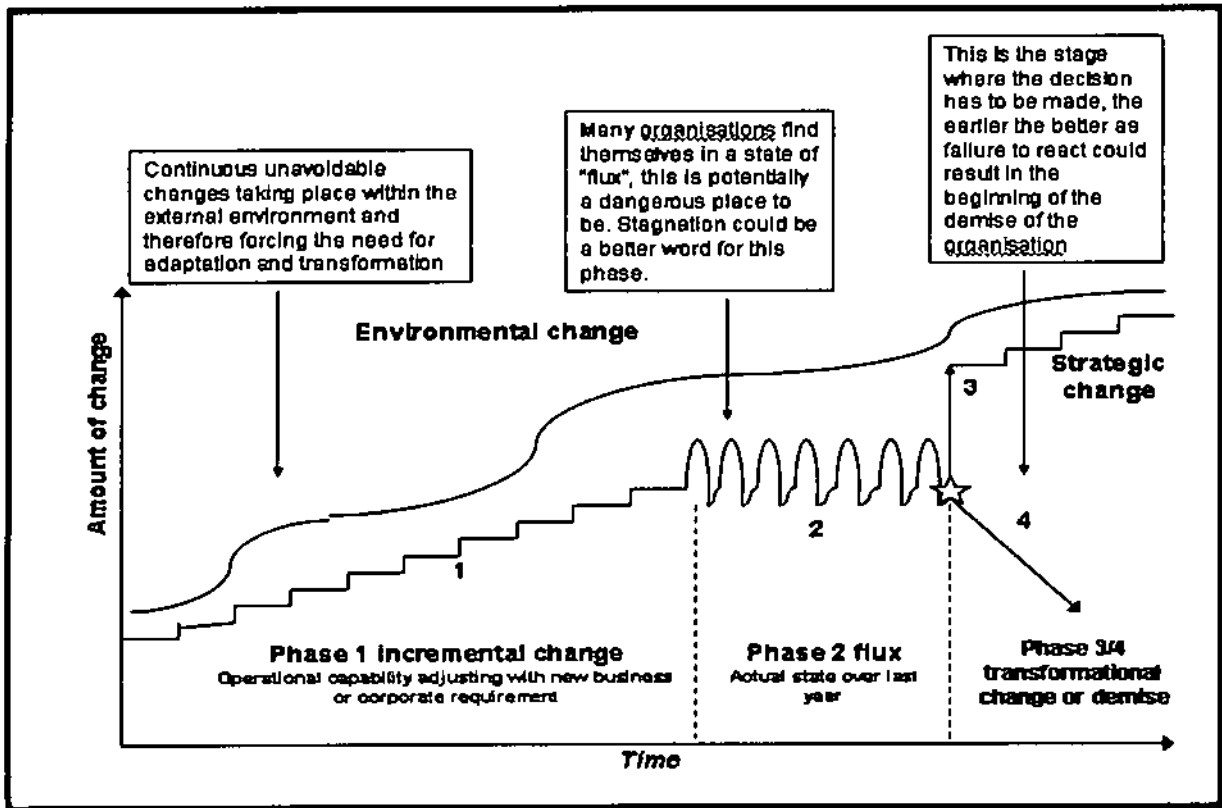
Within this chapter, the researcher will establish the real areas of concern pertaining to the topic of discussion, namely that of managing strategic change within an organisation that has no choice but to adapt and transform accordingly. These concerns will be explored using business models adapted from various subjects and disciplines to help highlight the concerns NSA is trying to address.

With the focus being on the achievement of the objectives of this dissertation, chapter 2 will introduce the reader to some of the current models that are available for use within NSA.

2.2 The problem analysis:

Within the South African business environment, it has been remarked that SA businesses look inward, and are "closed" as far as issues regarding globalisation (Human and Horwitz; 1992). This view was later also confirmed by Vermaak in 1996 when he commented that South African organisations have as a result of the past isolation, found themselves to be quite "lethargic and myopic" and suggested that the organisations wake up and change (Swanepoel, *et al.*, 1998).

Figure 2.1: The risk of strategic drift within Nissan South Africa



Source: "The risk of strategic drift", Johnson, (1988).

2.2.1 Strategic drift:

All organisations are faced with, at some point in time with the risk of strategic drift. It is the speed by which organisations realize this fluxing effect and of course the speed of action that contributes towards either competitive advantage, or just plain survival. In Figure 2.1 the star depicts the fork in the road, this is where the decision needs to be made on a strategic level. Number 3 represents a pro-active approach in searching for a solution to assist the organisation out of this "fluxing" phase. Number 4, on the other hand depicts the path, which the organisation will inevitably follow should there be no adjustment to in its strategic thinking and implementation, that path if chosen, unfortunately may lead to demise. This would be justification enough to convince senior management within the organisation that progress is inevitable and requires constant thought and action in order to be competitive. This was probably the stage that NSA was at with regard to their ageing "legacy", (Main frame) systems, therefore qualifying the need to adopt a globally accepted alternative such as an ERP-solution. Seeking the ultimate solution would not have been an



easy task and a considerable amount of benchmarking may have been used as a concept analysis tool. Several solutions would have been put to the board of directors, and SAP was seen as the preferred option, keeping in mind that most auto manufacturers are currently involved with SAP in some form or another, both locally and globally (Information on benchmarking obtained by project team at the outset of the planning phase of ERP, as indicated in discussion with the relevant business analysts.)

If NSA is to become a "learning organisation", the need for a revised mental model will be appropriate. Schein (1992) believes that it is possible to develop a "learning culture" within an organisation, and the responsibility ultimately lies with the senior management to encourage such a culture. Schein (1992) goes on to list the following attitudes and beliefs that should be shared by the organisation's members:

- Senior managers' should encourage members to solve problems pro-actively;
- Senior managers and experts can be questioned by other employees;
- There is no one "best" way of working, sometimes in teams, sometimes as individuals;
- Communicating information at all levels is important for organisational success;
- Diversity in the organisation is good, provided that everyone communicates with each other; and
- Organisational members should be open and reflective about experiences, therefore allowing solutions to emerge.

The above requirements, according to Schein (1992) are good guidelines for organisational success through participation, as well as a plain understanding that the challenge is simply being able to shift the organisation from where it is at present to where it wants to be with the least effort and disruption. Fortunately NSA has developed a strategic tool that does just that. This tool is introduced by Carlos Ghosn as the **Value-up** (V-up) philosophy at the global Nissan conference in Japan in 2002.



2.2.2 Nissan's global Value-up strategy and the contribution towards global success:

After the success of the Nissan 180 strategy, which depicted the following:

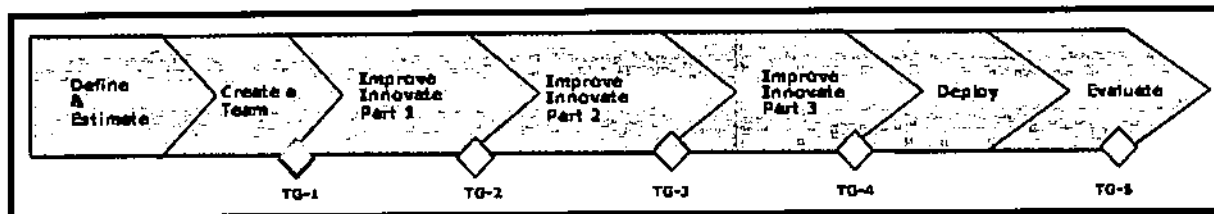
- the need to realize a drive to become number 1 in the world,
- to increase operating profit to 8% and
- to reduce, at that time, NSA's extensive debt burden to 0, after which, a new more focussed drive was sought after (Nissan I-Shift magazine, 2003)

The launching of the Value-up strategy to succeed Nissan 180 was a sure winner. After the positive results and the assurance that Nissan could achieve its targets, however steep, the challenge to pro-actively seek and solve current problems by involving all parties in group discussion seemed almost simple. With the launch of the global V-Up project management office, supporting a group of representatives from all countries, the new culture had begun to permeate through the stiff, almost archaic project approach of the past. The time had come where change became the order of the day and accepted by all as part of the day to day business, while ensuring that value is obtainable and of course sustainable.

The V-Up methodology is a hybrid of standard management tools combined with the philosophy of 6 Sigma, which is used throughout the automotive as well as various other industries as an improvement methodology to drive out in-efficiencies by using a disciplined and systematic approach (Erasmus, 2006). In V-Up NSA uses what is called a DECIDE approach, which breaks down into Define, Estimate, Create a team, Improve/Innovate, Deploy and Evaluate. Within this methodology there is a disciplined staging process, where continuous re-evaluation takes place, and specific toll-gate (milestones) sign-offs are required as the project progresses. Repeating mistakes or not learning from the past is a totally unacceptable philosophy when using tools such as Six-sigma or V-Up.

Furthermore, participation in any given proposed change is unavoidable when using the V-Up methodology due to the need for the continuous involvement of SME's (subject matter experts) and therefore NSA's drive to ease the pressures associated to change or the impact caused by change is made easier through the use of the correct tools and methodology. In addition to this, the increased involvement of management and supporting areas in what is termed "crew" meetings, ultimately aims to deliver a sort of ownership within the business, rather than an "outside looking in" perspective. This approach allows the crew to develop and implement a chosen solution focussing on planned change as opposed to directed change.

Figure 2.2: The V-UP process of tollgate sign off



Source: V-Up training material, generation 5, (2006).

Figure 2.2 depicts the organisation's need for tollgate (milestone) achievement points, thus ensuring that each objective has been clearly met and evaluated for quality of delivery. At these crucial points in the project, the leader, the stakeholders as well as the crew are brought up to speed regarding status, current concerns and most importantly plans for the next phase of the project.

In reality, NSA finds that with the use of the V-UP methodology and the need for tollgate sign-off, the disciplines are measurable and the quality of the work is almost consistent due to the standardisation of templates used. In the past, NSA has found that there are perfect plans but poor deployment, leaving the project in doubt whether the actual "voice of the customer" or "voice of the stakeholder" was in fact satisfied, with Nissan's V-UP methodology. The project will thus not continue to the next phase if the specific objectives of the previous stage were not met and agreed by all parties involved.

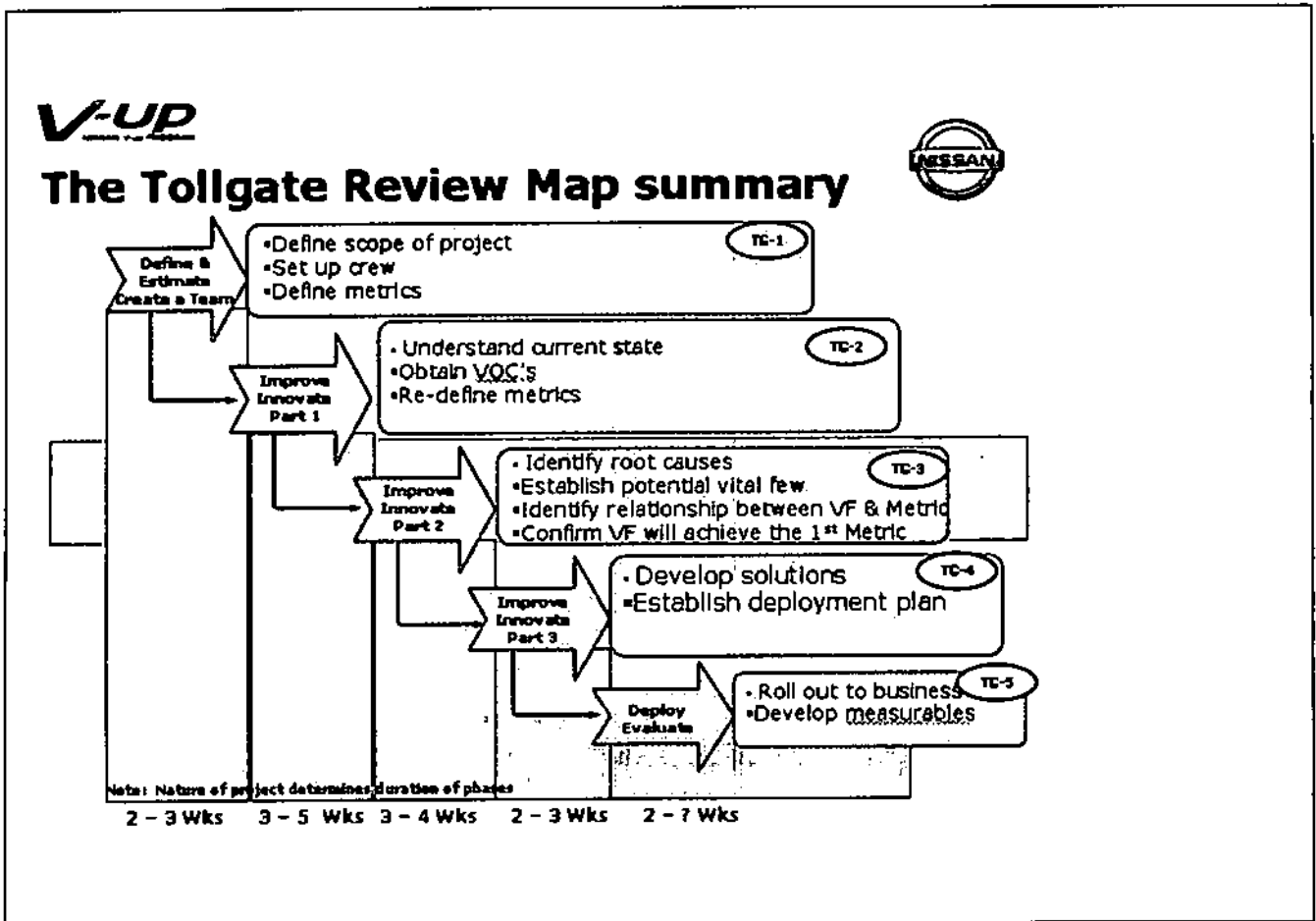


Below, in Figure 2.3 the specific objectives (however brief), at this level can be seen, thus bringing the project and the road map into perspective. Timing as shown in the figure is variable and of course should definitely be amended and agreed upon at the outset of the project and adhered to throughout the journey. One can clearly see the various steps used to ensure there is no mistake in the journey that each project must take:

- Define, estimate and form a crew;
- Understand the current state;
- Define the root cause of the problem;
- Provide solutions; and
- Deployment of the solutions.
- Evaluation of success and achievement.

The important issue surrounding the tollgate sign-off requirement, shown in figure 2.3, is the fact that there is no possibility of moving onto the next phase of the project if the required deliverables have not been met. There are specific dates set up where the V-Leader (Project sponsor), the V-Expert (Project office representative) and the V-Pilot (Project co-ordinator) come together to discuss achievement and deliberate whether the project may advance to the next phase. This serves a very important function as areas of concern are identified early in the project implementation road map and may be addressed pro-actively, rather than be presented as a surprise closer to the planned roll-out (deployment) phase of the project.

Figure 2.3: Road map for V-UP methodology

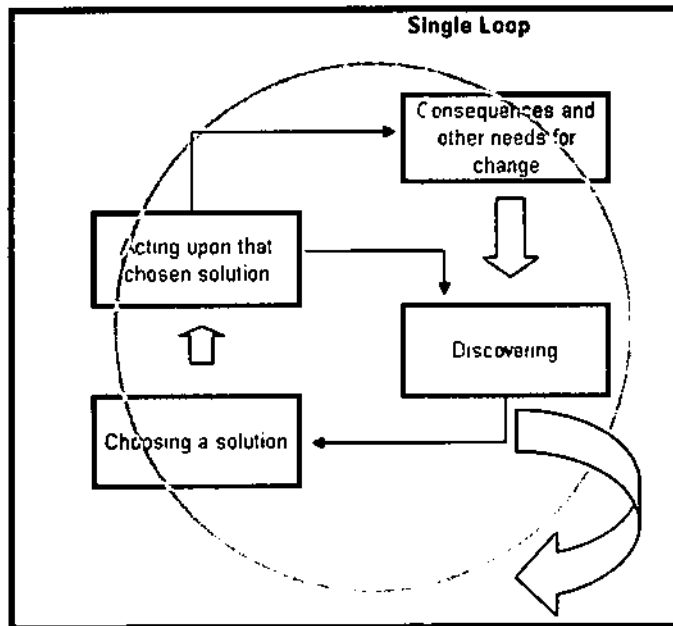


Source: V-Up training material, generation 5, (2006).

The scale of major transition failure is difficult to determine because the majority of failures go unreported (Strebel, 1996). The key is to learn from failure, says Lucey, (2004). "The introduction of an ERP-project should be no different, people have gone before us and we are most certainly not going to be the last, but yet, our culture is, to re-design the wheel, so much so that ignorance prevails, even when the expert advisor demands an audience with senior management to discuss the pitfalls, the warning signals are just not heard" (As discovered during a feedback session held with all the stakeholders of the NSA ERP implementation project). This particular case refers to the warnings regarding the readiness of the organisation as seen by the NSA-project team members during the run up towards the actual go live phase in July 2005.

A Chinese proverb reads: "The beginning of wisdom is to call things by their right names" and transformation and/or re-engineering are no different (Management Services, 2005). The sooner this is acknowledged, the sooner NSA can work to remove the potential barriers that exist. The organisation should understand that by simply ignoring the issues on hand will most certainly lead to irreversible, costly mistakes. One important step for any organisation is to admit they have made mistakes in the past (Ghosn, 2005).

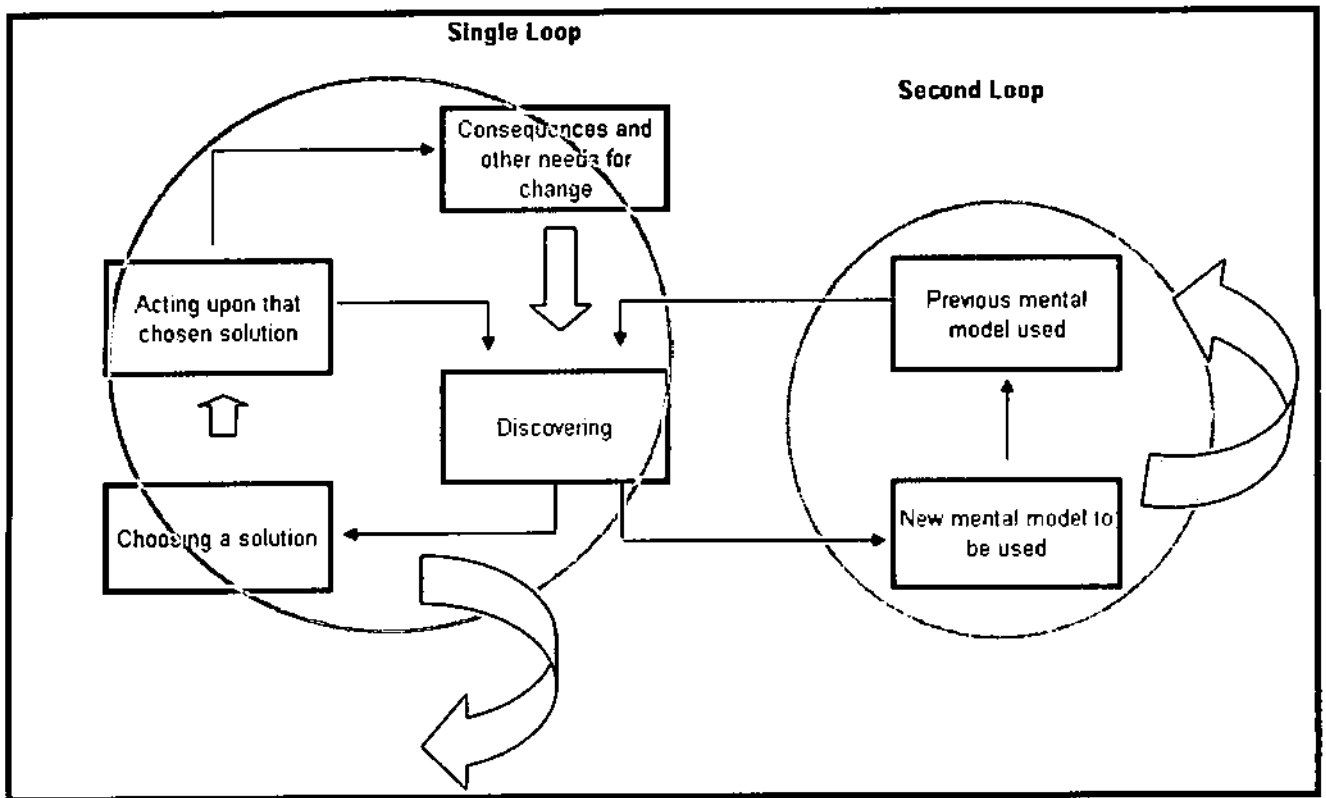
Figure 2.4: Single loop learning model (Argyris and Schon, 1978)



Source: *The Open University Business School, Strategy Book 6 (2002)*

Figure 2.4 shows the standard "single loop learning model", which focuses on the process that an organisation such as NSA should follow to identify an issue requiring change. After which it will then identify the specific solution and the implementation of that solution, followed by "discovering and documenting the data captured". Finally the organisation will, after having considered all the facts, implement the solution. This particular method does not allow an analysis phase where the organisation may call on previous experiences to determine areas that should either be avoided or followed.

Figure 2.5: Complex double loop learning model (Argyris and Schon, 1978)



Source: The Open University Business School, Strategy Book 6.(2002).

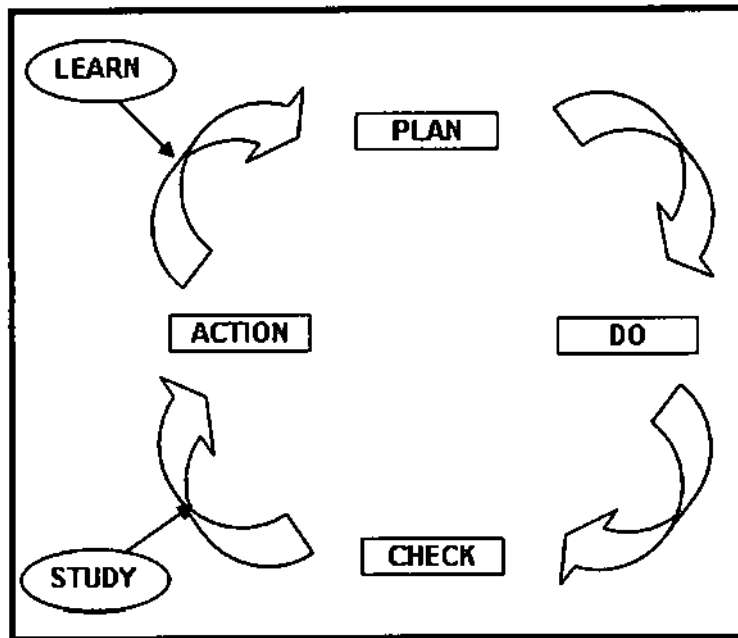
Figure 2.5 displays the introduction of the second loop in the process the organisation uses, this allows for the comparison of the previous, similar proposal, and its solution, and therefore enables NSA to evaluate if any similar proposals were unsuccessful, and if so, what were the issues causing failure. This will then allow NSA and it's management to learn from previous experiences.

In the sections detailed above, the issues surrounding the failure of organisations and specifically NSA, to involve the stakeholders in the planning and implementation phases lead to the resistance to change. An organisational attitude of not focussing on issues such as failure to learn from previous mistakes therefore needs to be investigated.

2.2.3 Completing the loop:

While it is important to know and understand that an organisation such as NSA should learn from previous experiences, it is also vital to ensure that the relevant steps in the loop are administered and completed. As previously mentioned in the V-UP methodology, where the importance of tollgate sign-off is introduced, so it is just as important to move through the different phases of what is called the PDCA-cycle (Plan, Do, Check and Action). A common pitfall in NSA is the failure to move through the relevant steps and always attempting to return to the previous step and thus slowing down or interfering with the progress of the project. Figure 2.6 displays the PDCA-cycle and the flow of the activities.

Figure 2.6: The PDCA cycle



Source: "Learning as a foundation to the learning organisation", (2006).

Based on the previous discussions regarding the need to follow through and deliver the correct requirements at each stage of any given project, one can then involve all levels of management in the intended roadmap for the project as well as the particular milestones or tollgates that are expected with each corresponding set of objectives. Performing at this level will contribute to acceptance of the proposed project and in some way assist with the relevant stakeholder's participation while assisting to avoiding, if at all possible, the dreaded



resistance to change. The PDCA-cycle has been slightly adapted over the years, with the addition of the two areas, namely, "study" and "learn". These additional areas provide an opportunity for learning prior to moving to the next phase of the model (Grimbeek, 2006). Thus, the PDCA-cycle is almost simplifying or including the complex double loop learning model as depicted earlier in Figure. 2.5.

2.2.4 Resistance to change:

The question, "Is there really a resistance to change?" was asked by Lewin in the mid 1930's. This referred to the resistance as a force affecting managers and employees equally, more of a sort of force field working against change (Dent and Galloway Goldberg, 2003). However Kotter (1995) believed that people do not necessarily resist change but rather resist the result of the change. Thus believing that people are reluctant toward changing their work environment for fear that they will be singled out and demoted or retrenched due to automation. When taken into context one can see that there may not necessarily be a "resistance to change" as can be expected, as stakeholders may wish to change, depending of course, on the organisational circumstances, but fear the consequences that may be related to the change.

The question can therefore be asked why do stakeholders then fail if the resistance is not addressed? Addressing the issues and understanding that there will always be some level of resistance, even after all the planning and other logic behind the change has been addressed is paramount. According to an article by Atkinson, (2005), the trick is to recognise, and ultimately welcome the resistance as a healthy response and an opportunity to openly debate possibilities and treat it as a powerful learning process.



2.2.5 An organisation failing to become a “learning organisation”:

Learning from past failures is no new global strategy but rather a basic fundamental that business and organisations just fail to consider. Take for example, the difference between transformation and change. Change is situational, e.g. the new site, the new boss. Transformation however, is the psychological process people go through in order to come to terms with the new situation, put simply, change is external, transformation is internal (Bridges, 2002). Therefore transformation may come as a need to support an external influence that requires change, like for instance NSA's need to change to support global pressures and different requirements, thus placing the need for transformation solely on the door step of the organisation. This in turn places a burden on the organisation, and would require the use of a model/framework for the successful communication of the organisation's intended change.

