

# **Towards a Theory of Volitional Strategic Change: The Role of Transitional Objects in Constancy and Change**

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# **Towards a Theory of Volitional Strategic Change: The Role of Transitional Objects in Constancy and Change**

## ***Abstract***

Scenario planning is management approach to deal with uncertainty in the business environment. The intention of the approach is to allow management of organisations to better understand and manage their environment. There are many examples of scenario planning in the practitioner literature that suggest that the approach works in practice. There is however little empirical evidence to support or explore the validity of such claims.

The origin of this thesis was an exploratory study to understand the impact of interventions using scenario planning in the context of small and medium sized enterprises. In conducting empirical research, the researcher can reflect on what has become a 'learning journey', which identifies the cognitive processes managers employ to manage change arising from such interventions.

The research identifies managerial recipes and transitional objects allowing volitional strategic change to occur. That is, the existing managerial understanding based on past experience and success acts as a bridge from the existing world to a new world, without which change cannot be rationalised and management would be incapacitated. I have called this the 'upframed recipe', expressing its elements of lasting validity, the transitional object.



# **Towards a Theory of Volitional Strategic Change: The Role of Transitional Objects in Constancy and Change**

## **Introduction**

The purpose of this thesis is to contribute an addition to our theoretical understanding about the process of volitional strategic change in organisations. The theory of volitional strategic change presented here explains the factors that determine the transition from management