It is important to mention that research was conducted in order to investigate the role of participation in project management quite a number of years ago. The research project, conducted in America in the early 1940's at a pyjama manufacturing company, focussed on specific control groups of different types. The authors French and Coch; (1948) successfully managed to prove that there was a relationship between resistance to change and participation in the planning and execution phase of any new project to be implemented (Lewin, 1947). Given, that the project was conducted far too long ago, and the only similarity we may find today is the fact that we still wear pyjamas, while all other aspects would most probably have changed and improved with time. Still there is the burning issue that between the control groups that were monitored in those days, there is the clear understanding that if you involve a group of people in the planning and execution phases of any intended change, one will find that there is most definitely an influence on any resistance that can be foreseen. The same view has also been debated by the two “gurus” in the field of change management and understanding namely Kotter (1995) and Lewin (1947). Finally with regard to the control groups used in the research project held in the pyjama factory, and a similar test conducted in a similar factory in Denmark a number of years later, the results proved negative. The research highlighted the relationship between participation, reluctance to change and the cultural background present within any organisation.



This report will explore the Cultural Web (Johnson, 1988) in the following chapter, where areas will be identified that contribute to some sort of resistance as a result of cultural differences, and focus on how change agents can overcome the barriers if there is an acceptance that problems do actually exist.

A quick sanity check should be made on a regular basis, checking for 5 main activities that may lead to a company becoming a learning organisation. According to Grimbeek (2006), NSA should ask the following questions:

Does NSA as an organisation:

- Perform systematic problem solving?
- Experiment with new approaches?
- Learn from the organisations's own experience and past history?
- Learn from experience and best practice of others? and
- Transfer knowledge quickly and efficiently throughout the entire organisation?

Grimbeek (2006) is of the opinion that, organisations are rarely consistent and successful at achieving or maintaining these type of activities as a result of not making these activities part of daily operations, which, if performed correctly, could in fact allow the organisation to manage the organisational learning more effectively.

2.2.6 Preparedness:

A very important aspect of any strategic planning process is to understand and measure the preparedness of the internal environment. The question should be asked whether the resources are capable of evolving or transforming to the necessary requirement within the specified time period.

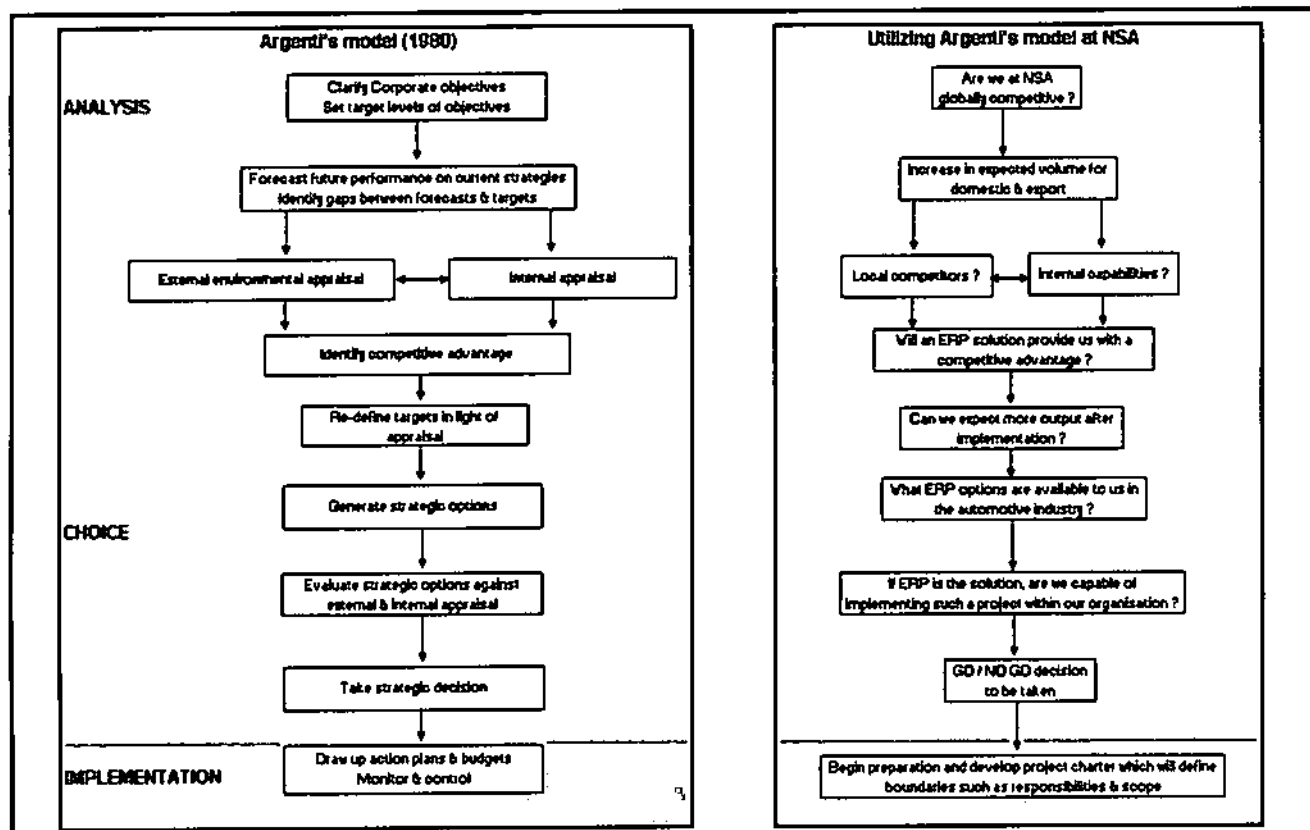


An organisation and its senior management must be in touch with the realistic capabilities before subjecting the company to any level of strategic change. In Figure 2.7 the Argenti model can be compared with the steps followed by NSA during the corporate planning process prior to the realisation that ERP was a possible future solution. By comparing the steps suggested by Argenti with the steps followed by NSA, one can identify an area of concern related to the strategic appraisal process (step 3 in the diagram). It can be noted that there should have been more time allocated to this particular step as it involves the comparison and benchmarking technique used so frequently in business analysis today.

In addition to this, there is the need for an internal analysis, designed to identify the capabilities of the organisation from an internal perspective. Questions to be asked are:

- Is the organisation capable of implementing such a sophisticated solution?
- Can the organisation transform to the obvious changes required to adopt such a system?
- Does the organisation have the discipline within the work force to sustain such a system? and
- Can the organisation measure the shortfalls and train employees accordingly within the required time frame to adopt such a system?

Figure 2.7: Argenti's model of the corporate planning process, adapted for comparison to the process followed by NSA



Source: The Open University MBA Strategy Book 6 (2002)

Argenti's model allows one to follow a pre-determined course of action which, even though was developed in the early 1980's, can still find an acceptable place in today's business world due to its simplicity. The focus of the model is to follow a few simple steps to achieve success during the strategic planning phase. Although the model is used at the corporate planning level, it may be adapted for NSA's current concern, thus to follow some simple steps to the project identification, project choice and project implementation phases.

However this model only helps one to realise the needs of the organisation and does not necessarily provide one with instant success when it comes to implementing the needs that were identified. The report therefore focuses on the need and complexity associated with transformation.



2.2.7 The orchestra syndrome:

The researcher has found within NSA, a number of incredible underlying opportunities. Having been given the chance over the past number of years to be exposed to the corporate environment of the organisation, thus viewing the “overall, bigger picture”, the researcher has seen, with incredible surprise, an arsenal of huge potential, which at this point is not being utilised either correctly or to its full potential.

A comment was made recently, confirming this potential, in the form of “if we are so advanced regarding IT-systems, and we are advanced as far as business improvement, readiness and capability, then why is it that we are not achieving our objectives within those boundaries? (This is the current situation within manufacturing as pointed out by our executive during the monthly management feedback sessions). The researcher found this statement to be profound in its simplicity as one can make the assumption that NSA does not “gel” or want to as the organisation is not fully integrated. Herein lies the secret to ultimate success of an organisation; it is the ability to work as a team or rather can one say a fully-fledged “orchestra” that makes an organisation successful.

Take the analogy of the opening night of a concert, with a full to capacity auditorium, the musicians have all been practicing to the extreme, each one in his/her own realm of thought, wondering if this will be the performance of their life time.

Now, enter the thoughts of the conductor, totally caught up in the moment of truth, can he/she fuse this collection of individuals into a harmonious symphony. The conductor knows each of these professionals in their own right have their own personal agenda and are striving for a boost or opportunity in their respective careers. The conductor knows he/she will have to harness this drive and passion for success, and direct this into a combined effort and ultimately produce the most harmonious and professional piece of musical score.

The conductor knows that having a well talented violinist and three excellent percussionists does not mean that the final production will achieve the typical standard of what the violinist



on his/her own may produce. Here it is about being able to utilise the strengths that are available and work with these and attempt to allow the strength found in particular areas to permeate into other, not so strong areas, within the rest of the orchestra or as we will know it, the manufacturing team.

Just as the analogy of the orchestra depicts an understanding of teamwork, the corporate environment is no different. NSA as an organisation has to understand the need for fusion and inter-relationships across the various departments of the organisation as well as the industry. The days of working in individual silos are no longer viable and senior management needs to adopt this type of thinking and begin putting into practice activities that promote inter-departmental and inter-divisional thinking and understanding. As discussed earlier there is no better tool for insight than to be able to work in an environment that continuously gets to hover at 30 000 feet above the organisation and "see the bigger picture".

2.3 Conclusion:

So there we have it, one would particularly want to end this chapter with a "so what" statement, such as "well what are you going to do about this?" At this point it is a valid question and within the next chapter the opinions of the management gurus of the industry will be analysed in order to build an understanding of the common pitfalls in the business environment, and exploring familiar concepts such as cross functionality, integration, participation, and continuous improvement.

CHAPTER 3. THE LITERATURE REVIEW

“The most recognisable characteristic of world class manufacturers is their ability to adapt quickly to changing customer and market related requirements”.

Richard Schonberger, author of “World class manufacturing”

3.1 Introduction:

After reviewing a number of articles from various authors that over the years have become synonymous with the subject of strategic planning and change management within an organisation, one can see that there is various views which contribute to debate. This chapter will allow the researcher to elaborate on the different views of authors on the respective fields and to critically appraise their findings, while at the same time point out areas where there is consistency.

3.2 Literature review:

The literature review will focus on providing secondary information based on the stated sub-problems as detailed in chapter 1.

3.2.1 Resistance to change:

The question was raised earlier regarding resistance to change and where does this stem from? The answer to this question lies in the term that was created in the early 1930's by Kurt Lewin as a force affecting both managers and employees alike (Dent and Goldberg, 2003). The term has always been used whenever there is any project or proposal for any type of change to be introduced to any group of people. The question NSA should be asking, is there really such a thing as resistance to change?

Kotter (1995) believes there is not, but rather believes that resistance to change is merely brought upon an organisation as a result of the thought that it may experience some sort of



resistance from the employees who are about to be exposed to the change. Kotter (1995) states that there is rather a resistance to the results that the change may affect, such as performance review, ability to perform the job, possible re-shuffling, or the fear of changing structures as a result of the changes taking place. Here, the argument that "resistance to change" is not necessarily there but there are results of that change that need careful and pro-active planning to ensure work place satisfaction.

Kotter (1995) goes on to say that employees actually are in favour of change, if the change has been communicated correctly and there is a definite need for that change. One may find that change is in fact sought after by the individual. Obviously all of the above depends on the nature of the change, as well as, the impact on the individuals' ability to perform.

This leads to the comment that participation may play a vital role in change management. During a study conducted in the mid -1940's in a pyjama factory in America, it was found that different controlled groups of people exposed to different aspects of a required change reacted considerably different. The first known published reference to resistance to change was by French and Coch in 1948, after research was conducted at Harwood Manufacturing (the Pyjama factory referred to in Chapter 2) involving four groups of employees, each exposed to a different aspect of the project. One group was exposed to the planning and development phase and as a result of this was more prone to change due to the direct participation. Another group was pushed to conform to new standards and deliverables without being part of the planning phase, this group was found to be resistant to any changes that were being placed upon them. Although it has been pointed out that the conducted research is very old, the learnings are still relevant and can be applied within today's organisational environments. Therefore participation may be seen as relevant during project planning phases.

3.2.2 Cultural influences:

Therefore, by observing the results of this Harwood Manufacturing test, where the results of the findings from French and Coch were quite significantly leaning toward a link between participation and the success of managing change, one can postulate that participation



plays a vital role in the successful track record of change management. However when this test was conducted in Denmark, using similar control groups and data, the result was very different, leading to a hypothesis that change acceptance or reluctance may be culturally driven.

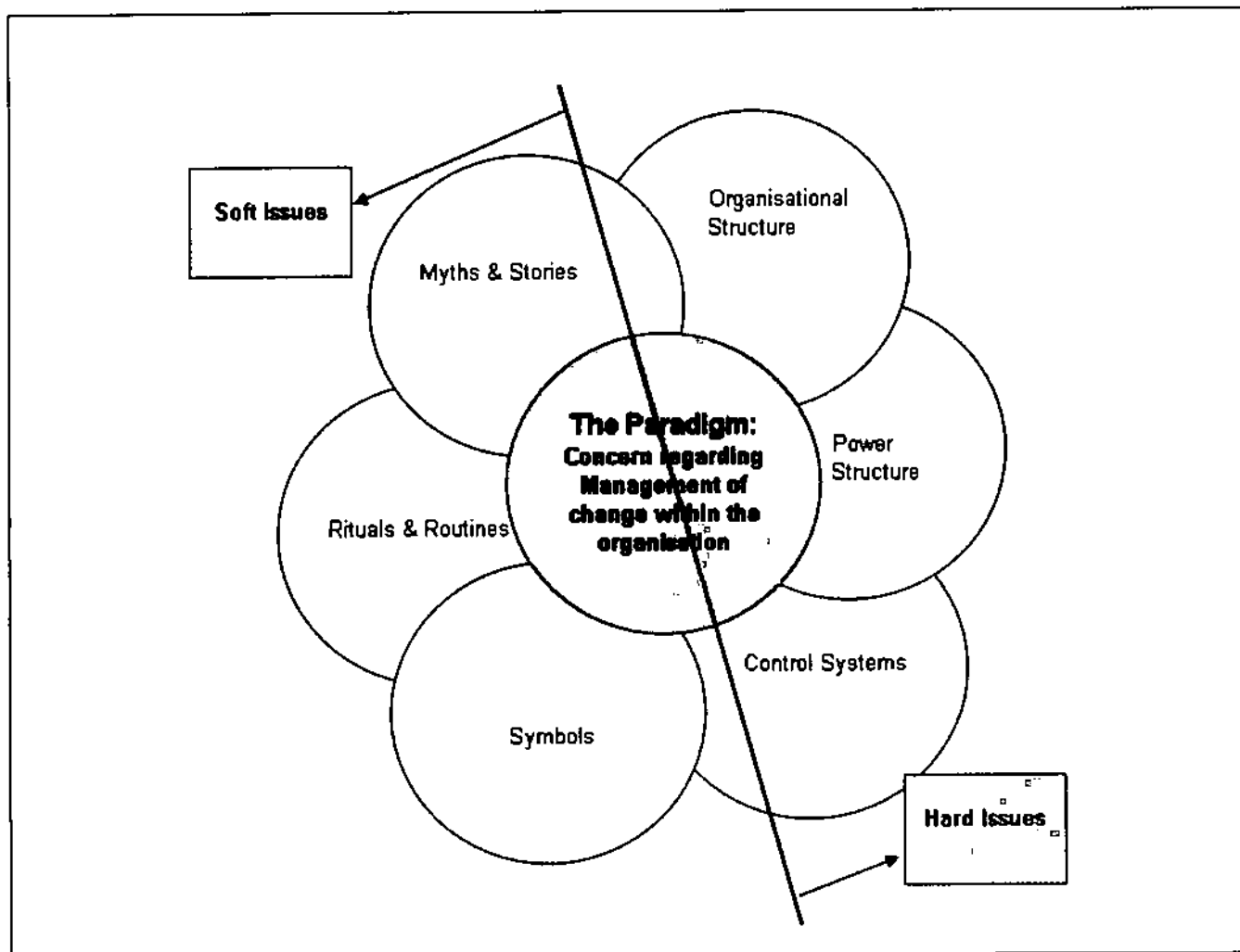
Johnson, in 1988, with his model of the "cultural web", (seen in Figure. 3.1, overleaf) shows that there are vital differences between organisations taking into account the various cultural factors. Employees have different views on "the way things are done around here". These types of concerns are brought to the surface in areas such as acquisitions or mergers, where two completely different cultures are forced to interact as a result of global mergers or trans-continental joint ventures. In the world today, this is becoming an increasingly popular method of sustaining competitive advantage, and therefore has to be met with an equally positive attitude. This will be explored later using this "cultural web" model (Johnson 1988).

One can take a look at the huge impact associated to the "alliance" between Nissan and Renault (I-Shift magazine, 2006). It was thought that there would be a huge clash of cultures between the Japanese and the French, a sort of "Suchi meets E'scargot". Carlos Ghosn was the man in the centre of this, and coined the phrase: "Cultural alliance of equals, rather than the use of an, acquire and absorb model" (Ghosn, 2006). The important aspect according to Ghosn, is that the cultural values of both Japanese and French are in turn fundamental strengths for both Nissan and Renault and should be understood and embraced and ultimately used to the organisation's advantage by allowing both schools of learning to be equal. Furthermore, by adopting English as the business language, the way is paved for compromise between the two cultures.

In Figure 3.1 below, the importance of understanding the inter-relationship of various aspects associated to different cultures are depicted. The basic values, ideologies and assumptions, which guide and fashion individual and business behaviours are evident in more tangible factors such as stories, myths, rituals, language and jargon, office

decorations and layout as well as prevailing modes of dress among the staff (Wilson and Rosenfeld, 1990).

Figure 3.1: The Cultural web



Source: (Johnson, 1988).

3.2.2.1 Myths and stories:

These are deeply embedded in the cultural web, for example, each different culture will have stories about specific heroes within their organisation who have found themselves raised almost to mentor status for those who come along afterwards. This aspect within the NSA environment, the employees remember the days when we had twenty three directors within our ranks, each having a specific portfolio which he/she was responsible to manage. Many employees used to ask, what was everyone doing?



3.2.2.2 Rituals and routines:

There are specific ways in which things are done within different organisations, for example the Japanese will have a morning exercise session prior to any work being done. This is seen as compulsory within the working environment, and should be respected should there be a worker exchange programme. At NSA, we follow a stringent path down which the Japanese influence guides us, using specific guide lines that have been proven world wide to assist in managing our shop floor environment, such as GK (Genba Kanri).

3.2.2.3 Symbols:

Symbols represent the deeper values of the organisation such as the company logo or the corporate mission and vision statements. At NSA, it is important to understand and remain focussed on our original mission and vision statement. Although an organisation has to continuously change to remain competitive, we must not lose sight of our values and principles, pointed out in the statement.

3.2.2.4 Control systems:

Different organisations use different methods of measurement, such as the preferred system used by the Japanese, namely the NPMS model (Nissan plant management systems). This particular control system may be adopted into the Renault organisation, if it were found to be more effective than, for example, any particular French system. This is where change could be effective regarding control systems. If a particular system works, it should be tested in another environment with the intention to standardise and share functionality which is successful.

3.2.2.5 Organisational structures:

Some organisations have rigid structures and some have flat informal structures. These are areas where under normal circumstances, organisations would find most difficult to agree on. If we look at NSA specifically, the structure of senior executive through to operator on the shop floor has many steps representing some form of supervisory role through to management of specific areas, while a typical structure at Nissan in the United Kingdom



does not have quite so many stages in between the executive and the operator. NSA could learn from this method of "flatter structures" to define roles and responsibilities.

3.2.2.6 Power structures:

This is where the strength and guts of the organisation is shown. Is the organisation willing to challenge or is it simply content to go with the flow? As NSA has become one of the global players within the Nissan global camp, the organisation now has to compete with costs, efficiencies and quality on a global standard. Areas such as cost per unit to manufacture are now compared on a global scale and become relevant when competing for local manufacturing projects.

3.2.3 Participation:

Cartwright (1973) suggests that the only way to achieve dynamic change successfully is to become part of the group itself. This helps justify French and Coch's findings regarding the link between participation and change management success (French and Coch, 1948). Marrow (1957), suggests that change is made easier if the welfare of the business becomes everybody's business. One can say that both these suggestions lead to the realization that there is a definite benefit that participation may have on the facilitation of change. Take the statement: "Nobody washes a rental car", this presents itself as an interesting fact about ownership. If a project is "adopted" by the staff within the organisation, then a sense of ownership occurs and with that ownership comes care. This is imperative if the organisation is to expect a successful project realisation.

Had senior management been more involved with the project, an understanding of the changes will have been more apparent and as a result, the impact of the change would have been realised at an earlier stage and corrective actions could have been put into place. Carlos Ghosn believes that it is the responsibility of top level executives to develop future leaders by seeking out those individuals whom are profoundly conscious of their company's intent and not necessarily their own. (Ghosn, 2005), this statement re-iterates the need for participation at all levels.



Machiavelli, a renowned political genius (1469 – 1527) made mention of the fact that there is no more delicate task, than to take up the leading role in the implementation of change. The question can be asked whether this can be avoided through participation? Gill (2003) questions whether change can be seen as a delicate task if organisations involve the entire group that is affected? Change therefore has to be well managed by effective leadership in order to be successfully introduced and ultimately sustained within an organisation.

3.2.4 Change management or change leadership?

A further number of authors go on to say that “change” is primarily about leadership. (Kotter, 1995: 106 -116), states that “Change, by definition, requires creating a new system, which in turn always demands leadership”. This is never more appropriate to the situation regarding the ERP implementation at NSA, where a completely new operating system was to be introduced, something that was to impact almost the entire business organisation due to the reliance on, and utilization of, the old out-dated “Main frame” system. Sadler (1997), concurs that success within British Industry is due more to inspirational leadership than to good management. This author is thus alluding to the aspects of “change management or change leadership”.

A survey conducted amongst 259 senior executives within Fortune 500 Companies in the USA by the American Management Association in 1994 revealed the following keys to successful change:

Table 3.1: Attribute measurement table

Attribute:	Percentage mentioning this as important:
Leadership:	92%
Corporate values	84%
Communication	75%
Team building	69%
Education & Training	64%

Source: “Change management or change leadership” Article, 2002.



Understandably, the date of this finding far outweighs the progress that has been possible between then and now, but one can still have the opportunity to realize the differences between the two attributes. One must keep in mind that change management versus change leadership does in no way indicate that these concepts are mutually exclusive but rather point out the need for the two attributes to be complimentary to each other. The above results, in table 3.1, tend to indicate that leadership is a primary requirement if the journey is change.

Although the results are not conclusive as the differences in percentage are not substantial enough, one can investigate over time conducting further literature reviews, what facts and/or further tests have been conducted to conclusively point to leadership versus for example, participation as an attribute for consideration to ease the journey towards change.

3.2.5 The Harley Davidson success story:

One is always reminded of the Harley Davidson turnaround strategy (Harley Davidson success story, 2006)) used to move their motorcycle manufacturing from a "known failure" in engineering to a "respected" product amongst the keen motorcycle fraternity.

Harley's chairman and CEO, Don James (1986) was reported as saying "we have the worst machinery in the world available to us here at the manufacturing facility". Incidentally a number of years later the same man made the comment "our machines are amongst the best in the world and the interesting fact is, they are the same machines as they have always been" (James, 1999).

The success of Harley Davidson, is contributed to the internal culture of the employees, the way in which the employees refused to accept that poor quality is a given and the manner in which the employees began to take ownership of the processes. This success story serves as a benchmark for NSA as it helps to realise the importance of the employees within the organisation and re-iterates the need to take cognisance of the wants and needs of employees as valuable assets. One can clearly see that the success and turnaround



experienced by this motorcycle manufacturer was most definitely as a result in the changes that were implemented by the people as well as the organisation's focus on its staff and ultimately the customer. The change was not brought about by the change in machinery, which the CEO so wilfully wanted to portray but by the adaptability of the employees. The culture within the organisation was the golden thread for Harley Davidson and should become a learning experience to other manufacturing organisations.

James (2004) goes on to state that the success at Harley Davidson's Canadian plant can be attributed to 10 passionate steps that can stand the test of time. These steps which the organisation and thus NSA should adopt can be summarised as follows:

1. Get closer to the customer;
2. Understand what your customer is buying into;
3. The devil is in the detail, execute the plan as well as it was planned;
4. Create internal structure to carry out the mission;
5. Anticipate and prepare for change by listening and getting involved;
6. Look ahead and plan for 5 years or more into the future;
7. Give back to industry and society;
8. It's ok to make mistakes, as long as everyone learns from this;
9. Empower the individual; and
10. Pay attention and keep to the organisation's core values.

James (2004) relates closely to the discussion as detailed in the cultural web-analysis both highlighting the impact of culture as well as organisational structures.



3.2.6 The Nissan success story:

Nissan on a global scale was in a situation in the late 90's, where market share had dropped to an all time record low, morale was as a result, at it's lowest (Ghosn, 2005) The organisation had no alternative but to seek a global partner. Who could Nissan as a brand possibly merge with and still as a result retain it's identity and most importantly it's culture?

Two possible candidates came to mind, they were; The German automotive giant, Daimler Chrysler and the somewhat smaller French competitor, Renault, almost like a battle between David and Goliath (Ghosn, 2005).

Renault was successful in achieving 36% of Nissan worldwide (Ghosn, 2005), and immediately began sending a small entourage of auditors and specialists to Japan. Carlos Ghosn was put in charge of the fact finding mission and spent just three months evaluating the current state and planning a solution to Nissan's problems. Shortly after this, using the Tokyo Motor Show as the ideal stage setting, Ghosn announced his Nissan revival plan, later to be known quite simply as the NRP.

Carlos Ghosn knew Nissan had a number of dysfunctions but chose to address only those that he believed were the most crucial to putting Nissan, as a brand, back on the map. "It was clear that we could not afford to spread ourselves too thinly" (Ghosn, 2005). The first major challenge for Ghosn and his team was for the organisation to admit that it had made mistakes in the past, with this out of the way the gates were open for changes to take place. Ghosn immediately announced his dramatic and somewhat drastic revival plan, which included a number of tight objectives. The Nissan 180 plan was to sell one million more vehicles globally, have an 8% operating profit and have zero debt by the end of the first three years of announcing his plan.

Nissan achieved these stringent targets, which, amongst other things, included the shedding of quite a substantial number of jobs as well as the closing of a considerable number of plants globally. Ghosn then moved on to the challenges of even stiffer targets,



and as a result has become one of the most profitable auto manufacturers in the world (Ghosn, 2005). The fact that, change on this scale was possible, even with the cross cultural aspects associated to the French and the Japanese, respective identities were kept and all cultural differences were respected. The result was a successful implementation of a dream that one man had and could implement with the help of a willing, motivated and revitalised group of employees, goes to show that with the right motivation, anything is possible. Could this motivation and drive to succeed permeate into the ranks of the local manufacturing concern here at Rosslyn NSA? With the right values, communication, drive for improvement and an ideal methodology to ensure close out of potential improvements, then the answer could be positive. The following section will focus on the importance of those values within the organisation.

3.2.7 Values in the organisation:

The question can be asked: what are values within an organisation and who should be the keeper of such values? In simplistic terms, values are the "mini-motivators" within an organisation. These provide the drivers for the employees and in some companies have been found to lead to competitive advantage, allowing specific companies that are value focussed to out perform those that are not (Kotter and Heskett, 1999). Results quoted in the Kotter and Heskett (1999) report included some of the following aspects:

- Rate of job creation seven times higher, and
- Growth in revenue, over four times faster than other organisations.

Further studies by Dearlove and Coomber (1999) reveal that there is significantly lower employment turnover when the employing company values respect and teamwork. These results were found among a survey of over 1000 US graduates. Therefore, if any organisation values the employees within the organisation, ideal teams are then created in which all team members strive for the common goal of success. The objective therefore will be to ensure that when change is upon NSA, which it most certainly will be, then the organisation must be up to the challenge of managing the transformation with precision and structure. Having a team focussed on the common goal of the organisation just makes sense in the long run. Furthermore, it has been suggested that an organisation needs to



align individual as well as organisational values to support change (Sullivan, 2002). Sullivan further states that values have power within an organisation and that the "feel good factor" that is injected into individuals when values are realised, has an amazing effect on the potential of the organisation. Therefore, an organisation needs to understand that values are the "moral compass" of a successful organisation, assisting in both routine as well as difficult decision making situations (Sullivan, 2002).

3.2.8 Kaizen and Continuous workplace improvement:

The Japanese philosophy of small continuous improvements rings true within NSA, having been instilled almost in the culture of the work force. Rewards for ideas generated from the people that are in fact closest to the process should be introduced. From the Japanese words *Kai*, meaning "change" and *zen*, meaning "to become good", Shigeo Shingo, introduced into Nissan, the quick fix process improvement ideology. The key principles of Kaizen are therefore:

- Quality, effort, involvement of all employees, willingness to change and communication.

In addition to this, Mosaaki Imai, author of KAIZEN, points out that gradual, never ending improvements, doing little things better while setting and achieving ever higher standards is key to Japan's competitive success (Swinehart, 2000).

This typical use of pre-determined steps and methods of evaluation live on in methodologies such as Six Sigma, LEAN manufacturing and V-Up strategies, using acronyms such as PDCA: Plan, Do, Check and Act, or SCORE: Select, Clarify, Organise, Run and Evaluate. One can see the pattern emerging, giving NSA one clear objective and that is to clearly understand the situation and only then strive to improve, and most importantly, deploy and later evaluate. These are the type of tools that a learning organisation should have instilled within their respective departments as basic values and standard practices to ensure that transformation is a continuous process.



According to Swinehart, *et al*, (2000), there are four dominant principles to support a framework assisting an organisation in pursuing world class manufacturing status. These principles can be summarised as follows:

1. JIT (Just in time): This principle focuses on the evaluation of waste. This waste is defined as anything other than the minimum requirement needed of materials, labour, resources, equipment and time. NSA could do well by adapting, in it's basic form, some of these aspects associated to JIT. The capability to ensure that we have only the components required for production of the immediate schedule could improve the overall plant efficiency and capability.

2. TQC (Total quality control): Under this principle, everyone in the organisation must be involved in improving the product quality. Focus is placed on defect prevention rather than defect detection. Improved communications to all staff members about their ultimate involvement in the quality of the brand which was adopted recently within manufacturing at NSA, could possibly improve the way each individual views his/her contribution towards the end result that of producing a Nissan vehicle into finished goods inventory.

3. TPM (Total preventative maintenance): With the TPM principle, machines and equipment are maintained so often and thoroughly that these rarely break or mis-perform during a production run. Within NSA, there could be some consideration given to this area. Seemingly, maintenance budgets are not seen at the same level of importance as other areas such as internal improvements or other budgetary requirements.

4. CIM (Computer integrated manufacturing): This principle involves the integration of manufacturing operations; from design, production and distribution to after-sales service and support in the field, through the use of computer and information technology. This is the area where the focus is largest within NSA, especially with the new implementation of the ERP-solution, moving the organisation to a completely integrated system across all divisions.



Based on the literature reviewed, a 5th principle can be added to the above. The principle will focus on a softer issue such as the organisational “values” that have been presented earlier in the chapter. With this 5th principle, the “feel good factor” that is so obviously lacking within most organisations, can be investigated, evaluated and specific pillars supporting the values within the company can be nurtured to assist the organisation in achieving a common goal.

3.2.9 V-UP methodology:

This dissertation will not be complete without a look into the tools one can use to ensure change is communicated, while employees are given the opportunity to participate in the planning phases and what better tool to introduce these specific requirements other than the V-Up methodology. This extensive set of tools is made available to identify root causes of process efficiencies and in turn propose ideal, realistic sustainable solutions. The important and probably most fundamental difference that the V-UP methodology provides is the introduction of the tollgate requirements at the various stages of the project. This methodology ensures that there is no further passage along the project path until specific pre-conditioned criteria has been met. In addition to the V-Up methodology, the emotional curve and Johnson’s cultural web and many more models or tools will be used in an attempt to capture and analyse the data related to the process of change management and the facilitation of transformation within NSA’s production environment.

3.3 Conclusion:

After having reviewed the thoughts and writings of the relevant authors and experts in their respective fields, one can therefore begin to develop an understanding of the various drivers impacting change within organisations. Understandably, the change management field is enormous and complex in it’s understanding and requires substantial time and effort to research and evaluate all aspects associated to areas such as change, transformation, the link between cultural aspects as well as participation of various levels of management, the different views on change management or change leadership and finally, ensuring that an organisation can pursue world class manufacturing status.



This research report focusses specifically on transformation as a result of the need for change and of course the ability of an organisation to sustain the continuous pursuit of change management.

In the following chapter, the methods will be identified that will be used to evaluate the preparedness of NSA as an organisation for the ERP-implementation process and its eventual roll-out, which occurred in July 2005.



CHAPTER 4. RESEARCH METHODOLOGY

"Mistakes are the portals of discovery"

James Joyce (1882 – 1941)

4.1 Introduction:

Within this chapter the researcher will lay out the plans for the various stages of the data collection process and the steps anticipated during the data analysis stage. This chapter will focus on creating an understanding on which instruments are to be used, to understand the different aspects associated with data collection and analysis and in conclusion discuss the common areas that a researcher should avoid getting caught up in, if one is to be sure that the data collection and analysis process is to be considered valid.

4.2 Research methodology:

When embarking on research it is important to understand the differences in methodologies. Two types of specific methodologies exist, namely nomothetic and ideographic. Both of which will be explored with reference to this particular project at hand.

4.11.1 Nomothetic:

This type of methodology is specific to a laboratory type research project where specific criteria has to be maintained in order to achieve a specific result. This type of methodology is associated, but again, not restricted to, a positivistic paradigm. (Collis and Hussey, 2003)

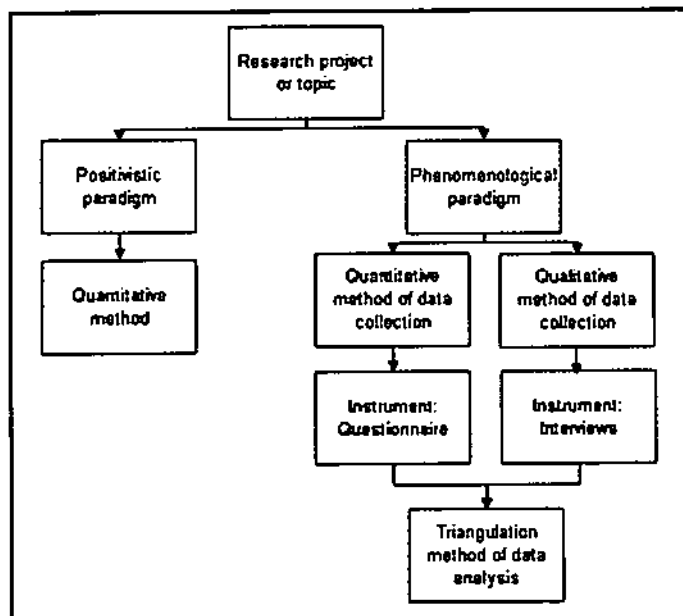
4.11.2 Ideographic:

Ideographic methodology, on the other hand is more associated to circumstances requiring a more "in-depth" understanding of the research, where issues such as the human factor will feature (Collis and Hussey, 2003). One must keep in mind that the methodology does not have to be seen as one or the other but more a move along the continuum toward a specific methodology. The Ideographic methodology would therefore be prominent where a

phenomenological paradigm is being addressed. This type of methodology (ideographic) will best be suited within the context of this research, involving the management of, and the understanding of the change that was undertaken at NSA. When using a phenomenological paradigm, the researcher is prompted to asking questions such as: "what?" or "how?", and in doing so, leaves the path open for many other potential lines of enquiry (Collis and Hussey, 2003). This therefore ensures that no particular hypothesis is perceived.

The important factor is to ensure that the human involvement factor does not allow for a typical "boxed" generalised opinion, as there are far more complexities associated to any research that involves people. Further justification for the use of the phenomenological paradigm, is the understanding that human behaviour is most certainly involved in a topic of related to change management, and therefore a topic such as the one we are dealing with in this report. Considerable regard is paid to the subjective state of the individual and the researcher can not be completely separated from the topic (Collis and Hussey, 2003). Therefore we are driven to pursue the phenomenological paradigm.

Figure 4.2: Graphic representation of data analysis technique



Source: Researcher's graphic representation of paradigms and methodologies.



The researcher will be using a triangulation method of analysis, using both quantitative as well as qualitative methods of data collection, which will ensure richness and realistic result. As can be seen in Figure 4.2, the different paradigms being positivistic and phenomenological are displayed. However both types of data will be collected such as qualitative and quantitative. Finally the researcher will be using a method of triangulation during data analysis, which allows the capturing of both data types with two different instruments such as a questionnaire and a number of structured interviews with the management of NSA.

4.3 Data collection methods and instruments:

The instruments that the researcher will be making use of during the data collection process are a questionnaire as well as structured interview questionnaire.

4.3.1 Questionnaire:

With the help of a questionnaire, the researcher will obtain quantitative as well as qualitative data due to the specific questions asked. At the outset of the questionnaire, demographic questions will be asked such as job position and length of time in current position, leading to qualitative data. This qualitative data can be quantified and then used to establish preferences within each specific field of employment or highlight any areas of concern regarding differences of opinion between different levels of management.

The questions included in the questionnaire will provide the researcher with data required to evaluate the research objectives and allow the building of a current state analysis of the underlying culture within the organisation, which will provide quantitative data.



4.3.2 Structured interviews:

During the structured interviews the same group of questions will be used to ensure consistency. However, the interviewees will be allowed the opportunity to elaborate and extend his/her feelings about the particular results that are to be obtained from the survey questions. This approach will allow a qualitative element to be brought to the project and allow a more phenomenological paradigm to be explored. The open ended questions will assist the researcher in obtaining far richer data related to the results of the survey.

4.4 Population and Sample selection:

4.4.1 Selecting the group of questionnaire respondents:

Within NSA, there are a large number of candidates from which the researcher can choose to undergo the questionnaire. In order to avoid bias, the researcher must be very careful and avoid choosing specific candidates within specific groups but rather use a stratified approach. Using the stratified sampling method will allow the researcher to avoid over representation of specific groups such as those responsible for the project implementation or employees who are disappointed with the initial roll-out or those that are expected to maintain and continuously develop the chosen solution (Collis and Hussey, 2003).

A researcher must avoid areas such as theoretical sampling, choosing data sources that are most apt to helping develop a theory of the process in question, therefore ensuring he/she avoids discriminant sampling by using only the data sources that will help validate that theory (Creswell, 2002). In order to avoid the above mentioned situation, the stratified sampling method will be used.

154 (One hundred and fifty four) invitations to submit their Questionnaire will be sent out to individuals that form part of the employee compliment of 326 (three hundred and twenty six) within NSA manufacturing. The questionnaire is to be attached to a web link, inviting



the individuals to participate by almost luring them with important words such as "you have been specifically selected" and "your contribution towards this research is valued". It is anticipated that the introduction letter attached to the survey will increase the potential response rate.

4.4.2 Structuring of sample:

- NSA permanent employees = 326
- Invites to the web link to be distributed through NSA's internal network = 154
- Penetration of $154 / 326 = 47\%$
- Average expected return = 50% response rate
- Potential number of completed questionnaires = 77 (50% of 154)
- Representation as a result of 50% realised returns = 24% (Must be > than 10%)

Based on the population and the proposed sample size as detailed above, the focus will be on the following areas of distribution:

- Users of the SAP-system at NSA: **70**, those candidates who find themselves working on the NSA SAP-system on a daily basis;
- Users of the SAP-system at NSA: **44**, those candidates who find themselves working on the system less than 50% of their time;
- Those employees not necessarily working on SAP: **20** but are indirectly affected by the introduction, such as supervisory staff requiring reports;
- IT consultants at EDS (IT contracting agency): **10**, the candidates who were involved in the design and configuration of the proposed SAP implementation; and
- The project team members NSA: **10**, those candidates directly involved with the analysis of current state, the design of proposed state and the integration testing on behalf of NSA, acting as their representatives on the project.



Should the above be adhered to, the researcher will be satisfying the required criteria for successful data collection namely:

- 24% representation on the questionnaire and 10% representation from the structured interviews would be sufficient to satisfy the required sample size and selection;
- Random selection of respondents, using stratified approach;
- Un-bias representation of respondents, acknowledging that there is an expected 50% response from all areas;
- Confidentiality is ensured as no name will be linked to any response; and
- Anonymity will be granted, as questionnaires will only be numbered not named, therefore allowing a more rich and objective viewpoint from each respondent.

4.4.3 Selecting ideal candidates for structured interviews:

As far as the structured interviews are concerned, the researcher will be aiming at specific strategically placed individuals who were directly involved or responsible for either the decision making process of the chosen ERP-solution or were actually directly involved in the implementation of SAP.

Specific areas of responsibilities the researcher will be focusing on include:

- HR Manager (Change management);
- IT Senior Manager (Strategic planning);
- Manufacturing General Manager (Client);
- Strategic Team Leader Materials Management (Contracting consultant); and
- Strategic Team leader Production Planning (Contracting consultant).

Table 4.1: Data capturing and analysis Matrix

Objective	Collection instrument	Data collection type	Sample population	Population size	Sample selection	Sample size	Method of analysis
Objective 1: To identify the challenges that the Production department has undergone within the past 12 months	Questionnaire	Quantitative	Management, supervisors, system users and clerks	326 salaried staff employees in Manufacturing - 38 Consultants	77	23%	Quantitative data analysis
Objective 1:	Structured Interviews	Qualitative	Senior management	80	8	10%	Quantify qualitative data
Objective 2: To investigate the reasons why, during this period, change was difficult	Questionnaire	Quantitative	Management, supervisors, system users and clerks	326 salaried staff employees in Manufacturing - 38 Consultants	77	23%	Quantitative data analysis
Objective 2:	Structured Interviews	Qualitative	Senior management	80	8	10%	Quantify qualitative data
Objective 3: The development and proposal of a strategic framework / model for the successful management of future change	Questionnaire	Quantitative	Management, supervisors, system users and clerks	326 salaried staff employees in Manufacturing - 38 Consultants	77	23%	Quantitative data analysis
Objective 3:	Structured interviews	Qualitative	Senior management	80	8	10%	Quantify qualitative data

Table 4.1 shows quite clearly the types of data being collected as well as the methods, which will be used to evaluate the data once it has been collected.

4.5 Sources of data:

Within this research project two types of data, namely, primary data as well as secondary data will be used.

Primary data will be the feedback results on the questionnaire and interview sessions, as this will be collected directly from the respondents as well as the interviewees. This data will be gathered, coded and then analysed to provide the majority of the information used for this particular research topic, keeping in mind that information, when organised in a useful form becomes data (Collis and Hussey, 2003). On the other hand, there has been the opportunity to collect and analyse secondary data, which have been obtained either from books, articles, published statistics as well as minutes of vital and/or important meetings

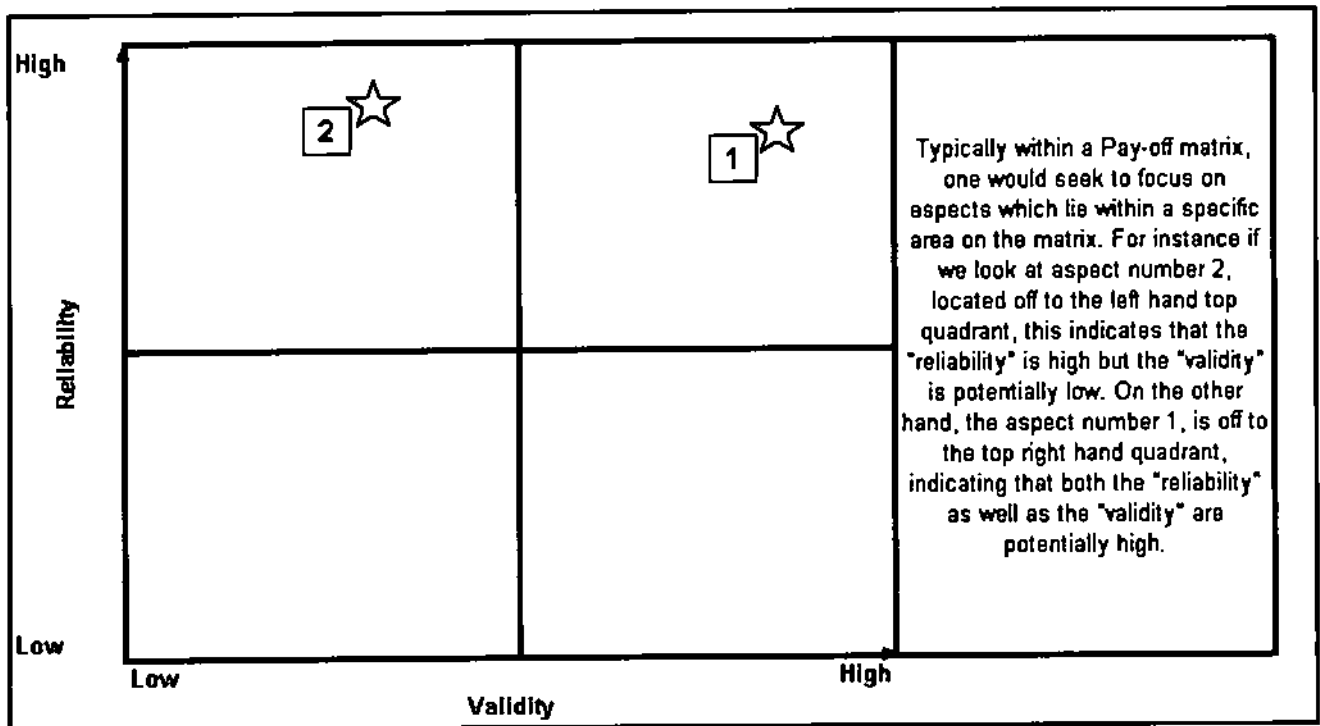


relevant to the subject being researched (Refer to chapter 2 and 3). Keeping in mind that with qualitative research, the potential sources of data are limited only by the researcher's open-mindedness and creativity (Eisner, 1998). Furthermore, the researcher will attend a number of strategic seminars and/or workshops to experience the latest trends regarding change management and the journey of transformation. This will allow the researcher to ensure that current strategies are measured against the theoretical; paradigms and models of gurus of the past (Davis and Dean, 2005).

4.6 Reliability, validity and generalisability:

It is vital during the data analysis phase to ensure that the researcher understands the relationship that reliability and validity of data share. The reliability test will lie with the ability to replicate the same set of questions and obtain a similar outcome or result, whereas the test of validity will lie in the interpretation of the results. One can find that the reliability may be high while the validity may be low, as depicted overleaf in Figure. 4.1. This does not necessarily lead to a discrepancy, but indicates that the outcome may be repeated and a similar result may be obtained. However the fact that the validity is low could mean that the measurement criteria may not necessarily be ideal. A validity test will be included, by introducing similar questions focussing on different angles in the questionnaire.

Figure 4.1: Matrix indicating relationship between reliability and validity



Source: Ansoff's pay off matrix, Open University Strategy book (2002)

The focus of the research is to have the result plotted in the right hand top corner of the matrix shown in Figure 4.1. Position (1) indicates that both reliability and validity are "high". This would be the ideal scenario for a researcher to ensure that validity is secure by building in cross tabular checks such as questions rephrased at different stages of the questionnaire. The researcher has done this in the questionnaire, asking a question in a different manner to detect if there is a different response. These types of question numbers will be coded to ensure correct analysis at a later stage.

Furthermore, generalisability needs to be considered. It will be unfair to generalise about an outcome of a research topic. Again, reference back to my control group in the pyjama factory, where a specific result was obtained in North America, but when this control group was duplicated and the test performed in Denmark the results were very different, therefore indicating the possibility of cultural influence. This specific research finding cannot be



generalised as the sample is only focussed on employees of NSA and does in no way represent any organisation external to NSA manufacturing.

Questions that may be asked to test reliability, validity and generalisability can include:

- Can the research be repeated with similar results?
- How valid are the measuring instruments?
- Is specific data available to generalise the findings? Has the evaluation been exposed to a second opinion?

4.7 Defining parameters and scope:

The scope of this research project is to evaluate the success of the recently implemented SAP-project, taking the thoughts of all NSA employees into account across the board from top management, IT consultants, business representatives and finally to system users. This will ensure that all employees that have had access as well as those that currently still have access to the NSA SAP system will have equal opportunity to complete the questionnaire.

Top management, who are familiar with all areas impacted by the change, will be interviewed and allowed, through open-ended questions, an opportunity to give his/her opinion on the area being researched as well as the past project's success factors. The qualitative factor of the open ended questions will assist the researcher, in building a model which is both useful and realistic for NSA's production team to consider.

4.8 Implementation issues:

In order to ensure that the questionnaire phase is carried out successfully, there are a number of milestone checks that need to be verified:

- Have valid questions been asked, focussing on the research objectives?



- Would the researcher feel comfortable if he/she were to be expected to answer the questionnaire?
- Has it been established that the questionnaire is not too personal? and
- Has the questionnaire been piloted and tested adequately?

The researcher has no intention in wasting the time of any of the senior management and their staff, while ensuring that a professional, formal environment is created. These aspects will assist in enabling a speedy, qualitative method of data collection. The use of some of the following tools to assist with this particular instrument may be considered:

- Notepad for easy and quick notes during the interview (which could assist in establishing the mood at the time the interview was held);
- Recording device to avoid mis-interpretation (If this is acceptable to the interviewee);
- Scheduling a one on one session in the comfort of the interviewees' office; and
- Forwarding the results of the survey prior to the interview session, in order for the executive representative to understand and prepare.

As qualitative researchers collect data, many also begin jotting notes (sometimes called memos) about their initial interpretations of what they are seeing and hearing (Leedy and Ormrod, 2005). These notes will allow the researcher to reflect on the situations or the mood during the interview and assist in increasing the richness of the data collected. The people being studied must know the nature of the study and be willing participants in it, (known as informed consent), and any data collected should not be traceable back to particular individuals (thus maintaining their right to privacy) (Leedy and Ormrod, 2005).

During the interviews with specific senior management staff, it will be important for the researcher to maintain rapport and to create a feeling of trust. This can be achieved by showing compassion and interest in other ways such as body language, smiling, maintaining eye contact and leaning forward, using such neutral encouragements as "go on" or "what do you mean?" (Shank, 2002).



Finally, there may be concerns regarding participation in completing the questionnaire due to the current pressures related to the production department within the manufacturing division. These concerns are related to the launch of a new model derivative into the domestic market place (The TIIDA), and all related new model introduction requirements with which Manufacturing are faced. However, with this in mind the researcher will aim to counteract this concern by soliciting the help of senior management to sanction the questionnaire. This will be done under the banner of its potential contributing factors towards the development of an improved model or framework for the management of change and transformation related to future project implementation within manufacturing. This is where the "lure" statement is so important when inviting the respondents to participate in the research project by linking to the web link supplied on the invite.

4.9 Ethical issues:

It is difficult to conduct research at all without running into ethical arguments (Coolican, 1992). According to the author Kervin (1992) an ideal checklist should be used in order to cover all areas. The list should consist of the following:

1. Will the research process harm the participants or those about whom information is gathered, including indirect participants?
2. Are the findings of the research likely to cause harm to others not involved in the research?
3. Is accepted research practice being violated when conducting the research and data analysis as well as drawing conclusion? and
4. Are community standards of conduct being violated?

Various areas of ethics may be compromised when attempting to gather information on the research project. It is important to be aware of these potential pitfalls at the outset of the project. Areas such as the exposure of an illegal activity or the need to share knowledge with a superior even after you have guaranteed anonymity.



Within NSA, a strict code of conduct regarding areas such as those mentioned above exist and it is vital to adhere to these rules. Should there be any reason for information disclosure, providing it is justified enough to prove transgression or legal violation, then the decision must be made and the options evaluated to determine whether or not that information must be released even after anonymity has been guaranteed. NSA's code of conduct uses the analogy of a game of soccer using such terms as "red card offences" for illegal conduct such as "foul play" at the work place. This helps to drive home the need for "fair play" regarding principles at work and initiates a cultural spin on the need for everyone to take ownership and be aware of un-ethical conduct in the work place, or as the analogy may go, the field of play. This promotes the aspect of values within NSA and helps secure an environment where all can work together towards a common goal.

4.10 Confidentiality:

Assurance of confidentiality will be given, providing that there are no out of the ordinary findings that require disclosure due to ethics, (discussed in previous paragraph). Any response will be marked by IP address only to ensure that there are no duplicate responses received. Assurance to the respondents that confidentiality will be strictly adhered to will ensure that the participation of the respondents are in fact meaningful, objective and contribute to the research and data analysis. A situation where an employee feels intimidated and therefore does not answer objectively will render the exercise regarding the questionnaire useless. Within this questionnaire the researcher will ensure that the respondents understand that anonymity will be respected, as there is no need to have a name linked to a returned questionnaire.

However, while the structured interviews will enable me to identify with each participant, it is important for the researcher to assure the candidates (senior management) that confidentiality will be guaranteed. This will allow open ended questions to be answered truthfully and objectively, again there will be no particular need to link a specific response to a particular interviewee, and this must be communicated to the interviewees at the outset of the meeting.

4.11 Relationship of questionnaire to objectives:

It is vital to ensure that the questions asked in the questionnaire relate directly to the objectives of the research project. In some instances one may find the researcher could get carried away with the questions they themselves would like to ask and lose track of the objective the researcher is seeking to answer. A trial run of questions and analysis should clearly point this out and should not be ignored. This again links to the need for a "pilot" exercise prior to the actual release of the proposed questionnaire.

The table 4.2 below indicates the relationship of the questions asked in this research questionnaire to the objectives of the research statement; this allows the crosscheck and evaluation of the ability of the questions to address the objectives.

Table 4.2: Relationship of question numbers to research objectives

Objective 1	Objective 2	Objective 3
To identify the challenges that the Production department has undergone within the last 12 Months	To Investigate the reasons why change was difficult	The development and proposal of a strategic framework / model for the successful management of future change
Questions related to Objective 1	Questions related to Objective 2	Questions related to Objective 3
1; 2; 3; 4; 5; 6; 7; 19 & 20	8; 9; 10; 11; 12; 13; 14; 15; 16; 17 & 20	11; 12; 13; 14; 16; 17; 18; 19; & 20

4.12 Pilot study:

On completion of the questionnaire draft, it is important to perform a pilot exercise, which will enable an un-bias representative to test the questionnaire for mistakes, areas where the researcher may potentially offend individuals or specific inconsistencies that may have been overlooked during the preparation stage.



Ideally, the questionnaire should be tried out on people who represent a similar group of expected respondents whom the researcher is seeking to question. This will allow for correction of mistakes or areas that are not so obvious where ambiguity may creep in. Several attempts may be necessary prior to the questionnaire being ready for distribution to the researcher's potential respondents, keeping in mind that there is only one opportunity to collect the data, and therefore should ensure 100% accuracy. Respondents would not take lightly to a request to re-submit their questionnaire for whatever reason.

The pilot study of the questionnaire should address all aspects, not only areas where there are inconsistencies or mistakes in grammar or even ambiguity, but also areas such as the purpose of the questionnaire should be tested, according to Collis and Hussey, (2003), seeking answers to the following:

1. Are there sufficient questions to enable adequate analysis?
2. Do the questions relate to the research objectives?
3. Are the questions easy to follow and understand?
4. Has the respondent's anonymity been assured? and
5. Is there a guarantee on confidentiality of information?

Furthermore additional questions should be answered during the pilot exercise, according to Gill and Johnson (2003):

1. Are the instructions to the respondents clear and unambiguous?
2. Can the questions be understood, and are these free from jargon?
3. Are the purposes of the research revealed to respondents in a way that will prevent bias?
4. Is it possible that the respondents may find the wording of questions offensive, insensitive or embarrassing? and
5. May the wording lead the respondent to a particular answer or imposed assumption that may be un-warranted ?



Only at the adherence to the afore-mentioned criteria should the questionnaire finally be distributed for completion.

A number of changes were made after the initial pilot exercise was conducted. A list below indicates some areas where changes were required and reinforces the need to pilot any questionnaire prior to distribution to the prespective respondents:

- Some areas where ambiguity could have been a concern;
- Duplication of question asked;
- Spelling mistakes;
- Original length of time specified to complete the questionnaire;
- Original was to be hard copy, proposed new solution was to be web linked; and
- Hard copy was originally three pages, web link became one page.

Table 4.3: Road map for Research project

Project plan for research and preparation of data			
Phase one	Literature search	2 Months Feb & Mar	Searching for relevant literature, initially to begin process, this will continue throughout project
	Comparison of implimentation methodologies	1 Month	Discover differences to aproach similar problems. locate these organisations or Departments
	Continue literature search and review	Apr	
	In depth analysis on "vital few"	1 Month May	Focus on the real differences. Select the vital few that we will discuss
Phase two	Literature search to include interviews	2 Months Jun & Jul	Embark on extensive interviews across the spectrum of reporting levels to include users
	Survey results of interviews and reflect on changes	1 Month	Reflect on those results obtained from the interviews. How does this compare to literature?
	Review of literature	Aug	
	Field work to include bench marked organisations	1 Month Sep	The possibility of physically exploring other organisations that have had similar experiences
Phase 3	Completion of Report, editing and preparation	2 Months Oct & Nov	Comprehensive analysis of captured detail and presentation, including editing and preparation

Source: Collis and Hussey, (2003).



As can be seen in Table 4.3 above, the plan of work will allow the researcher specific time frames to focus on particular aspects of the data collection and evaluation phases. It is important at this stage to map out the journey or road map to ensure that the process is consistent and achievable. Review of this plan should be done regularly and should any updates be required, these should be done immediately to indicate the impact on other areas of focus.

4.14 Data types and research variables:

Data types and research variables can be best explained by the following sub-categories:

4.14.1 The Independent variable:

These are the number of "yes" or "no" records. These can be manipulated to determine the outcome of the dependant variable. These can be seen as the answers selected by the respondents to the particular questions, such as, agree, strongly agree, disagree, strongly disagree or simply do not know.

4.14.2 The Dependant variable:

This could be seen as the resulting outcome of the independent variable. If $y = f(x)$, ("y equalling a function of x"), then x would be the independent and y would be the dependant variable. The dependant variable is directly influenced by the resulting independent variable. This is the conclusion that is drawn from the independent variable such as we can now see due to the respondent's response that the following statement is significantly correct.

4.14.3 The Confounding variable:

The fact that the population being surveyed knows he/she is being monitored is known as the confounding variable, as this knowledge could influence the answer provided by the person being surveyed. It is important during the survey that the respondent's answer the



questions objectively, and should under no circumstances feel that they are being pressured into a particular response.

4.14.4 Extraneous variable:

This extraneous variable is seen as any other variable other than the dependant variable that may have an impact such as an extra question which did not feature in the original questionnaire. This will not be present during the survey conducted within NSA manufacturing as this particular group of questions may not necessarily be repeated in it's entirety at a later stage.

4.14.5 Order effect:

As the questionnaire becomes more acceptable and as it is introduced quarterly, the population may answer in a more relaxed manner than previously, or have a better understanding of what is required, effectively contributing to an incorrect reading. Order effect will not be present during this particular survey as the researcher aims to present the survey only once.

It is vitally important to understand the explanations of different variables as these will be required during the data analysis section of this report. Having a clear understanding of what is being measured and what criteria may be influential to a consistent and normalised data collection process will prove to be crucial. Therefore the researcher has to be sure that he/she understands the underlying aspects associated to the recently implemented ERP-solution for NSA.

4.15 Bias:

There are a number of situations where biases arising during the course of an experiment may cause an influence or mediation of the effects of the independent variable (Collis and Hussey, 2003). If the example of the survey conducted at NSA during 2003–2004 (the survey conducted by HRD during the preparation phases of the ERP-project) is used as an



example, one can say that the influence of the following can be seen as biases in this particular project:

1. The re-structuring of the department responsible for SAP support, resulting in different understanding of the sample being tested and therefore influencing the outcome of the test or experiment, such as re-shuffling of management team after the go-live period. The management of the respective areas are found to be different and therefore answers could be different.

2. New employees employed between surveys, that may have a better understanding, or less of SAP and its capabilities can be included in the survey at a later stage, thus influencing the true validity of the testing being done quarterly., such as those newly appointed consultants whom were not specifically involved in the earlier stages of planning but were later brought on board for support. The following questions can then be asked

- Are apples being compared to apples?
- Is the sample population the same from quarter to quarter? and
- Is the sample population the same from survey to survey.

3. The involvement and/or interaction of the experimenter and the subjects being monitored can have an impact on the results. One can experience a direct influence from the researcher in the form of being lead to a researcher's intention and/or preferred outcome. Such as a researcher using pressing questions until his/her required outcome is achieved or aiming questionnaires at preferred supporters of either a positive or negative outcome.

There could be many more biases relevant to this report, as there are a number of individuals within the organisation that had a pre-conceived idea that the introduction of SAP into NSA was not going to be a success, so therefore one could imagine that the answering of the questions within the survey could be directed towards a negative result. This can be analysed further during the data analysis phase where these particular occurrences, if any would be seen as "outliers", and as a result may be disregarded and not considered during the stage where conclusions are drawn.



4.16 Conclusion:

After having reviewed the methodology to be used during the data collection and analysis stages of the research project, the focus will now move to the results as found from the survey as well as the structured interview sessions. The following chapter will thus introduce the reader to the actual results of the survey performed on the previously categorised population. This will be followed by discussion around the qualitative data collected during the structured interview sessions with the executive. During these structured interviews, the results of the survey conducted during September 2006, was disclosed to the executive and the researcher presented open ended questions for discussion.

In addition to the presentation of the data in chapter 5, the researcher will discuss some of the findings in detail.

CHAPTER 5. DATA PRESENTATION AND ANALYSIS

“Facts do not cease to exist just because they are ignored”

Aldous Huxley (1894 – 1963)

5.1 Introduction:

In this chapter the researcher will firstly present the general demographics of the respondents partaking in the research survey. Then the focus will be on the questions associated to objective 1, where all tables and charts will be shown and discussed, before moving onto objective 2, and finally followed by questions associated to objective 3. The questionnaire is attached as appendix 8.2.1 at the end of the report and the questions pertaining to each sub-problem are displayed in chapter 4. Additional data concerning a list of questions that are to be presented to the executive for comment can be found at the end of this report as appendix 8.2.3. The researcher will use these questions and the opportunity to present to the executive some of the significant findings based on the survey while at the same time seeking comment and guidance regarding potential recommendations for the future. These results will be presented at the end of this chapter.

5.2 Demographic results:

Table 5.1: General demographics of respondents

General demographic	Current area of employment	Current Position held	Breakdown
Female	<u>Engineering & Quality</u>	Management	1
		Non Supervisory	1
	<u>Financa & Control</u>	Non Supervisory	1
	<u>Production</u>	Consulting	1
		Non Supervisory	1
		Supervisory	1
Female Total			6



General demographic	Current area of employment	Current Position held	Breakdown
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Male			
<u>Engineering & Quality</u>			
	Management		2
	Non Supervisory		3
	Supervisory		8
<u>Finance & Control</u>			
	Consulting		1
	Non Supervisory		2
	Supervisory		1
<u>Logistics</u>			
	Consulting		3
	Management		3
	Supervisory		2
<u>Production</u>			
	Consulting		2
	Management		6
	Non Supervisory		1
	Senior Management		1
	Supervisory		1
Male Total			36
Grand Total			42

The above tables indicate the general demographics of the production support areas within NSA manufacturing. The researcher wishes to bring the reader into the picture regarding these facts related to gender, position held and field of employment. A number of comparisons will be made where position of employment or field of employment may make a difference in the responses obtained from respondents. The data above displays that out of all usable responses within the sample of 42, there were 6 female respondents and 36 male respondents.

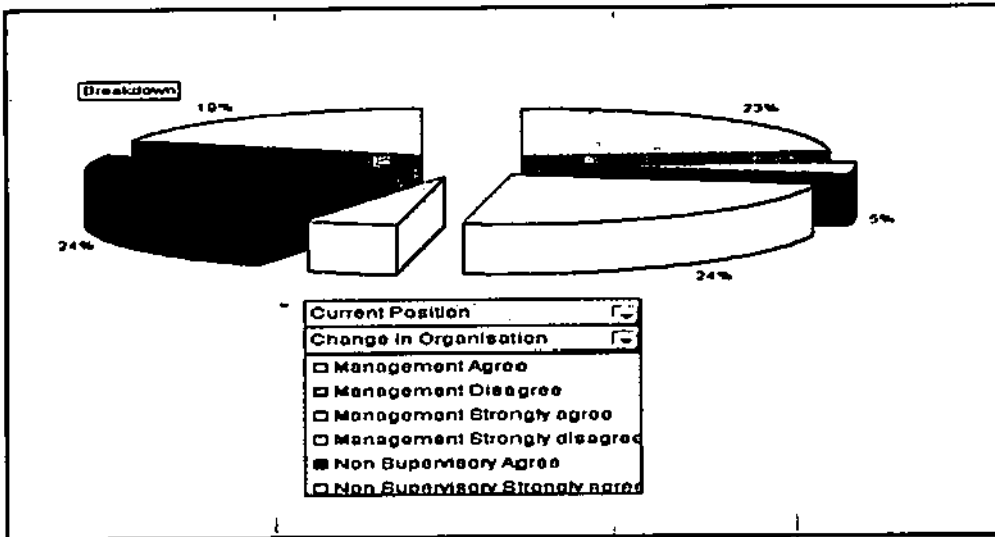
5.3 Results of questionnaire:

5.3.1 Objective 1:

To identify the challenges that the Production department has undergone within the past 12 months.

Table 5.2: The success of the ERP implementation.

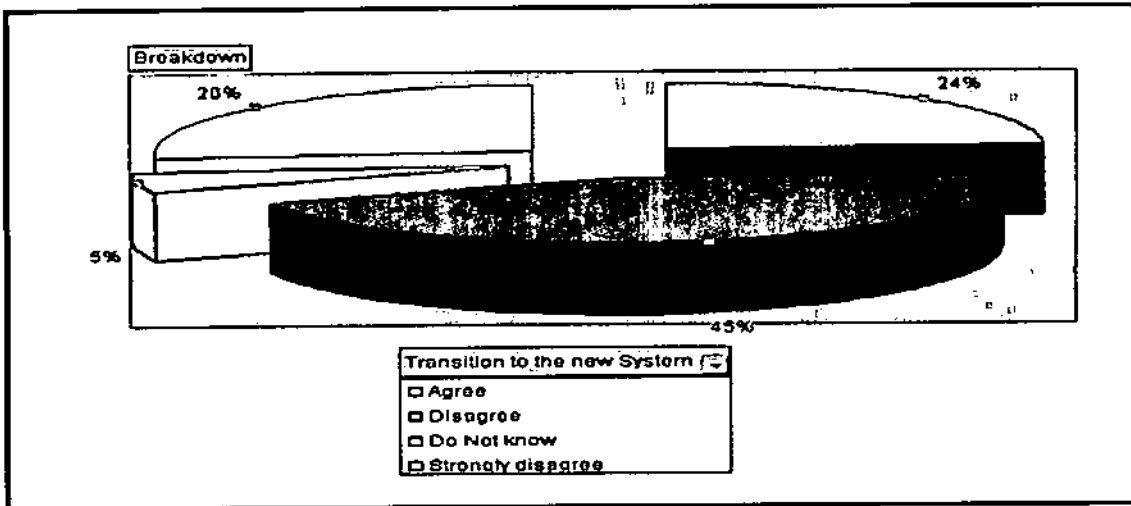
Position	Success of the ERP implementation	Breakdown	% to total response
Management			
	Agree	2	
	Disagree	4	
	Strongly disagree	6	
Management Total		12	28.57
Non Supervisory			
	Agree	1	
	Disagree	6	
	Strongly agree	1	
	Strongly disagree	1	
Non Supervisory Total		9	21.43
Grand Total		21	50.00



As indicated by above data, the success of the ERP implementation was not, in the eyes of the respondents, representing only those of supervisory and management staff, seen as a success. With non-supervisory staff and management making up 50% of the total respondents, one can see that the message is relatively clear, regardless of the position held that 81% of respondents agreed that the implementation was not a success.

Table 5.3: Success of the execution during the transition period

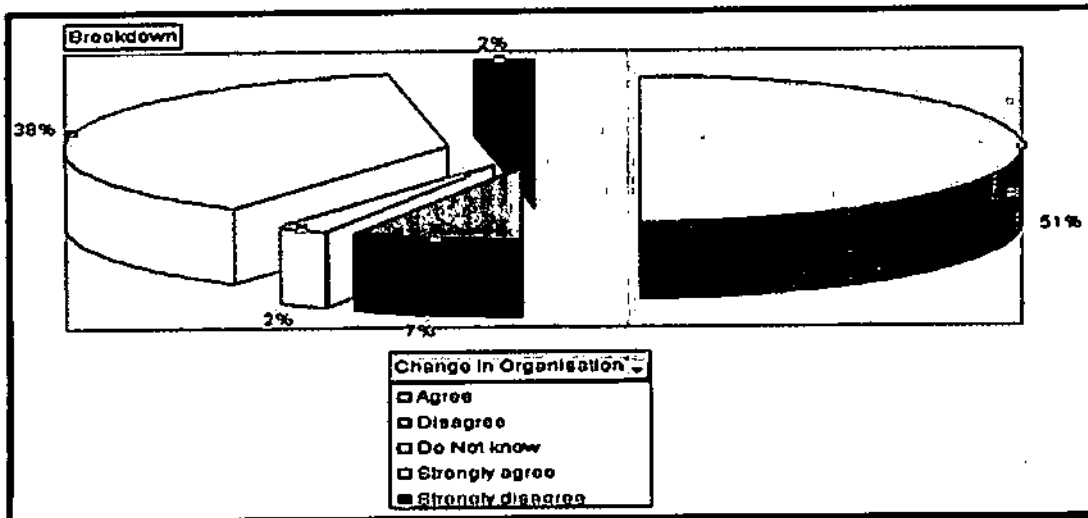
Length of time in Current Position	Transition to the new System	Breakdown	% to total response
Between 5 & 10 years	Agree	1	
	Disagree	8	
	Do Not know	1	
	Strongly disagree	1	
	Between 5 & 10 years Total		11
Greater than 10 years	Agree	6	
	Disagree	8	
	Do Not know	1	
	Strongly disagree	1	
	Greater than 10 years Total		16
Less than 5 years	Agree	3	
	Disagree	3	
	Strongly disagree	9	
	Less than 5 years Total		15
Grand Total		42	100



This question focussed on the length of time in current position and this was examined against the respondent's understanding of how successful the transition was. This allows an analysis of the difference of opinion as measured against the opinion that this is "the way things are done around here". 10 respondents out of 42, representing 24% agree that the transition to the new ERP solution was successful, while an overwhelming percentage of respondents, equalling 72% indicate that the transition was in fact unsuccessful.

Table 5.4: The understanding of the difficulties associated to change management

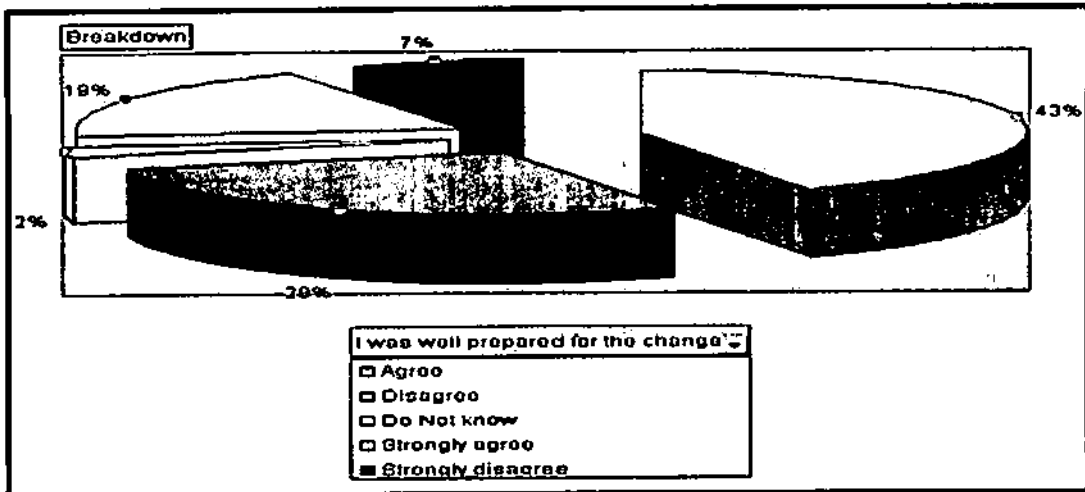
Current Position	Change in Organisation	Breakdown	% to total response
Consulting	Agree	4	
	Disagree	1	
	Strongly agree	2	
Consulting Total		7	16.67
Management	Agree	5	
	Disagree	1	
	Strongly agree	5	
	Strongly disagree	1	
Management Total		12	28.57
Non Supervisory	Agree	5	
	Strongly agree	4	
Non Supervisory Total		9	21.43
Senior Management	Strongly agree	1	
Senior Management Total		1	2.38
Supervisory	Agree	7	
	Disagree	1	
	Do Not know	1	
	Strongly agree	4	
Supervisory Total		13	30.95
Grand Total		42	100



Most agree that change in an organisation is generally difficult to manage: 88% of the respondents indicated that this is generally the case.

Table 5.5: Measurement of personal preparedness for the ERP implementation

Position	I was well prepared for the change	Breakdown	% to total response
Consulting	Agree	2	
	Disagree	1	
	Strongly agree	4	
Consulting Total		7	16.67
Management	Agree	5	
	Disagree	4	
	Strongly agree	2	
	Strongly disagree	1	
Management Total		12	28.57
Non Supervisory	Agree	5	
	Disagree	2	
	Do Not know	1	
	Strongly disagree	1	
Non Supervisory Total		9	21.43
Senior Management	Strongly disagree	1	
Senior Management Total		1	2.38
Supervisory	Agree	6	
	Disagree	5	
	Strongly agree	2	
Supervisory Total		13	30.95
Grand Total		42	100.00



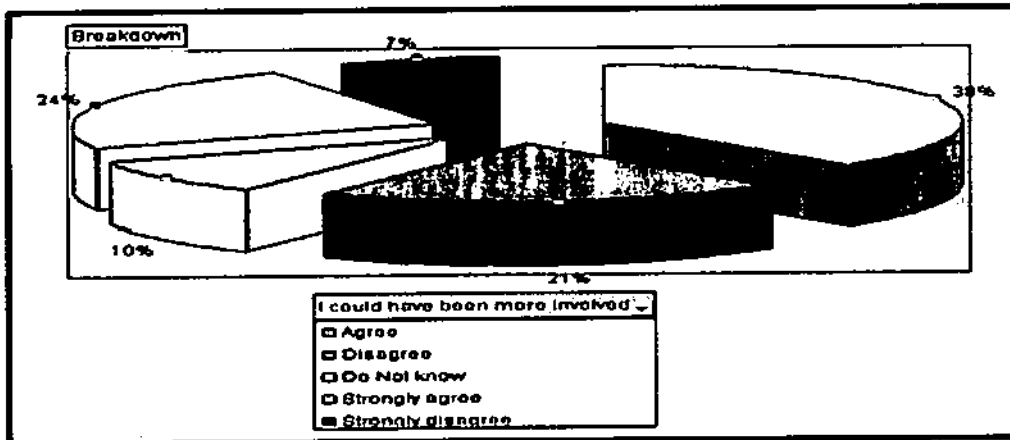
Actual personal preparedness is clear here when dealing with the responses from the consultants, but there are mixed feelings amongst the business concerning the level of preparedness. 62% of respondents are in agreement that they were personally prepared for the ERP implementation while 33% indicated they were not.

5.3.2 Objective 2:

To investigate the reasons why, during this period (July 2003 and July 2005) was difficult.

Table 5.6: "I could have been more involved in the preparation phase"

Position	I could have been more involved	Breakdown	% to total
Consulting	Agree	2	
	Disagree	1	
	Do Not know	1	
	Strongly agree	2	
	Strongly disagree	1	
	Consulting Total		7
Management	Agree	7	
	Disagree	1	
	Do Not know	1	
	Strongly agree	3	
	Management Total		12
Non Supervisory	Agree	3	
	Disagree	1	
	Do Not know	2	
	Strongly agree	2	
	Strongly disagree	1	
	Non Supervisory Total		9
Senior Management	Disagree	1	
	Senior Management Total		1
Supervisory	Agree	4	
	Disagree	5	
	Strongly agree	3	
	Strongly disagree	1	
	Supervisory Total		13
Grand Total		42	100

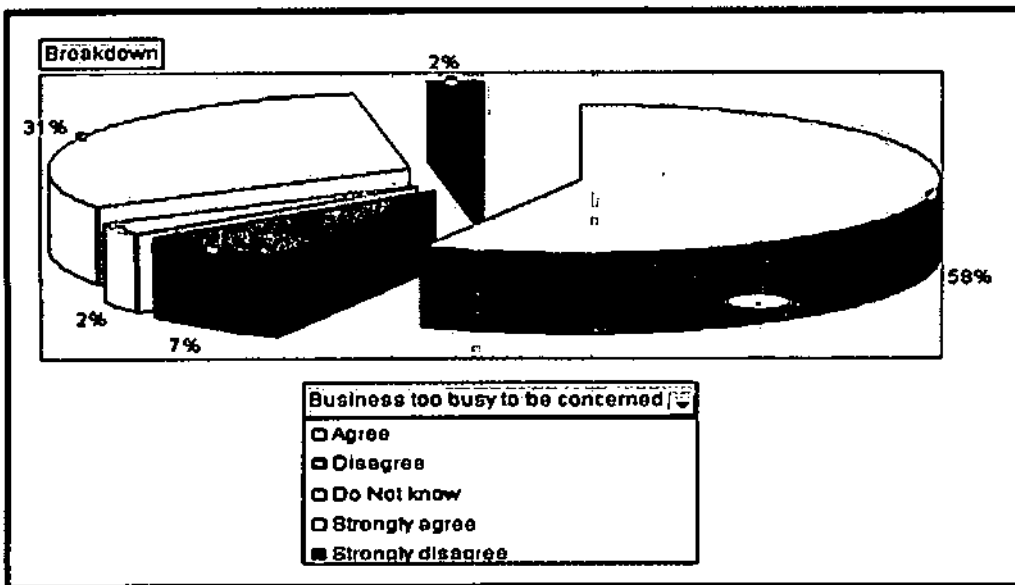


The measurement of participation, asking the question whether the respondents felt they could have been more involved indicates a shift towards the need for increased participation. 71% agreed that they could have been more involved, while 28% indicated that they were adequately involved.



Table 5.7: "The business was too busy with day to day activities to take change seriously"

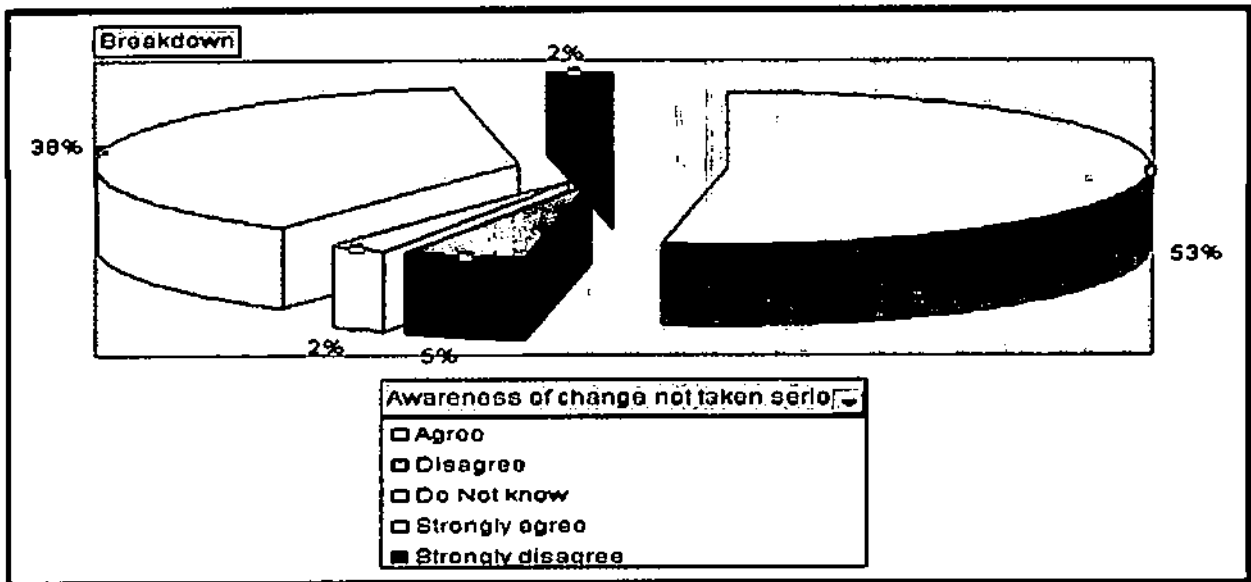
Position	Business too busy to be concerned	Breakdown	% to total response
Management			
	Agree	7	
	Disagree	1	
	Strongly agree	4	
Management Total		12	16.67
Non Supervisory			
	Agree	5	
	Disagree	1	
	Do Not know	1	
	Strongly agree	1	
	Strongly disagree	1	
Non Supervisory Total		9	30.95
Grand Total		21	47.62



This question focussed on testing the hypothesis that change is always ranked second to the standard day to day activities. The data finding strengthens this argument by indicating an overwhelming number of respondents are in agreement that the business was too busy to manage change effectively. 81% of Respondents agree with the statement while 14% disagree.

Table 5.8: The business was aware of the change but did not react seriously

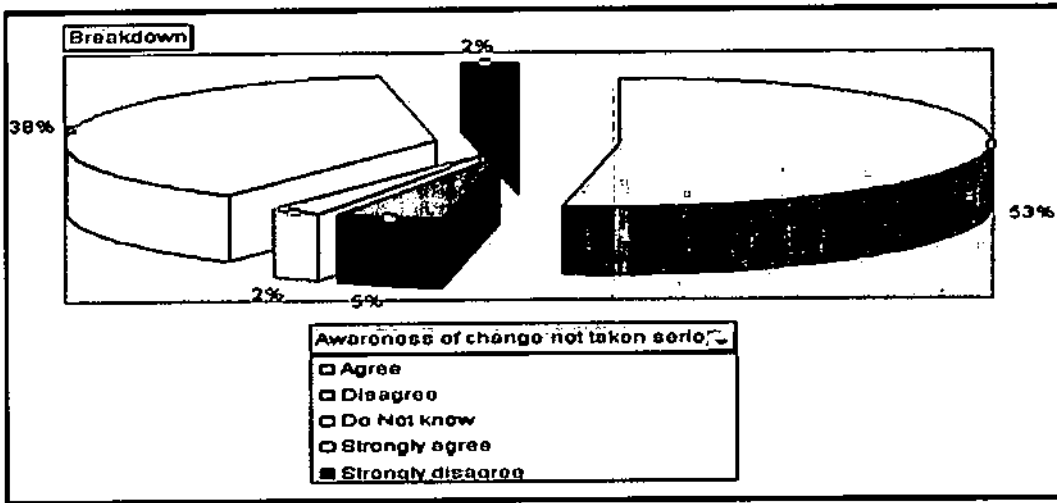
Field of employment	Awareness of change	Breakdown	% to total response
Engineering & Quality	Agree	10	
	Strongly agree	5	
Engineering & Quality Total		15	35.71
Finance & Control	Agree	2	
	Strongly agree	3	
Finance & Control Total		5	11.90
Logistics	Agree	4	
	Disagree	1	
	Do Not know	1	
	Strongly agree	2	
Logistics Total		8	19.05
Production	Agree	6	
	Disagree	1	
	Strongly agree	6	
	Strongly disagree	1	
Production Total		14	33.33
Grand Total		42	100.00



Being aware of the need for change is one thing however not reacting seriously or effectively to that need for change is a little more serious. Out of the 42 respondents, in their various fields of employment, 90% felt that business was most certainly aware of the impending change but did not react seriously.

Table 5.9: Opinion of the different levels of supervision on awareness and understanding of change

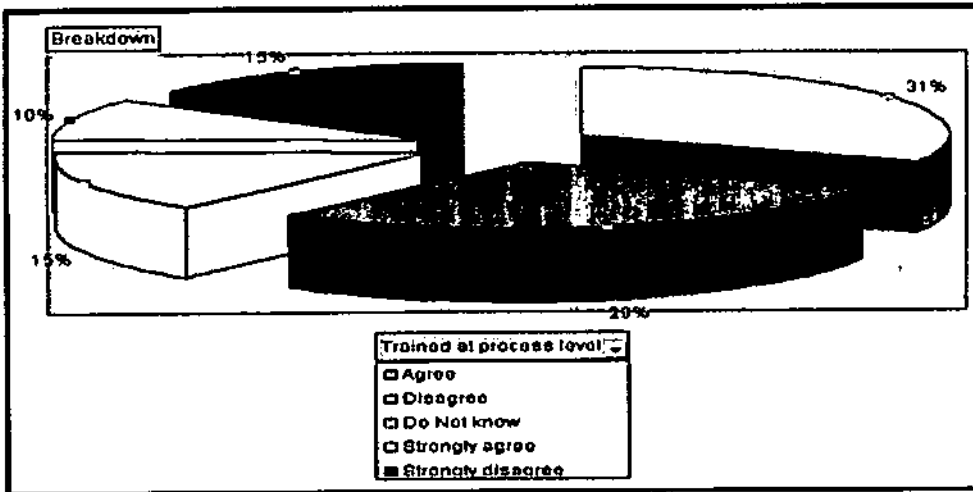
Position	Awareness of change		% to total
	Agree	Strongly agree	
Consulting	5	2	
Consulting Total	7		16.67
Management	4	2	
	1	4	
	1		
Management Total	12		28.57
Non Supervisory	6	3	
Non Supervisory Total	9		21.43
Supervisory	7	6	
Supervisory Total	13		30.95
Grand Total	41		97.62



It is important to show the differences of opinion regarding awareness through the different levels of management (Refer to Table 5.9) as well as the different departments supporting production (Refer to Table 5.8.). The response was 90% in agreement when the different fields of employment were tested. However based on the demographical breakdown it is interesting to see where the responses actually lie. 100% of supervisory, non-supervisory and consulting staff agree that they understood the change while management are only 75% in agreement. 1 respondent, that of senior management was disregarded.

Table 5.10: "I understood my role within the new system on a process level"

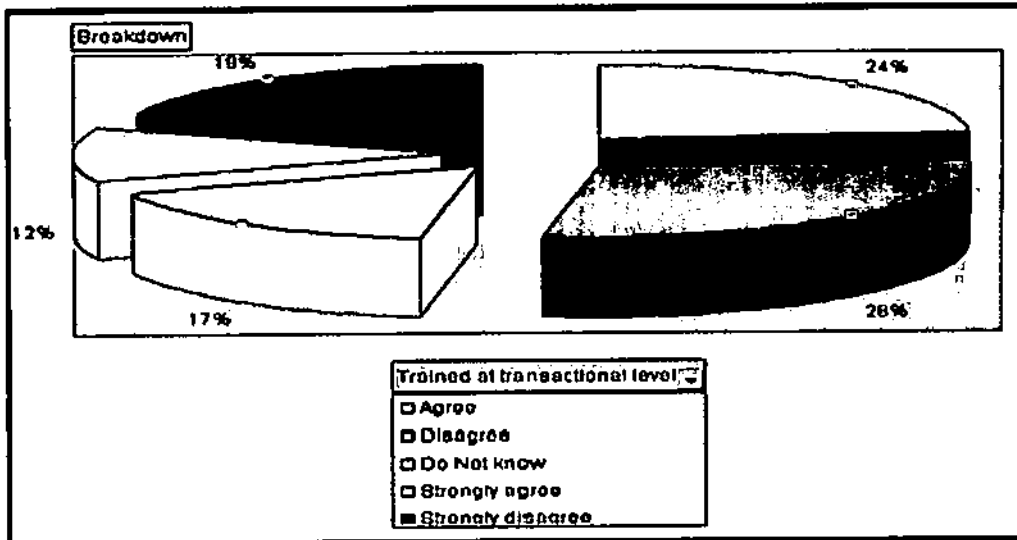
Position	Trained at process level	Breakdown	% to total
Management	Agree	5	
	Disagree	4	
	Strongly agree	1	
	Strongly disagree	2	
	Management Total	12	28.57
Non Supervisory	Agree	3	
	Disagree	2	
	Do Not know	2	
	Strongly disagree	1	
Non Supervisory Total	8	19.05	
Supervisory	Agree	2	
	Disagree	6	
	Do Not know	1	
	Strongly agree	2	
	Strongly disagree	2	
Supervisory Total	13	30.95	
Grand Total	33	78.57	



Again there is a need to measure the preparedness of the respondents regarding their understanding of what was expected from them with the implementation of the ERP-solution where process understanding is concerned (Refer to Table 5.10), as well as transactional understanding (Refer to Table 5.11). On a process level, there are mixed feelings regarding the Respondent's understanding of what was required. 39% indicated that they understood their respective roles, while 51% indicated that they did not. 9% failed to answer this question. Consultants and senior management were disregarded.

Table 5.11: "I understood my role within the new system on a transactional level"

Trained at	transactional level	Breakdown	% to total response
Management			
	Agree	4	
	Disagree	3	
	Strongly agree	1	
	Strongly disagree	4	
Management Total		12	28.57
Non Supervisory			
	Agree	1	
	Disagree	3	
	Do Not know	3	
	Strongly agree	1	
	Strongly disagree	1	
Non Supervisory Total		9	21.43
Supervisory			
	Agree	2	
	Disagree	6	
	Do Not know	1	
	Strongly agree	2	
	Strongly disagree	2	
Supervisory Total		13	30.95
Grand Total		34	80.952381

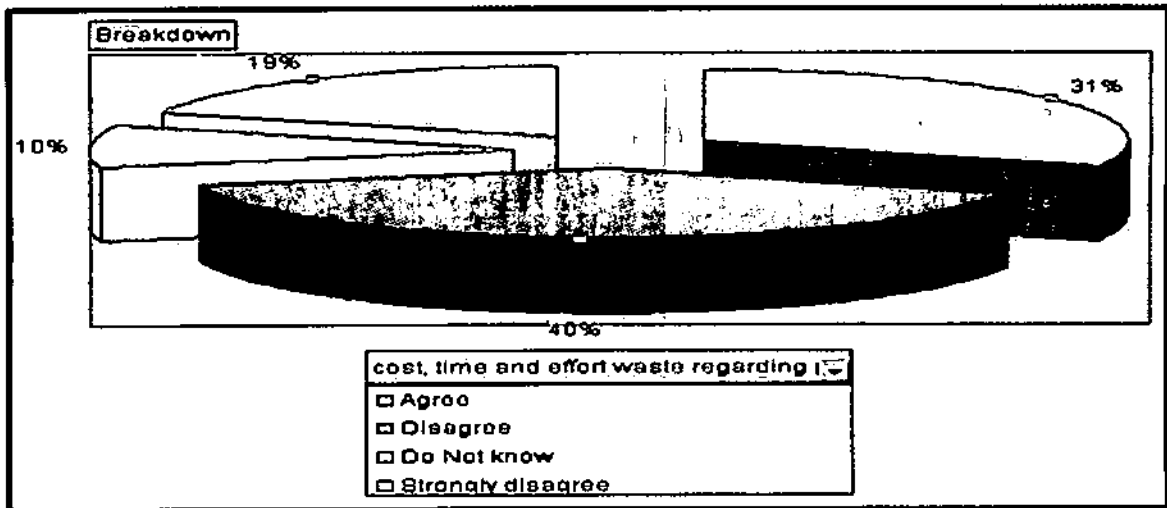


On a transactional level, the understanding was a little less. 29% of Respondents indicated that they understood what was expected of them, while 56% indicated they were not familiar with what was required of them. 12% of Respondents failed to answer this question. Again the consultants as well as one senior manager was disregarded as this was not applicable to those particular respondents



Table 5.12: "I felt that the implementation of the new system was a waste of time, money and effort"

Position	Cost-time and effort waste regarding project	Breakdown	% to total response
Consulting	Disagree	3	
	Do Not know	1	
	Strongly disagree	3	
	Consulting Total	7	16.67
Management	Agree	5	
	Disagree	5	
	Strongly disagree	2	
	Management Total	12	28.57
Non Supervisory	Agree	4	
	Disagree	2	
	Do Not know	2	
	Strongly disagree	1	
	Non Supervisory Total	9	21.43
Senior Management	Agree	1	
Senior Management Total	1	2.38	
Supervisory	Agree	3	
	Disagree	7	
	Do Not know	1	
	Strongly disagree	2	
	Supervisory Total	13	30.95
Grand Total		42	100.00



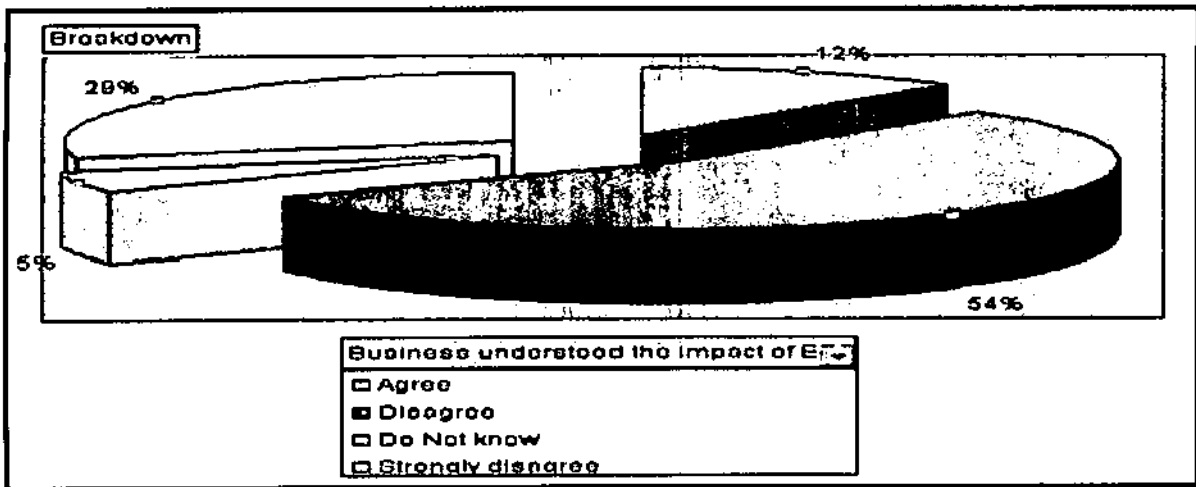
While 100% of the consultants believe that there was no waste of money, time and effort, the business differs to this opinion. 45% of Respondents believe that the ERP-implementation lead to wastage, while 31% disagree that time, money and effort were wasted. 7% of Respondents however failed to comment.

5.3.3 Objective 3:

The development and proposal of a strategic framework/model for the successful management of future change.

Table 5.13: "The business fully understood the impact associated with the ERP implementation"

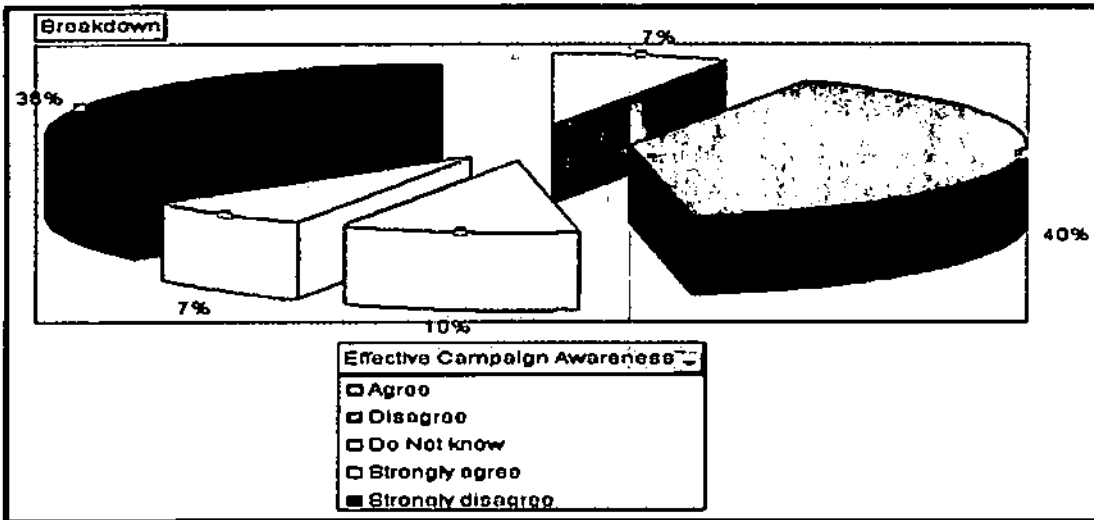
Position	Business understood the impact of ERP	Breakdown	Total
Consulting	Disagree	2	16.67
	Strongly disagree	5	
Consulting Total		7	
Management	Agree	2	28.57
	Disagree	6	
	Do Not know	2	
	Strongly disagree	2	
Management Total		12	
Non Supervisory	Agree	1	21.43
	Disagree	6	
	Strongly disagree	2	
Non Supervisory Total		9	
Senior Management	Disagree	1	2.38
Senior Management Total		1	
Supervisory	Agree	2	30.95
	Disagree	8	
	Strongly disagree	3	
Supervisory Total		13	
Grand Total		42	100.00



An overwhelming number of Respondents (83%) are in agreement, that there was a lack of understanding of the impact of ERP on the business. While 21% indicated that they felt the business did understand the impact brought about by the ERP-implementation.

Table 5.14: "There was value for the business in the awareness campaign"

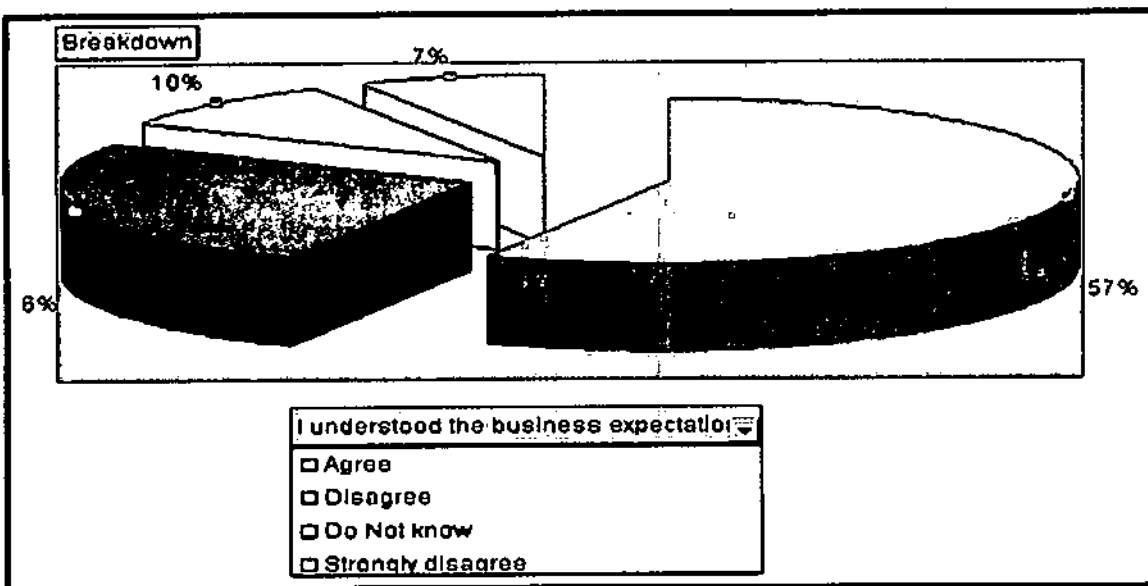
		% to total	
Position	Effective Campaign Awareness	Breakdown	response
Management			
	Agree	1	
	Disagree	5	
	Strongly disagree	6	
Management Total		12	28.57
Non Supervisory			
	Agree	1	
	Disagree	4	
	Do Not know	2	
	Strongly disagree	2	
Non Supervisory Total		9	21.43
Senior Management			
	Strongly agree	1	
Senior Management Total		1	2.38
Supervisory			
	Agree	1	
	Disagree	3	
	Do Not know	2	
	Strongly agree	2	
	Strongly disagree	5	
Supervisory Total		13	30.95
Grand Total		35	83.33



Although there was an awareness campaign running during the entire duration of the project, it is important to determine the value that this activity contributed in the minds of the respondents. 71% of Respondents believe that there was in-sufficient value, while 17% believe there was significant value in the awareness campaign. 11% of the Respondents failed to comment. The consultants were excluded from this awareness campaign (7 off).

Table 5.15: "I understood what was expected form me at the go live stage"

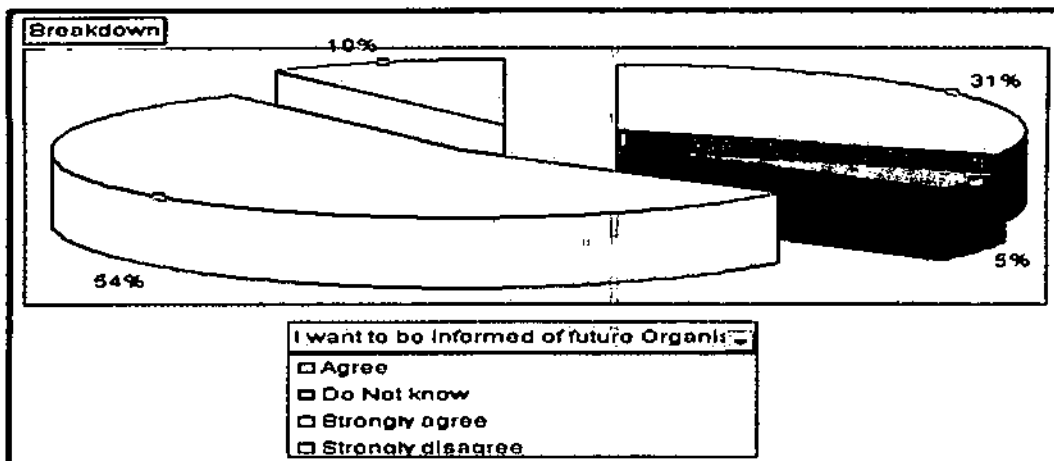
Position	I understood the business expectation at Go-Live	Breakdown	% to total response
Consulting	Agree	3	
	Disagree	3	
	Do Not know	1	
	Consulting Total	7	16.67
Management	Agree	8	
	Disagree	3	
	Do Not know	1	
	Management Total	12	28.57
Non Supervisory	Agree	3	
	Disagree	3	
	Strongly disagree	3	
	Non Supervisory Total	9	21.43
Senior Management	Agree	1	
	Senior Management Total	1	2.38
Supervisory	Agree	9	
	Disagree	2	
	Do Not know	2	
	Supervisory Total	13	30.95
Grand Total		42	100.00



62% of the Respondents understood what the organisation expected of them, while 33% believed that they did not understand. Interestingly enough, management and supervisory positions seemed to be more informed, with 66% of management and 69% of supervisory staff indicating that they fully understood, while only 33% of non supervisory staff indicated that they were aware of what was expected of them.

Table 5.16: "I want to be kept informed of how the organisation is changing"

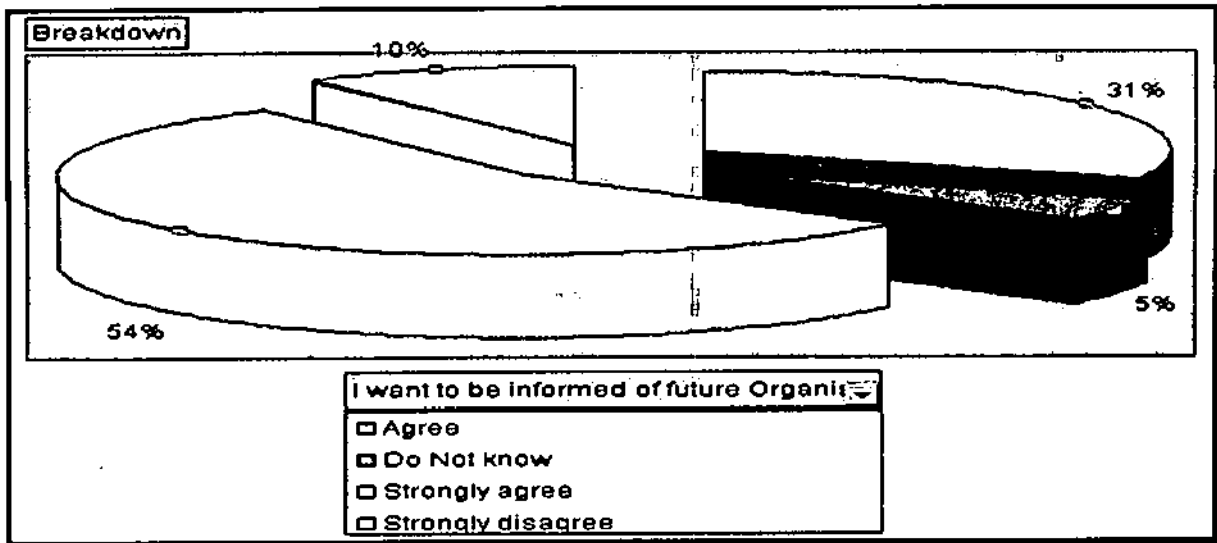
Position	I want to be informed of future Organisational change	Breakdown	% to total response
Consulting			
	Agree	3	
	Strongly agree	4	
Consulting Total		7	16.67
Management			
	Agree	1	
	Do Not know	1	
	Strongly agree	8	
	Strongly disagree	2	
Management Total		12	28.57
Non Supervisory			
	Agree	3	
	Strongly agree	5	
	Strongly disagree	1	
Non Supervisory Total		9	21.43
Senior Management			
	Strongly agree	1	
Senior Management Total		1	2.38
Supervisory			
	Agree	6	
	Do Not know	1	
	Strongly agree	5	
	Strongly disagree	1	
Supervisory Total		13	30.95
Grand total		42	100.00



It is important to measure the need for the employees and thus respondents to want to know where the organisation envisages itself in the future. Respondents were asked their views pertaining to the position in the company (Refer to Table 5.16) as well as field of employment (Refer to Table 5.17). 86% of Respondents agreed that they would want to be informed of the changes within the organisation. 10% of Respondents indicated they do not wish to know, while 5% indicated they were unsure.

Table 5.17: "I want to be kept informed of how the organisation is changing"

Position	I want to be informed of future Organisational change	Breakdown	% to total response
Engineering & Quality	Agree	8	
	Strongly agree	6	
	Strongly disagree	1	
	Engineering & Quality Total	15	35.71
Finance & Control	Agree	2	
	Do Not know	1	
	Strongly agree	2	
Finance & Control Total	6	11.90	
Logistics	Agree	1	
	Strongly agree	6	
	Strongly disagree	1	
Logistics Total	8	19.05	
Production	Agree	2	
	Do Not know	1	
	Strongly agree	9	
	Strongly disagree	2	
Production Total	14	33.33	
Grand Total		42	100.00



Respondent's feedback on this question proved to be interesting when compared to the organisational demographics. Interestingly enough, the areas not requiring involvement or feedback were two respondents in management, one in a supervisory and the other in a non-supervisory position. Two of these respondents are in the production area, while one is in logistics area and the other in the engineering/quality area.

5.4 Results of structured interviews:

During the structured interviews held with specific senior management staff, there were a number of issues presented for discussion. It was important for the researcher at this stage to present a summary of the results of the questionnaire conducted with the manufacturing staff during the month of September 2006.

Amongst other things, areas such as the following were discussed in detail during the structured interviews with specific executives:

- Misalignment of the system v's the user;
- The lack of input and/or participation from line management;
- Lack of attendance at training sessions;
- Lack of attendance at awareness sessions;
- Lack of ownership from line management;
- Clarity on expectations of awareness campaign;
- Resources being stretched; and
- Discipline taken regarding non achievers.

The executive were not surprised by the results of the survey, and continuously compared the findings of this survey to a number of audits that were presented post go-live with SAP.

These reports indicated some similar findings in the following areas:

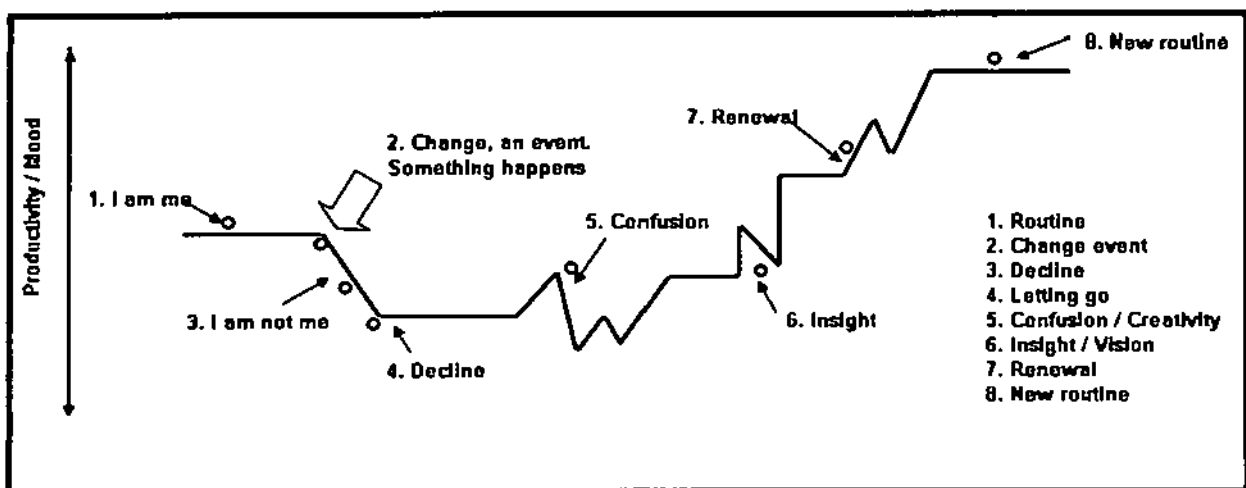
- Lack of communication consistency;
- In-adequate training of business representatives on the project team;
- Change management of the users and eventual owners of the new system;
- Mis-alignment of the system v's the users;
- Possible in-compatible solutions; and
- Lack of buy-in from stakeholders.

5.5 Discussion of findings:

5.5.1 Managing transformation:

Remember the change curve in chapter 1, where it is understood that no matter what the situation or the type of project or the event which is about to happen, one can almost guarantee that the emotional cycle will be introduced (Davis and Dean, 2005). There will always be a situation where all employees involved with the change will be exposed to this transformation process. An important aspect of managing transformation is allowing the different cycles to take place whilst acknowledging the different stages of the change curve and the potential differences that different individuals will be experiencing. As can be seen in figure 5.1, the various phases of the transformation road map are clear and each individual has to go through each one of these. There is a fundamental reason for this and that is to allow each individual to experience each phase, and so move on to the next phase in his/her own time. This will ensure that the individual is in fact dealing with the relevant information afforded to him/her at each of these milestones (Davis and Dean, 2005). A recommendation going forward could be for the organisation to fully understand these phases of figure 5.1 in order to make provision for a detailed awareness campaign well in advance of the proposed project start date in order to allow for preparation of the respective employees that will inevitably be impacted by the impending change.

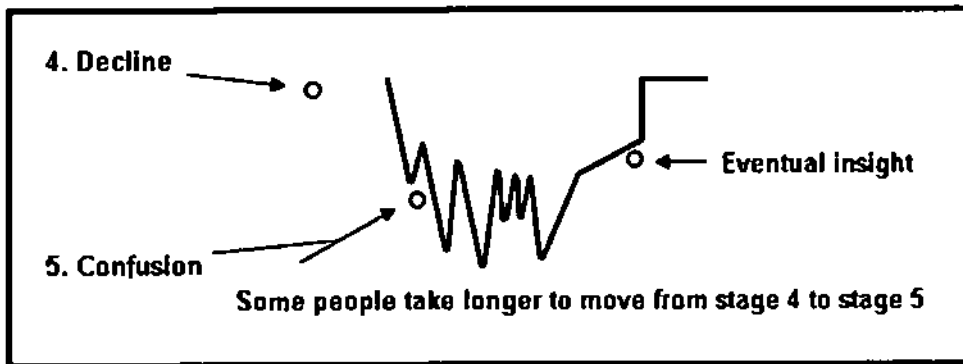
Figure 5.1: Transition process.



Source: *Leveraging Organisational Change, (2005).*

There are a few good words of advice given to managers responsible for managing change by Elizabeth Harper Neeld. She goes on to say that when you go through major change you can never be immune from all the pain, trauma, confusion or dis-equilibrium. You have the very same responses you had before, but now you know that there are life-affirming choices and that in itself is a process. You have confidence in that process and you may now move through the process in less chronological time. You are not nearly so likely to get stuck (Harper Beeld, 2005). Figure 5.2 below illustrates the area where some individuals are slower than others when it comes to the confusion/creativity phase of the transformation road map.

Figure 5.2: The confusion / creativity phase.



Source: *Leveraging Organisational Change, (2005).*

5.5.2 Fine tuning existing systems:

NSA has recently recovered from extensive debt and loss of market share. The strategic decision to adopt an ERP solution was one of many steps taken to revitalise the image and improve the processes at NSA. The ultimate goal in any manufacturing organisation is to reduce cost to manufacture, increase awareness of quality and ultimately increase revenue. SAP has provided a platform from which to attempt to deal with these requirements however these challenges may not be met without a strategic communication plan and an intensive **shift** in NSA's inherent responsibilities and values toward the company and the system itself.



SAP has laid the foundation, at a cost of course, but the time has now come to adopt and enhance the system and make it NSA's own. It has been a long time coming, however the benefits are about to be reaped as a result of the implementation of SAP into NSA. The organisation has to begin training and/or recruiting potential staff members that will be able to continue with the technical aspects of the system management and in doing so will eliminate the current consultant dependency that the organisation is now subjected to. This in itself is not an easy task as the skill lies within the company's IT (information technology) partner, whom are at present responsible for all system enhancements as well as day to day support. The question is: "Do we continue down this road, or do we begin a comprehensive training programme to adopt the necessary skills to enable the business to continue and sustain the system long after the SAP consultants have left?" The preferred practices found within the SAP system were required to be aligned to the organisation in order to be successful, however the success of the re-engineering process that so often runs parallel to most IT projects was not evident. This resulted in a number of gaps associated to areas such as system discipline and accuracy.

If it is true that 90% of IT projects fail to deliver their targets, then at the same time it must be noted that 70% of business process re-engineering projects also fail (Robertson, 2006). Therefore the statistics normally quoted are not necessarily only related to IT, keeping in mind that in most cases the introduction of new improved IT systems requires some sort of, if not a lot of, process changes. The organisation has to be aware of this and plan accordingly and more specifically set up it's resources accordingly to pro-actively address this type of occurrence in future projects.

5.5.3 Improved communication:

The period over the last 18 months, beginning just prior to the "go-live" stage of the project has been an upward climb as far as volume achievement and process efficiency within manufacturing are concerned. What NSA is faced with now is a de-motivated work force, a workforce that has been subjected to long hours to recover some of the dignity lost by the organisation as a result of "post go-live". The time has come for complete revival from the bottom to the top. Improved communications must take priority and have a new and true



meaning within manufacturing. The heart and sole of any successful organisation lies within its workforce and the inherent values are what drives the success home. One is reminded of the Harley Davidson success story, Don James kept the same machines, he also kept the same processes, but he changed the way he dealt with his work force (Harley Davidson success story, 2006). He changed the way the work force were treated, while at the same time he empowered them to be able to assist in making the improvements. This is similar to the "brand awareness" campaign that NSA as an organisation was exposed to through theatrics. Our largest challenge within manufacturing will be to do just this. The work force should stand up and say enough is enough, my brand is important to me and I am going to compete to keep it mine.

However, if the organisation is serious about communication and transparency, one must seek the ideal opportunity and venue to support this type of extensive and continuous communication. An ideal opportunity to convey this message on a continuous basis is during the "green area" meetings (standard pre-shift meeting opportunity for all operators, foremen and their supervisory staff). The trick however, is to keep this message consistent throughout all levels, and more importantly, keep the message continuous. There is a need to have a balance between delivery and communication (Bigge, 2006). If the organisation is to increase it's plan for communication it is imperative that the deliveries promised are met to ensure that communication in the future actually has value. Furthermore, brand awareness at NSA should become a daily activity and discussion point, and ultimately a way of life and not just something that seems to dwell in the house of sales and marketing, but fully alive and kicking in the heart of manufacturing.

5.5.4 Becoming a learning organisation:

NSA has the technology, the organisation can and is most certainly equipped to compete, the question however, is how does NSA ensure that a similar approach to project management that was experienced during 2003-2005 is not going to be followed? Some of the positive results regarding the latest project are already obvious. Areas within these newly launched projects that are seen as possible weaknesses or are seen as potential risks are highlighted during the weekly status meetings. This already seems to be a step in



the right direction as there is immediate awareness and participation to address the concerns. Typically large budgeted projects are lucky in a way due to the fact that mistakes are quickly identified and dealt with at the correct levels due to the amount of investment at stake. Thus, NSA has managed in some way, however small, to change to enable the cycle of learning to be included in the planning phases. Whether NSA uses the PDCA-cycle from Demming (1988) or we use the double loop learning model from Argyris and Schon (1978). So long as we as an organisation just learn from past experience and do not necessarily repeat our mistakes of the past.

In Table 5.8, earlier, the respondents indicated that 90% were aware of the impending change but did not take that change seriously. This result should be unacceptable to the organisation's executive as it implies that there is a lack lustre approach to impending change and as a result may be faced with a work force that is unable to adapt quickly and effectively. It could therefore recommended that any further projects of this size and nature in the future should be communicated well in advance and each departmental manager should be assigned to specific tasks within the project plan to ensure participation, awareness and complete understanding of the impending impact of such a project, even if this means that resources need to be "stretched" to achieve this, (Bigge, 2006). Furthermore there should be continuous feedback sessions aimed particularly at specific managers of crucial areas, requiring their feedback on issues encountered, potential risk factors foreseen and other subjects related to the particular project. This type of communication, going both ways ensures then that the respective managers of the crucial areas are in fact on board and up to date with the progress of the impending change.

Again, through improved awareness campaigns, the organisation has to involve all members whom are to be affected by the impending change and ensure that buy-in is complete and most of all genuine. Non attendance of these sessions should be communicated to the respective senior management where disciplinary action should be carried out (Erasmus, 2006).



5.5.5 Training, process v's transactional:

The aspect of user training prior to the implementation of the ERP-project was subject to scrutiny. Although there was an extensive training plan proposed and implemented by the human resources department as well as an external service provider, there are questions arising concerning the level of training. Ultimately within a project of this size and complexity, keeping in mind that the entire main frame system was to be exchanged with a much more sophisticated and more disciplined and fully integrated system, requiring a lot more involvement than the previous almost archaic main frame system.

With 51% of respondents indicating they did not understand their role within the new process and only 39% indicating that they did, there should be a concern raised with top management if they expect business to continue as normal. An even more worrying factor is that only 29% of respondents understood what they as users were expected to do on a transactional level, 56% indicating they did not understand what was expected of them at this level. It is fundamental within any project to have comprehensive training to ensure firstly, that those affected by the change have the tools to deal with this transformation and secondly, have an understanding of how the day to day activities are to continue.

5.5.6 The need for change:

In any project, the understanding of the need for change is vital, and it is in this area that most organisations experience the largest resistance. Implementation of change in organisations is often problematic. This is especially likely to be the case where such a change involves people, and where personal relationships and emotional responses predominate (McCalman and Paton, 1992). Therefore, Understanding the need for change will most definitely influence the reaction to change. In NSA's case the need for change specifically was not communicated either extensively or often enough at the correct forums. Had the organisation fully understood the need to evolve within the IT (Information technology) environment as a result of ageing equipment and continued restrictions regarding current systems, while promoting the advantages of the newly proposed systems, the resistance that was so obviously experienced (results of survey September 2006) would have been substantially minimised.



It is important to view the way change takes place. Change on its own can cause extensive resistance and ultimately fear of unknown outcomes resulting in negative perceptions. At NSA, specific areas of change were seen as a little slower than other areas, and incidentally these areas that reacted slower are unfortunately the areas where there is an ongoing need for support and continued enhancement as specific modules and transactions within specific areas are not fully developed. If one has to look at the respondent's view in Table 5.13 (earlier in this chapter), it is clear that the impact of the project was not fully understood. 83% of the Respondents agreed that they did not fully understand, with only 21% indicating that the impact of the project was understood. Here again communication is vital, while participation is unquestionably required and will inevitably lead to awareness, which was so obviously lacking and most certainly could have been avoided.

5.5.7 Communication of future change:

With the final question in the survey, asking the business if they would want to be informed of future changes within the organization, interestingly enough 86% of the respondents indicated they would want to be informed of future changes. However 10% indicated they did not wish to know and 5% failed to answer the question. Looking into the detail of this question, as displayed in Table 5.17, (Chapter 5) one can see that those Respondents indicating that they did not wish to know about future changes within the organisation, were in fact two from management, one supervisor and one non supervisor. If one delves deeper into a little more detail, the results reveal that two of these respondents are within production while one is in quality and the other in logistics. The concern is the two managers in production. This indicates that they are so caught up in their day to day activities that there is no intention to get involved, either for fear of increased work load or simply ignorance. This finding will be dealt with later in chapter 6.

5.5.8 Awareness campaign:

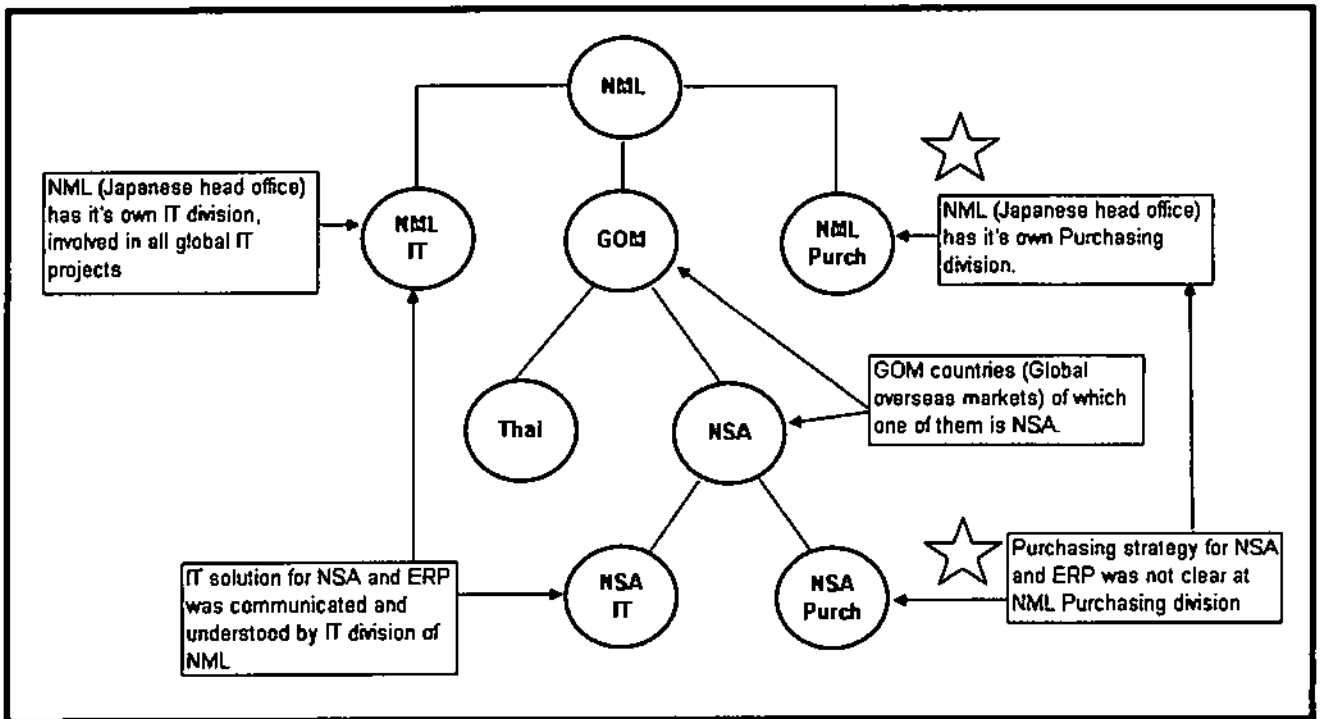
Within Table 5.14, one can clearly see that although there was an awareness campaign running through the entirety of the project life cycle or road map, the business represented by the respondents to the survey indicated that there was concern. 71% of the



Respondents believe that the awareness campaign had in-sufficient value, while 17% believed there was value. It is interestingly to note that 11% of the respondents failed to comment, indicating that they either did not know about the campaign or simply did not understand the campaign. As mentioned previously, awareness and communication of the organisation's intentions and reasons for these resulting changes becomes a fundamental requirement for future change. Failure to adhere to these simple rules will most definitely lead to an unsuccessful implementation. A possible recommendation here could be for disciplinary action to be taken immediately after a lack of attendance has been experienced, thus sending a clear message to all involved that awareness is crucial and compulsory in any project roll-out.

Looking at Table 5.15, it is important to have some positive response, here 62% of the respondents indicated that they understood what was expected of them at the "go-live" stage of the project. This shows us that there was willingness at the later stages to get involved. Interestingly enough at a more detailed level, one can see that management and supervisory levels were definitely more informed of the organisation's expectations. This would again bring one to the pyramid of principles, where GK (Genba Kanri) was not evident, as the communication to all levels did not take place. The managerial staff whom are responsible for representing each area are supposed to communicate continuously. Employees being "left in the dark" simply become non contributory to the organisational goals and objectives. A contributing factor to the lack of understanding or awareness of what was expected of each area including the lack of understanding from some of the senior management could be the structure of reporting within the Nissan global heirachy.

Figure 5.3: Structure of communications

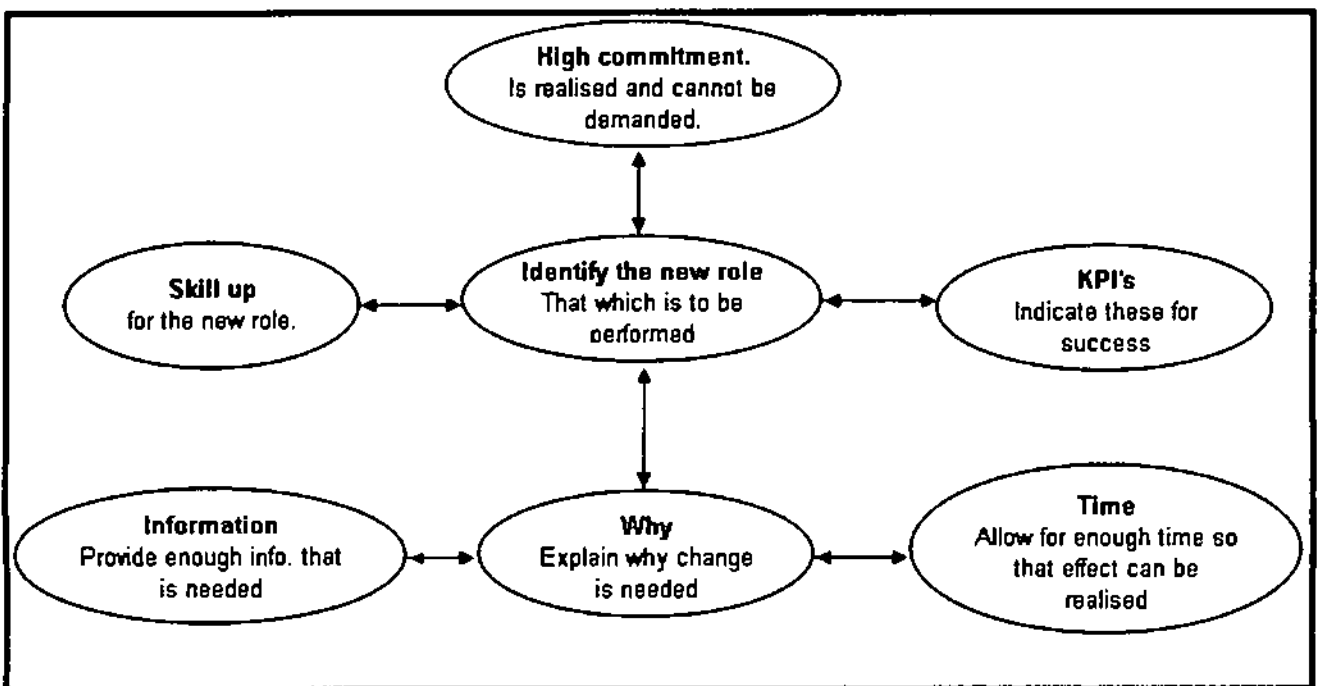


In figure 5.3, one can see that there is quite a communication structure that needs to be followed when an organization such as NSA embarks on a project typical in size to that of the ERP-project. The communication between the IT divisions of both NML (Japan) and NSA (South Africa) were in sync, while the corresponding divisions regarding purchasing were not (both indicated by the stars on the diagram). It is vital for this communication to take place if the projects of this size and nature are to be successful in future, as the purchasing division within NML was found to be unaware of some of the strategies that NSA and ERP were proposing, such as centralized purchasing (which is SAP preferred practice). This is seen as a typical example of project mis-understanding and lack of communication. Furthermore, this lack of awareness was translated into a slow and difficult process within the purchasing division during the blueprint phase of the project.

5.5.9 Finding commitment for change:

In figure 5.4, the relationship of all the aspects discussed within this chapter can be seen interacting with each other. In order to realise “real support” during the change process, the organization has to address all of these issues. Only when the organisation has focused on all of these issues can it be said that there is real opportunity for genuine commitment to change.

Figure 5.4: Inter-relationship to achieving commitment.



Source: *Multilingual glossary of Industrial psychology terms, (2004).*

Figure 5.4, shows quite clearly the inter-relationship of all aspects dealing with change. NSA will be able to relate to some of these areas as they were seen to be problematic, due to non conformance to this type of model. Had the organization managed to deal with all of the areas here, there would have been a clear understanding of what needs to change, as well as why that change must continue. A clear outline of time lines and expectancies may have been realised and most importantly the skills would have been developed accordingly.



5.6 Conclusion:

After extensive evaluation of the results of the questionnaire as well as the analysis of the structured interviews, the researcher may now address specific areas of concern and elaborate upon them while aiming to detect an opportunity for improvement. This will allow the researcher to draw conclusion from this data analysis, while using the detail and findings from this chapter as well as some of the comments made which will be introduced in the forth-coming chapter 6, labelled conclusions and recommendations.

During the interviews held with the various members of the executive, a summary of the results and findings from the questionnaire was presented for discussion. Only those areas with significant results were brought under discussion. This list of questions can be viewed as an appendix at the end of this report, 8.2.3. The response from the executive to the respective questions has led to opportunity for recommendation to be made. This will be further discussed within chapter 6.



CHAPTER 6. CONCLUSIONS AND RECOMMENDATIONS

“There are two kinds of light – the glow that illuminates, and the glare that obscures”

James Thurber (1894 – 1961)

6.1 Introduction

The conclusions and recommendations in this chapter will be discussed by combining the findings forthcoming from the literature review and management models and comparing the information with the data as evident from the questionnaires and interviews. As the results were made available and analysis of the data from the questionnaires was complete, the researcher prepared a set of open ended questions for the executive. These questions were based on the results and were aimed at capturing qualitative data while at the same time attempting to establish a way forward with regard to possible future recommendations.

Only those areas with significant reason for discussion were prepared for the structured interview sessions scheduled for the executive. These questions were to be put to the executive as open ended and therefore allowing room for discussion around specific understanding of the result as well as possible remedies and recommendations for future management of these specific areas.

6.2 Conclusions and recommendations:

6.2.1 Objective 1: Understanding the experience of the ERP implementation:

6.2.1.1 Conclusions:

Based on the respondents' answers, over 80% indicated that ERP implementation was not a success within NSA. Almost 88% agree that in general, change in such a large organisation should not be taken lightly and is generally considered a difficult task. 72% of Respondents indicated that the transformation was not a smooth road and this we may



attribute to the fact that a number of activities were either not performed at all or were performed at a very low priority. These specific areas we will focus on as we progress through the results of the survey.

Understanding change is one thing, managing the transformation as a result of that change process is a completely different animal. Within NSA this was found to be totally non-existent when these areas were addressed during the survey. One can clearly see that the business was not prepared, (based on the survey results) the people did not understand exactly what was expected of them and their general preparedness was lacking. For what reason one may ask? Could this have been avoided? We will explore in detail, these aspects associated to the transformation process.

We are not alone with regard to implementation of such large projects such as an ERP-project therefore there are definite ways in which the rough road experienced by NSA during the latter half of 2005 may be avoided in future. During the structured interview sessions held with specific members of the executive, the feeling was mutual surrounding the training preparedness. In some interviews, it was suggested that there was a complete mis-alignment between the system v's the users. This could be seen as a major contribution factor to the problems experienced at the go-live stage of the project implementation. Further areas of concern were found to be, in the opinion of the executive, the lack of ownership by the individual managers and their inability to perform a balance between their day to day activities and those areas of responsibility associated to the project.

6.2.1.2 Recommendation:

A clear understanding of roles and responsibilities is required, which will be discussed later in this chapter, however, the project realisation cannot be seen as successful unless you have the buy-in of the respective management whom are expected to take ownership of the finished product. The need for participation is paramount one could bravely say there is almost a link between the success of projects as a result of the level of participation.



The need for specific tollgate sign-off at various stages should not even be negotiable. The project team's aim and objective at the second phase of the ERP project was to have management and its executive to sign off the "blueprint" in order for the team to continue with the development needed to deliver this solution to the next phase. This vital phase of the project was not realised but the project continued with the proposed development even without the signatures needed to authorise the proposal. Complete lack of understanding could be the contributing factor to non achievement of the second objective of the project, which just seemed to snowball as we moved through the road map on towards the next phase. The V-up methodology allows no further movement beyond a milestone deliverable if the objectives of that milestone are not delivered in detail. This is an opportunity for NSA to embrace a set of tools to assist with breaking problem statements into smaller more manageable chunks and assigning realistic deliverables to trained facilitators and/or pilots (project co-ordinators).

6.2.2 Objective 2: Analysis of contributing factors:

6.2.2.1 Conclusion:

During the analysis in the previous chapter, a significant finding that the respondents were not particularly sure of their roles and responsibilities became rather evident as a result of the question: "I could have been more involved during the implementation phase of the project". Here it could be said that as a result of unknown or un-clarified roles and responsibilities there was uncertainty of who would be required to take responsibility of particular aspects of the proposed new system. Therefore it is vitally important to understand the need for clarity within roles and responsibilities for all staff whom will be involved or impacted by any project implementation, as specific employees need to be contracted to deliver specific aspects of the project while at the same time getting involved. When the management group are involved, the day to day activities are continued but there is an awareness that the impending project requires focus. This became obvious during the survey that day to day activities took priority and minimum focus was directed to the project, where 81% of respondents indicated that they did not take the project seriously and therefore underestimated the impact on the organisation. The executive also commented

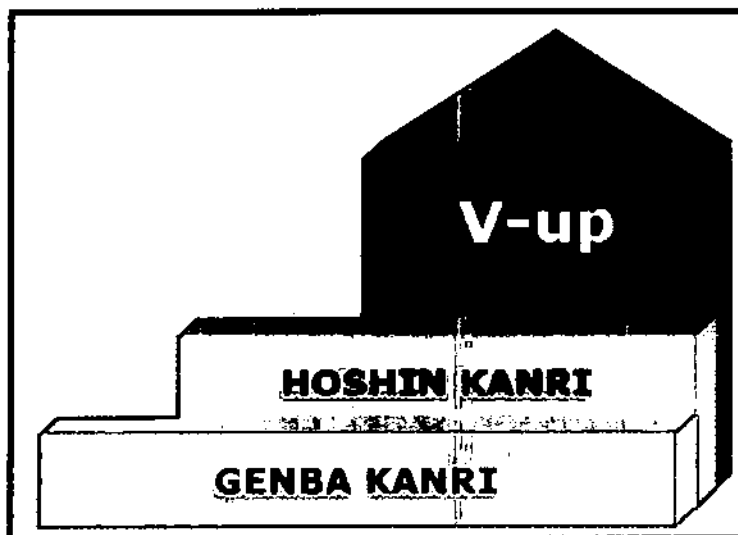
on a similar finding, where attendance at training sessions was seen to be lacking. The power within the area responsible for training was limited and as a result any non attendance was not escalated to the relevant senior management. This resulted in a lack of knowledge of the system's capabilities and therefore lead to a loss of clarity on specific management responsibility.

6.2.2.1 Recommendation:

6.2.2.1.1 Japanese philosophy:

The Japanese philosophy has a simple solution to understand roles and responsibilities, by ensuring that NSA has the fundamental building blocks required within an organisation. These are known as the GK / HK philosophy, otherwise known as Genba Kanri (Shop floor management) and Hoshin kanri (Management by objective or process). NSA should, as an organisation take heed from it's global partners whom are suggesting that the organisation stick to the original plan and require building blocks to assist NSA in achieving Genba Kanri, Hoshin Kanri and Value-up. Within these principles all areas of responsibility are made clear and communicated to all levels from the operator responsible for sweeping the floor right up to the senior executive responsible for long term strategic planning.

Figure 6.1: Nissan's pyramid of principles



Source: V-Up Project management office, (2006).



The importance of the "pyramid of principles" is in the understanding that these steps are seen as building blocks. One must ensure that the organisation prepares for the first level, the foundation, that of GK, known as shop floor management before attempting to establish an HK level, that of management by objective. The last, but most certainly not least step, that of "V-up", is seen as the roof of the pyramid in the sense that once the other building blocks are in place, NSA may begin to drive the organisation from a corporate level focussing on all sorts of value added opportunities. This V-up principle is the latest mid term goal (next 3 years) of Carlos Ghosn's and the Nissan/Renault alliance, with the main objectives being:

- 4,2 million more new vehicle sales;
- Double figure operating profit; and
- 20% ROIC (Return on invested capital).

Currently the organisation, is attempting in some instances to build this structure featured as seen in Figure 6.1 from the top down, almost similar to a builder attempting to build the roof first. NSA's greatest challenge for the short term is to re-vitalise this foundation (that of GK) in the shortest possible time, introducing the basics of shop floor management to the workforce as a whole. A recommendation on how this may be achievable is to follow:

Keeping in mind that NSA is not new to these principles, everything was in place a number of years ago. This should be the goal of the organisation at least from a manufacturing perspective to bring back this basic foundation and with it the disciplines required and the knowledge of responsibility for each department. The re-introduction of our basic platform of GK can quite easily be met. With the task of achieving our GK commitment given to each manager and in turn given to his/her supervisor and ultimately his/her foreman, we will be able to revive what we know as a fundamental requirement to shop floor management success. A pilot department may be identified within the production environment and this green area (pre-shift meeting area) should be used as a template for all other production departments and support areas. Continuous audits should be done on a weekly basis to determine progress and then on a monthly basis once all aspects have been achieved to



measure consistency and sustainability. This GK revival should begin almost immediately, if we are to realise the benefit and minimise the impact of some of the current projects that NSA is currently involved with.

Once the GK step has been re-introduced NSA can then as an organisation really begin to perform in the HK area, that of management by objective/process. Table 5.7 (in chapter 5) indicates that 81% of the respondents agreed that the business was too busy with day to day activities to worry about ERP-implementation. However if responsibilities were clear at the outset of the project and KPI's (Key performance indicators) were established as well as measurables defined within the day to day activities, each manager would have been well aware of what his/her responsibilities were. NSA as an organisation has to be made aware from the highest level that ERP was in fact one of the most important deliverables for all levels of management and the only way to achieve something like this is to include it in the respective manager's key performance indicators (a set of tools for each department that allows measurement on performance on a monthly basis).

Furthermore, if HK were used to establish these measurement tools for performance management there would have been a far more positive response to the awareness campaign. If each manager was instructed to get involved in the proposed ERP-solution and understand from their perspective exactly what the impact would have been in their specific environment, then the proposed change that was about to hit manufacturing and other divisions of the organisation would have been taken a lot more seriously.

6.2.2.2 Managing change:

A recommendation going forward regarding management of change is firstly to ensure that all parties are aware of the reason for the change then understand the aspect of what the extent of the change is to be and finally, clearly define how the change will impact the individual. An awareness programme was set up within NSA to explain most of these issues but failed to suffice. (Based on results of survey, refer table 5.14) 71% indicated that there was insufficient value to the awareness campaign which one can understand that this



is unacceptable if the organisation wishes to avoid failure in future. It would therefore be recommended that not only do we have an awareness campaign addressing all of the previously mentioned issues but that we also have an internal audit to determine whether the campaign is in fact substantial enough to add value to the impending project and thus ensure a smooth transformation process.

Keeping in mind that all users need to understand the transactional requirement prior to "going-live" with such a project as the SAP-system is very transactional driven and fully integrated. Meaning if the first step has not yet been completed or has been completed incorrectly, the next step for another user fails. If this is the case, human nature takes over, initiative kicks in and the system is over-ridden. One can understand that chaos then begins, as all elements within the system no longer are in sync. Aspects which may be affected by this could be areas such as inventory levels and/or cost elements.

As one can understand from the above conclusions, training is vital. Thus, the sooner the training begins and is performed at the correct level, role based as well as process based, the more successful the organisation can expect the project implementation to be. When the word, role based training is mentioned, the focus is directed at each user assigned to a particular number of tasks within the process. The user is then trained to the level of understanding the whole process, where he/she fits into this process and most importantly understands how he/she is supposed to perform that task within the process.

6.2.2.2.3 Improved communications:

Therefore in conclusion to this objective, one can understand that part of the process within the road map to implement any large or medium size project should be an extensive communications plan to all levels. This plan should include, amongst other things, the reason for the need for change, the alternative solutions that were debated and the consequences should the change not be accepted or implemented. At NSA, this could be quite easily be achieved by increasing the number of workshops under pinning all aspects mentioned above. Over and above the arranging of the work shops, it is vitally important



that all members of the executive are seen to be attending these work shops and therefore establish a general requirement for all management. These workshops should be driven by the HRD (Human resources and development) department as a basic need for successful project understanding and implementation. At NSA all this detail was obviously established and understood, otherwise a project of this nature would have never even gotten off the ground, however the communication of all of this detail needed to be flushed through the entire organisation as early as the out-set of the project, this would have most certainly saved a lot of heartache regarding uncertainty, difference of opinion and fear of the unknown.

Workshops, promoting the specific project should kick off much earlier in the planning phase, automatically increasing the awareness. Continuous repetitive workshops where the same message is repeated should be scheduled to ensure the complete compliment of staff have been addressed as some sessions may not be suitable for all staff members to attend. This type of approach to an awareness campaign is nothing new to our manufacturing division as there will always be some sort of crisis that requires immediate response and therefore multiple sessions are scheduled to cater for this.

6.2.2.2.4 The need for re-engineering:

Finally, NSA and it's staff had to be made aware of the need for SAP as an ERP-solution. The organisation would so obviously find itself needing to be re-engineered to a certain extent, as specific disciplines and structures were required to be in place to ensure that ERP was sustainable going forward. However this re-engineering aspect of the project was seemingly incomplete which impacted directly on the capability of the ERP-solution to drive the business successfully. As a result of this failure to prepare the organisation, the ERP-project, as a solution becomes the failed product, which of course is not necessarily the case. Some of these failures may be attributed to the failure of related process change projects or re-engineering, and therefore the failure to implement the ERP-solution successfully should not be seen solely as a failed IT-project but rather seen as a failure as a result of contributing factors.



6.2.3 Objective 3: The way forward:

6.2.3.1 Conclusion:

The objectives above focussed on the analysis and the evaluation and conclusions. This section of the dissertation looks at a number of proposed steps to avoid something as drastic as the failure to successfully implement an ERP-solution within NSA without extensive impact to manufacturing and the sales opportunity as a whole. The implementation at NSA most certainly required extra focus, resulting in increased costs and loss of production volume, the current situation (12 months along) is far from being an impressive result, it is the journey of that preparation phase and the actual implementation followed by the "post go-live" activities and determination that is ultimately being evaluated within this report. The researcher's goal at this point is to pro-actively avoid, by using a number of simple steps, a repeat performance of the ERP-implementation within NSA. It is not impossible for NSA to avoid such a repeat performance, all the organisation has to do is "learn" from the mistakes of the past ("Learning organisation") and pro-actively prepare a set of steps that can under no circumstances be compromised during the road map of future projects.

6.2.3.2 Recommendation:

6.2.3.2.1 Future communication:

Managing the above, ensuring that the management team within NSA are kept up to date with future changes and at the same time knowing that the team wishes to be informed is not going to be an easy task. However, if senior management within the manufacturing environment were to become supporters of the change and promote the need to embrace change on a regular basis, the task of motivating all management to want to be aware of what is changing becomes easier. Arranging workshops, focusing on promoting the need for change, promoting the understanding why change is necessary and rewarding those that deliver change is a way of internally addressing this concern. The allocation of resources to assist with the understanding of business related processes during the initial planning phases of future projects should be briefed on the expected outcome and specific



role which management wishes them to perform. For example when business representatives are allocated to an ERP-implementation project, they should be seen as representing the business and as such have the business' interest at heart first and foremost. During the ERP implementation at NSA during the period 2003–2005, there was evidence that the representation were focusing on SAP's interest rather than NSA's interest (Internal audit finding 2006). This could be attributed to the fact that the business representatives were better informed of the benefits and opportunities that SAP could offer.

6.2.2.3.2 Recommended framework:

While all of the previous findings as discussed in the above chapters, are provided with possible solutions and/or recommendations to avoid re-occurrence, it is important to provide NSA with an ideal proposal and realistic solution to assist manufacturing and more specifically production with a basic framework to guide future project implementations. While most of the detail provided within this framework appears to be simplistic, it is interesting to note that each of the steps are well known to all of us and are probably considered basic.

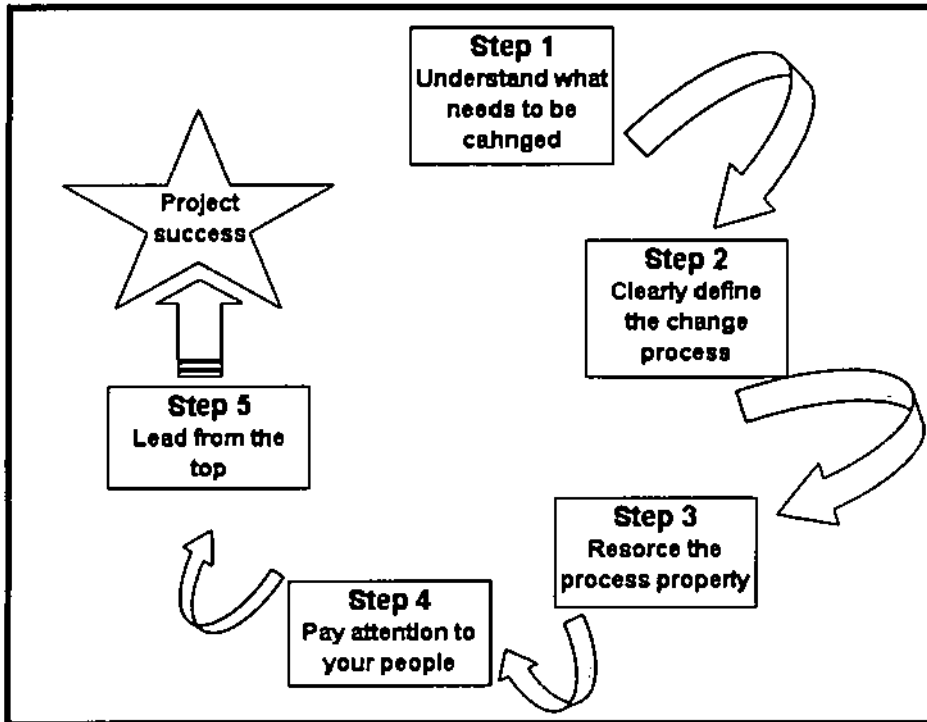
The following 5 steps are recommended to drive change within the manufacturing environment at NSA in future, should projects be of similar size and/or complexity to that of the recently implemented ERP project at NSA. Keeping in mind that the organization has already reacted to some of the findings regarding the un-successful implementation and begun working on different, improved approaches to managing the people aspect of transformation.

6.2.2.3.3 5 steps to effective change management:

Managing change effectively is an art form in its own right. The typical senior executive has little enough time to manage the day to day business, let alone trying to make his/her way through a forest of methodologies and approaches. Managing this change need not be as tricky as it seems. The steps proposed or those which are recommended does in no way pretend to be anything more than a distilling of a vast number of years of experience of real

life situations, but these steps are actionable, viable and most importantly, realistic for introducing change particularly within NSA.

Figure 6.2: 5 Steps for effective change management



Source: IEE, *Engineering Management* (February / March 2004).

In Figure 6.2, one can see the simplicity of effective change management. The following section details each of these steps:

Step 1.

Understand what needs to be changed, what is driving the need for change, if it is loss of revenue, or is it ageing systems such as the old “legacy main frame” triggering the proposed ERP-solution for NSA. Executive management must see the root cause of the concern and not just the symptoms. This will help in establishing the correct solution. Importantly enough, the methodology followed in our current V-up principles does just that, it allows the pilot, as we know him/her (the project coordinator), to, with extensive use of a number of tools, drill down to expose the true root cause of the problem and, as mentioned earlier in this report, only then can we move to the next phase which is identifying the



solutions to address the problem. Having specific tollgates to ensure objectives of each stage of the project have been met are crucial, if we are to avoid the situation where our "blueprint" (the document mapping out the new proposed solution for SAP) for the organisation was not met with excitement and ultimate buy-in. Should this type of thing happen in the future, the project should remain on hold until the ultimate objective of that stage is achieved. Gut feel is one thing in management but you need to back this up with fact before considerable investment can take place. Management must be convinced that the proposed solution can in fact deliver the goods, and that should be re-visited at each stage of the project milestones (or tollgates).

Step 2.

A clear understanding of what exactly needs to be done has to be drawn up and agreed upon. Usually there is more than one dimension to change. (R. Wasson, 2004), therefore it is essential to be prepared for structural changes as a result of strategic change, if the need arises. Wasson goes on to say that normally when a new IT system is introduced it requires a change in structure. This is even more obvious within NSA, after the introduction of the new ERP-system it became necessary to change the structure of specific departments, and in some cases actually establish new departments, as well as new roles and responsibilities. It is the speed in which the organization may recognize this and adapt accordingly that contributes to the success or potential failure of a project of significant size. NSA has to "cut" through the red tape in these types of areas and allow quick thinking management of change to drive the key dimensions of the organization. If we do not focus on **ALL** these dimensions, such as, strategy, structure, people, culture, performance measures, technology and processes, our plan becomes nothing more than a 2 legged stool (R. Wasson, 2004). Finally within this step, one should consider an action plan should one of the items at any of the stages of the project go wrong, a sort of risk analysis or back up plan. The proposed ideal tool for this is a FMEA (failure mode effect analysis), allowing each attribute of the project to have a back up feature, detailing the possibility, frequency and impact of any of the pillars of the project falling behind or ultimately failing.



Step 3.

The importance of correctly resourcing a project is often overlooked. This area is of vital importance as the selection of the ideal candidates for the management of change are normally the "go getters" in the organization and senior management would much prefer having this type of manager driving the day to day business. This re-shuffling should be seen as an opportunity to allow for some junior exposure, if the manager was released on a part time basis to assist with the "change monster". One must keep in mind, the ideal candidates for this part time assignment are normally technically minded, drivers of change, have good people management skills and are generally well regarded in the business. At NSA, there was fault within this category, the under-estimation of the size and seriousness of the ERP-project at face value was obvious. The staff that were assigned to assist the consultants in the mapping of the current processes in order to seek an ideal blueprint going forward were tremendously thin on the ground. This, as one can imagine results in a poorer quality of the delivered product due to time constraints and excessive work load.

Step 4.

Understanding the people who will be involved in the project is an important aspect of successfully managing change. People need to know what the project entails, the aspect of who will be winners and who will be losers, needs to be well communicated. This helps put people's minds at ease and ultimately eliminates the need for rumour. The psychology facet of change is the area that requires the largest focus, as we all know, it is people who make or break projects. Understanding these needs and who are the allies and who are the potential enemies of any given project are the basic needs if we are to experience a successful project implementation. Within the V-up tool box we have a "stakeholder analysis", allowing the project leader and members of his/her team to identify the current position of these vital allies and/or enemies. Furthermore the tool allows the researcher to plot his/her intention with regard to where this particular stakeholder should be to ensure minimum impact from a potential negative staff member or ultimate exposure for those that are in favour. Again our attention is drawn to table. 6.1 to illustrate this vital understanding.



Table 6.1: Stakeholder analysis

Stakeholder analysis							
Names of Stakeholders	Division	Strong negative (-2)	Negative (-1)	Neutral (0)	Positive (+1)	Strong positive (+2)	Reasons for attitude
Production	Manufacturing		○	→	→		Past experience
Production control	Supply chain management				○	→	
Operations management	Supply chain management				○	→	
Press shop	Manufacturing			○	→		
Engine plant	Manufacturing		○	→	→		
Purchasing	Supply chain management	○	→				Reserved
Sales & Distribution	Marketing				○	→	
Warehousing	Manufacturing			○	→		
Maintenance & Engineering	Manufacturing		○	→	→		
Finance	Corporate			○	→	→	Need to be positive
Line supply	Manufacturing			○	→		
Planning	Supply chain management			○	→		

Source: V-Up training manual, (2005)

Step 5.

Finally, in our 5 steps to effective change management, is the aspect of support from top management, but real, support, not this wishy washy agreement that top management are committed, but rather a hard line on the floor, visual support. In most cases, support in the boardroom is often agreed upon and minuted, but it is rarely seen to be carried out amongst the people on the shop floor or within the project teams.

Within NSA, with constant continuous change under the guise of “Kaizen” it becomes more important for top management to always be willing to lead from the top. Robert Wasson, concludes with the reminder that businesses should be exposed to continuous change on a constant basis. The idea of change should almost be embraced by the organisation, after all if there is a need and a will for change there is therefore still life and with this, an opportunity to better the organisation on a continuous basis.



Figure. 6.3: The way forward.

From NRP to NISSAN Value-up		
NRP	NISSAN 180	NISSAN Value-Up
FY00 <i>“ Revive our company ”</i>	FY02 <i>“ Complete revival on track for profitable growth ”</i>	FY05 → FY08 <i>“ Value up with sustained performance ”</i>
Commitments		
<ul style="list-style-type: none"> • Profitability by FY00 • Operating profit margin >4.5% in FY02 • 50% debt reduction by FY02 	<ul style="list-style-type: none"> • +1M units by 9/05 • 8% Operating profit margin • 0 automotive debt 	<ul style="list-style-type: none"> • 4.2M units in FY08 • Top level operating profit margin • ROIC average 20%

Source: "The Nissan way" presentation to the executive, (2006).

What better way to continue with constant change opportunities than to adopt the current V-Up methodology (which supports the Value-up strategic plan) over the next couple of years. With the increased interest and awareness of V-Up (results of a V-Up survey conducted throughout the business Oct. 2005), and with it, it's strive to achieve added value through process efficiency and waste elimination, the organisation can work together as a team and continuously strive to better the current state and improve the capability to deliver consistently to it's agreed schedule. As can be seen above in figure 6.3, the past mid term plans proposed for Nissan's success, have up to now been achieved. Beginning with the Nissan revival plan in 1999 (NRP), moving on to the N180 proposal, and now currently finding ourselves faced with the challenges associated to the new Value-up strategic plan. NSA has the capability to realise these stiff targets, as they have done so in the past. It is how we learn from previous mistakes that will allow us another opportunity to prove ourselves that becomes the challenge, both now and in the future.



The V-Up project management office (founded by Carlos Ghosn, in support of the Value-up strategy) is available to assist with issue facilitation, project management as well as having a prominent role in establishing ideal projects for the organisation in line with its mid term commitment to Japan. Furthermore with the realisation of the complexity within manufacturing and the understanding of the given time constraints associated to large scoped projects, the V-Up office plans to introduce a new set of tools called "Senmon Kadai" (Single issue project realisation). This will allow manufacturing to scope smaller more immediate concerns and use a similar methodology (slightly compacted in the availability of tools) to that of DECIDE (discussed earlier in chapter 3).

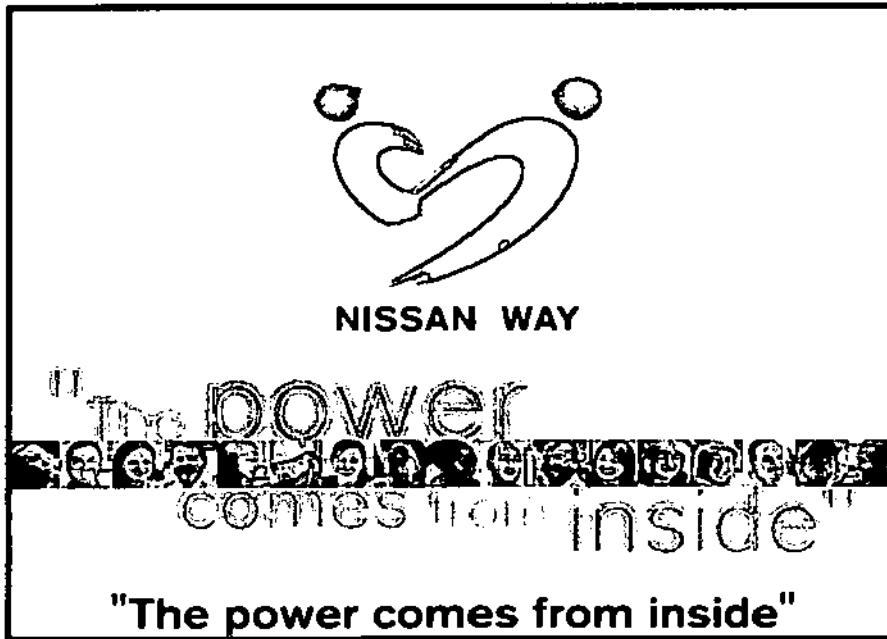
If all comments above are considered, the organisation has to believe it can iron-out most of the concerns related to the current SAP-system. Using the afore-mentioned recommendations and applying them to improving re-engineering and processes in line with the current IT system should be considered. It has been mentioned before about the concerns related to the "stretch of resources" expected to assist with business improvements, using SAP as a base. Consideration will have to be given regarding allocation of resources to assist with aligning some of the SAP processes closer to the organisation's requirements and its capabilities. This may be possible with the more effective use of its well trained "super-users" (those representatives that have had a considerable amount of SAP training) in the work-shopping of potential areas of improvement and enhancement to increase the efficiency and effectiveness of the current ERP-solution. These areas, after being identified, should be best improved through the use of benchmarking techniques, such as a clear understanding of how do our competitors navigate over similar experiences.

6.2.2.3.4 Believing in the organisation:

If NSA are serious about achieving their objectives over the next couple of years then they have to align themselves from within. With the launch of the extensive campaign on a global scale, named aptly, "The Nissan Way", with the slogan: "The power comes from within", NSA may be able to reach the goals to which they are striving. The important

message in this campaign is you have to believe in yourself. Figure 6.4, below, depicts the coming together as an organisation and striving toward a common goal.

Figure 6.4: Believing in the organisation.



Source: "The Nissan way" presentation to the executive, (2006).

The organization, if it is to succeed should, put into place, the basic principles linked to this powerful campaign known simply as: "The Nissan Way". This campaign focuses on changing the organisational mindset and ensuring that this happens by recommending actions that are both realistic and simplistic. Below in table 6.2, one can see the structure of this campaign. Note that there is not only a realization that specific mindsets have to change but also there are specific actions that must take place to support the success of such mindset changes.



Table 6.2: The methodology to achieve The Nissan Way.

Mindset	Actions
1. Cross-functional, Cross-cultural Be open and show empathy towards different views; welcome diversity.	1. Motivate How are you energizing yourself and others?
2. Transparent Be clear, be simple, no vagueness, and no hiding.	2. Commit & Target Are you accountable and are you stretching enough toward your potential?
3. Learner Be passionate. Learn from every opportunity; create a learning company.	3. Perform Are you fully focused on delivering results?
4. Frugal Achieve maximum results with minimum resources.	4. Measure How do you assess performance?
5. Competitive No complacency, focus on competition, and continuous benchmarking.	5. Challenge How are you driving continuous and competitive progress across the company?

Source: "The Nissan way" presentation to the executive, (2006).

6.3 Conclusion:

With the conclusions discussed in this chapter and the resulting recommendations provided to senior management at NSA, one could only hope that a re-occurrence of the poor ERP-implementation during the 2003–2005 period will not be repeated and we as an organisation can safely say we are a learning organisation because we choose to take note of our past mistakes and strive for continuous improvement as we go along.

The recommendations provided in this chapter are in no way complex and interestingly enough seem almost basic at their first appearance, however this is the stage at which NSA manufacturing has now found itself. Returning to some **basic** principles is not a poor reflection on the organisation but rather a coming of age as far as organisational maturity is concerned with an understanding that if we cannot get the basics correct we will continue to fail in the most **basic** of areas. The management of future projects such as the proposed "Conductor project" (that of a complete replacement of the shop floor control system) cannot afford to fall victim to a similar fate as that of the ERP project implementation. Our organisation as we know it would simply not be able to withstand the impact of a repeat performance.



CHAPTER 7. CRITICAL REFLECTION

"Knowledge is power"

Sir Francis Bacon (1561 – 1626)

7.1 Introduction:

This chapter allows the researcher to reflect on the research project as a whole and reflect on the good as well as the bad parts, in the hope that some day this may serve as advice for future researchers. Here it gives me, the researcher the opportunity to elaborate on negative accounts and of course some positive accounts while focusing on opportunities found during the journey for subjects and areas that could serve as possible future research objectives.

The reflection deals with a number of aspects, namely those issues and/or findings related to the complete MBA programme as well as those issues related to the research project on it's own. Finally the researcher has the opportunity to reflect on more personal issues experienced during this period.

7.2 Formal reflection on the complete programme of MBA:

7.2.1 The dynamics:

During the last 3 years, glued to the books at any given opportunity has now at last come to an end, however one can not just accept that the journey is complete and the interest in the academics of business must just cease to exist. There almost seems to be a gap somewhere which needs to be filled, either by further investigation into some of the topics raised within this report or by keeping up with the progress of business management through the reading of abstract and the many articles available. The knowledge that one gains on a programme as dynamic as the SBL / Open University MBA programme is of a richness that cannot easily be taken away. Each of the subjects administered over the last



couple of years has, in it's own way provided a clear understanding of the task at hand and most definitely found it's way into general discussion when anything regarding business management becomes the topic. Any organisation can be proud to have student representation from this type of programme on their staff, as the passion for process understanding, continuous improvement opportunities and just becoming a sponge for business academics almost becomes second nature during, as well as at the end of this programme.

7.2.2 The journey:

The journey rather than the destination has been the largest contributing factor in the case of the entire MBA programme at SBL, Unisa. The assignments were well structured and progressive, allowing the student to slowly familiarise him/herself with the expected level of output. The tutors used during the initial stages of the programme were instrumental in preparing us for the long and difficult road ahead, we as students starting out did not necessarily understand this at the time but it later became evident of the need for strategic thinking and not operational thinking, bigger picture and not specific detail, or as the one tutor put it, "step back and get the bird's eye view of the situation". (Brink, 2004).

7.2.3 The way forward:

After having completed the MBA programme, one must seek an alternative hobby, as the time available to the student is going to be incredible. The constant buzz that was always part of the discussion, whether it be at the study schools, the day schools or the residential schools will have to be replaced with something. One may consider at this stage delving in more detail into his/her topic, and furthering their understanding and knowledge of their particular research topic, as there are always new ways of dealing with business issues being introduced continuously

7.3 Formal reflection on the research project of MBA:

During the final stage of the programme, when we were introduced to the research project, the students tend to get a little complacent, thinking that the final part of the programme can only get easier. That is when the quiet before the storm sets in, and shortly after this, the storm begins brewing until half the year is gone and the students find themselves ship wrecked and rapidly running out of time.

One is never prepared for the amount of work that is involved in the second half of the year. The ramp up during the specific assignments that were required, slowly introduced us to the methodology and the pace at which the students should work, however, once I moved into the preparation for data collection phase, I began to realise the complexity of what I was getting involved with. As can be seen in figure 7.1, below, the need for a mini-project plan becomes necessary in order to ensure that the tight schedule surrounding the final stretch of the research project is achieved.

Table: 7.1: Final preparation schedule.

ACTION	SEPTEMBER	OCTOBER	NOVEMBER
Send out questionnaire	X		
Data analysis		X	
Preparation of data		X	
Presentation of data		X	
Structured interviews		X	
Complete report		X	
Send report for technical editing			X
Make necessary changes			X
Language editing			X
Final editing			X
Printing of 4 x copies			X
Deliver report to book binders			X
Collect final reports			X
Submit 3 x copies of report to Unisa			X

There are many more hours required during these closing stages to ensure that everything is presented correctly. The editing is checked, then re-checked prior to sending the report



to printing, each of course resulting in many hours of reading and editing. This was the stage at which I found myself and the research project almost attached at the hip, the amount of hours spend editing, cutting and pasting, and than even some sections were erased and re-written. One must never under-estimate the amount of work associated to a research project.

Another aspect of what I found during the later stages of the research project was how interesting everything began to become. I was slowly becoming a sponge for all sorts of literature related to any sort of business related literature. Any question related to: "how are the studies going?" quickly had me in discussion mode, relating to all the findings and/or some of the outstanding literature that I had come across lately. I had become so passionate about business improvements, that I was actually bringing these topics into standard social conversation, and ultimately having to check myself and switch off, if I were to keep the same social circles and not bore everybody that came near me.

7.3.1 The understanding:

Now at the final stages of the research project, there is a clear understanding of the need for time management. This is the one factor that can cause many problems if not managed correctly or efficiently. When attempting to combine all the literature, apply specific business models and argue the facts, one realises almost immediately that the remaining time is very limited, as was explained in figure 7.1 and the need for a timing plan becomes necessary.

7.4 Personal reflection:

The journey that I have travelled over the last 3 years has been a most dynamic, learning experience for which I am most grateful to both NSA as well as Unisa for the opportunity to compete at this highly rated academic level. Coming from a technical background originally and having to move into an academic direction was not easy in the early stages, however it has most certainly proved to have been the right choice. My understanding of the "bigger



picture" as a result of being exposed to all aspects of business as a whole has increased my confidence in the board room as well as on the social field of play. The combination of in house training at NSA on softer skills combined with the tutorship and guidance supplied by Unisa and it's partner, Open University, has created a confidence level within me that can contribute positively to NSA and more specifically to manufacturing as a whole in the future.

The impact on one's social life is almost certainly a factor to be considered. The question is, was it worth it? My answer to this is quite simply yes, I have learned so much during this intensive period of four years (three of them related to the MBA programme), and have most definitely matured in other areas. My confidence at high level meetings has grown at a phenomenal rate due to the fact that I am comfortable with the understanding at a strategic level. The increased persuasiveness that I possess, as a result of the academic backing allows the creative opportunities to come to light, allowing what we have taken so long to learn to eventually bear fruit and serve it's ultimate purpose, and that is to add value to NSA.

I have been fortunate enough over the years to have received a promotion as a result of my continued studies, and in saying that have had the opportunity to put into practice some of the tools and models that we were taught over this period. My involvement currently within the corporate planning environment allows me to practically apply most of the thought processes and models at a strategic level, and therefore contributing positively to the company's ROI associated to the cost involved in my initial and furthered education.

As for the future, I think I am going to put a hold on further study and enjoy some real outdoor living. I will arrange almost immediately to pack some bags and head out on my off-road bike (which has been collecting dust) and explore the road less traveled. I will enjoy this feeling of new found freedom, satisfied in the knowledge that I have had the opportunity to increase my contribution towards NSA by assisting in finding better, more cost effective and efficient ways of manufacturing within our production environment here at Rosslyn, South Africa.



Finally in conclusion, I would like to state the need for a study partner during the MBA programme. I, personally found this to be an advantage over some of our fellow students whom were not necessarily in close proximity to have adopted this particular strategy. Having a close study partner should be seen as something in addition to the integration with the standard study group members, someone whom you can use as a sort of pace maker or sounding board. A commitment between the two study partners creates a sort of challenge and drive to continue, as we know, even in continued study, there will be the areas where the emotional curve comes into play. With a close study partner there is always help at bay in the form of motivation as well as the creation of a healthy competitive environment.



CHAPTER 8. BIBLIOGRAPHY

“To repeat what others have said, requires education; to challenge it, requires brains”

Mary Pettibone Poole

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8.2 List of appendices:

Appendix 8.2.1 Questionnaire used to conduct survey

Appendix 8.2.2 Table containing results of questionnaire (raw data)

Appendix 8.2.3 List of questions used to conduct structured interviews



Appendix 8.2.1: Questionnaire used in survey:



MBA RESEARCH PROJECT

Change management readiness assessment questionnaire

More than a year has passed since the implementation of the SAP ERP solution. As a result, this questionnaire serves to assess the success level of the implementation.

Confidentiality and anonymity will be respected and guaranteed while it is important to understand that you must please answer the following questions objectively in the context of assisting Nissan S.A. with improving future project implementations.

Furthermore, the questionnaire will assist in understanding the needs of the respondents where the organization is exposed to continuous change and how Nissan S.A. can avoid unnecessary frustration regarding future transformation requirements.

continue...



The Rules:

1. All questions must be answered.
2. Participate only once.
3. Answer the questions as accurately as possible.

Please indicate your preference by selecting the appropriate answer contained in the "drop-down" boxes on the right hand side next to each question.

Demographic determination		
1. Gender.		Please Select <input type="button" value="v"/>
2. Current position held by respondent (yourself).		Please Select <input type="button" value="v"/>
3. Current field of employment.		Please Select <input type="button" value="v"/>
4. Length of time in current position.		Please Select <input type="button" value="v"/>
5. Average length of time spent on SAP system per day.		Please Select <input type="button" value="v"/>



Questions to support research objectives	
1. In my mind, the implementation of the ERP project was a success.	Please Select <input type="checkbox"/>
2. The Business was well prepared and ready for the change.	Please Select <input type="checkbox"/>
3. I was well prepared and ready for the change.	Please Select <input type="checkbox"/>
4. Change is generally difficult to implement in most organisations.	Please Select <input type="checkbox"/>
5. The communication regarding the reasons for the ERP implementation was clear to me.	Please Select <input type="checkbox"/>
6. The migration to an ERP solution was necessary even if we had to undergo the hardships associated to change.	Please Select <input type="checkbox"/>
7. The transition to the new system was well executed.	Please Select <input type="checkbox"/>
8. I could have been more involved in the ERP project preparation phase.	Please Select <input type="checkbox"/>
9. The business was too busy with day to day activities to be concerned with the impending change.	Please Select <input type="checkbox"/>
10. The business was made aware of the changes but did not take these changes seriously.	Please Select <input type="checkbox"/>
11. I think my contribution was valuable to the project team at various stages of the project.	Please Select <input type="checkbox"/>
12. I felt I was part of the planning and preparation for the transition from Legacy to SAP.	Please Select <input type="checkbox"/>
13. By the time we "went live" I was fully trained to continue with my job on a process level.	Please Select <input type="checkbox"/>
14. By the time we "went live" I was fully trained to continue with my specific job function on a transactional level.	Please Select <input type="checkbox"/>
15. I felt that the introduction of the new system was a waste of time, money & effort.	Please Select <input type="checkbox"/>

16. The business was not kept up to date with the progress of the project at the various stages.	Please Select <input type="checkbox"/>
17. The business fully understood the impact associated to implementing the SAP ERP system.	Please Select <input type="checkbox"/>
18. There was value in the awareness campaign throughout the ERP implementation.	Please Select <input type="checkbox"/>
19. I understood what was expected of me at the "Go-Live" stage of the project.	Please Select <input type="checkbox"/>
20. I want to be kept informed of how the Organisation is changing.	Please Select <input type="checkbox"/>

(OPTIONAL) : Please feel free to add any comments that you feel will add value regarding the assessment.

Word Count : 250

Please keep the length of your comments no longer than about 245 characters long...

Submit my response now!




Appendix 8.2.2: Raw data prior to analysis:

id	Dem Gen	CurrPos	CurrEmp	LenTime	AveTime Sap	Emp Success	Bus Prep	Well Prep	Org Change	ERP comms	ERPmigrate	Sys Trans	ERPprep
1	Male	Supervisory	& Quality	10 years	Less than 10 %	Agree	Disagree	Disagree	Strongly agree	disagree	Agree	Disagree	Agree
2	Male	Supervisory	Control	years	None %	Disagree	disagree	Disagree	Strongly agree	disagree	Agree	Disagree	Agree
7	Male	Consulting	Production	years	50 %	Agree	Disagree	Strongly agree	Agree	agree	agree	disagree	disagree
8	Male	Management	Production	10 years	50 %	Disagree	Disagree	Agree	Strongly agree	Agree	agree	Disagree	Agree
9	Male	Consulting	Logistics	10 years	Less than 10 %	Disagree	disagree	Strongly agree	Agree	Agree	Agree	Disagree	Disagree
10	Female	Supervisory	Control	years	50 %	Disagree	Disagree	Do Not know	Strongly agree	agree	agree	Disagree	Do Not know
11	Male	Supervisory	& Quality	10 years	50 %	Agree	Disagree	Agree	Strongly agree	Agree	Agree	Disagree	Agree
12	Female	Supervisory	Production	10 years	50 %	Disagree	Disagree	Disagree	Agree	Agree	Agree	Disagree	Agree
13	Male	Management	& Quality	years	Less than 10 %	disagree	disagree	Disagree	Strongly agree	Disagree	Disagree	disagree	agree
14	Male	Supervisory	Production	10 years	None %	Agree	Disagree	Disagree	Strongly agree	Disagree	Agree	Disagree	agree
16	Female	Consulting	Production	10 years	0	Agree	Disagree	Agree	Agree	Disagree	Agree	Disagree	agree
18	Male	Management	Production	10 years	Less than 10 %	Disagree	disagree	Agree	Strongly agree	agree	agree	Agree	Agree
17	Male	Supervisory	& Quality	10 years	50 %	Agree	disagree	Agree	Agree	Agree	Agree	Agree	agree
18	Female	Management	& Quality	10 years	Less than 10 %	Disagree	disagree	Disagree	Strongly agree	Agree	Agree	disagree	Agree
19	Male	Management	Production	years	None %	disagree	Agree	Strongly agree	Agree	Agree	Agree	disagree	Disagree
20	Male	Supervisory	& Quality	10 years	50 %	Agree	Agree	Agree	Agree	Agree	Agree	Agree	agree
21	Male	Management	Logistics	years	Less than 10 %	disagree	Disagree	Agree	Agree	Disagree	disagree	disagree	Do Not know
22	Male	Consulting	Control	years	Less than 10 %	disagree	disagree	Agree	Agree	disagree	Agree	Disagree	Do Not know
24	Male	Management	Production	years	Less than 10 %	Disagree	disagree	Strongly disagree	Strongly agree	agree	agree	disagree	Disagree
25	Male	Consulting	Logistics	years	50 %	Disagree	disagree	Disagree	Strongly agree	Disagree	agree	disagree	Agree
26	Male	Supervisory	& Quality	10 years	50 %	Agree	disagree	Strongly agree	Agree	agree	agree	disagree	Agree
27	Male	Supervisory	Logistics	10 years	50 %	Disagree	Disagree	Agree	Strongly agree	Agree	Agree	Disagree	Disagree
28	Female	Supervisory	Production	10 years	50 %	Disagree	Disagree	Agree	Agree	Agree	Disagree	Disagree	agree
29	Male	Management	Logistics	10 years	50 %	disagree	disagree	Strongly disagree	Agree	Disagree	Agree	disagree	agree
30	Male	Supervisory	Production	10 years	50 %	Disagree	Disagree	Agree	Agree	Agree	Agree	Disagree	Agree
31	Female	Supervisory	& Quality	10 years	50 %	Disagree	Disagree	Disagree	Agree	Agree	Disagree	Disagree	Do Not know
32	Male	Management	& Quality	10 years	Less than 10 %	Agree	agree	Strongly agree	Strongly agree	Agree	Disagree	Disagree	Agree
34	Male	Supervisory	& Quality	10 years	None %	Agree	Disagree	Agree	Agree	Agree	Disagree	Disagree	Disagree
35	Male	Supervisory	& Quality	10 years	50 %	disagree	disagree	Strongly agree	Agree	agree	agree	Disagree	Disagree
37	Male	Supervisory	& Quality	10 years	50 %	Disagree	Disagree	Agree	Do Not know	Agree	Do Not know	Do Not know	disagree
38	Male	Supervisory	Control	10 years	50 %	agree	Disagree	Agree	Agree	Agree	Agree	Disagree	Disagree
39	Male	Consulting	Logistics	10 years	50 %	agree	Disagree	Strongly agree	Strongly agree	Agree	agree	Agree	Agree
40	Male	Management	Production	10 years	Less than 10 %	Agree	inco	Disagree	Agree	Agree	Agree	Agree	Agree
41	Male	Supervisory	& Quality	10 years	Less than 10 %	Agree	Agree	Disagree	Agree	Agree	Agree	Agree	Disagree
42	Male	Supervisory	& Quality	years	None %	Disagree	Disagree	Agree	Strongly agree	Agree	Agree	disagree	disagree
43	Male	Supervisory	& Quality	years	None %	disagree	Disagree	Strongly disagree	Agree	disagree	agree	disagree	agree
44	Male	Consulting	Production	years	50 %	Agree	Disagree	Strongly agree	Disagree	Agree	agree	Agree	agree

id	Dem Gen	CurrPos	CurrEmp	LenTime	AveTime Sap	Emp Success	Bus Prep	Well Prep	Org Change	ERP comms	ERPmigrate	Sys Trans	ERPprep
46	Male	Management	Logistics	years	Less than 10 %	Disagree	Disagree	Agree	Strongly disagree	agree	Agree	Agree	Agree
48	Male	Management	Production	years	None %	disagree	disagree	Disagree	Disagree	disagree	Agree	disagree	agree
47	Male	Supervisory	Logistics	years	50 %	Disagree	Agree	Agree	Strongly agree	Agree	agree	Agree	Agree
49	Male	Supervisory	Control	10 years	None %	Disagree	Disagree	Disagree	Disagree	Do Not know	Do Not know	Do Not know	Disagree
49	Male	Management	Production	10 years	None %	disagree	disagree	Agree	Agree	disagree	Agree	Disagree	Agree
50	Male	Supervisory	Logistics	10 years	Less than 10 %	Disagree	Disagree	Disagree	Disagree	Agree	Agree	Disagree	Agree
51	Female	Supervisory	Control	years	Less than 10 %	Disagree	disagree	Do Not know	Disagree	Agree	agree	Disagree	Do Not know
52	Male	Supervisory	Logistics	10 years	50 %	Agree	Disagree	Strongly agree	Agree	Agree	agree	Disagree	agree
53	Male	Management	Production	10 years	50 %	Disagree	Disagree	Agree	Disagree	Agree	Agree	disagree	Agree
54	Female	Supervisory	Production	years	50 %	Agree	Disagree	Strongly agree	Agree	Agree	Agree	Disagree	Agree
55	Female	Supervisory	Control	years	50 %	Agree	disagree	Agree	Agree	Agree	Agree	Disagree	Agree
56	Male	Supervisory	Logistics	years	50 %	Disagree	Disagree	Agree	Agree	Do Not know	Agree	Disagree	Agree
57	Male	Supervisory	& Quality	10 years	50 %	disagree	Disagree	Strongly disagree	Disagree	Disagree	Disagree	disagree	agree
58	Male	Consulting	Control	years	None %	disagree	Disagree	Disagree	Strongly agree	disagree	agree	disagree	agree



Appendix 8.2.3: Questions for structured interviews:

Page 1	Questionnaire # 2	<p align="center">Change management readiness assessment questionnaire</p>	
<p align="center">A list of open ended questions for discussion during structured interviews with the executive.</p>			
<p>Question 1: Are you aware that according to the respondents, 80% indicated the the ERP implementation was not seen as a success ?</p>			
<p> </p>			
<p>Question 2: 81% of the respondents say that they feel the day to day activities were more important and therefore the project activities were ranked second ?</p>			
<p> </p>			
<p>Question 3: What is your take on the fact that the respondents indicated their awareness of the change but did not take this pending change and resulting impact seriously ?</p>			
<p> </p>			
<p>Question 4: Only 39% of respondents indicated they understood their roles on a process level, while only 29% indicated they understood on a transactional level, how can this result be improved ?</p>			
<p> </p>			
<p>Question 5: Are you aware that the respondents indicated that the awareness campaign conducted during the project implementation provided insufficient value ?</p>			
<p> </p>			
<p>Question 6: Our employees indicated that they wish to be informed of the future changes within the organisation, how do we intend accommodating this wish ?</p>			
<p> </p>			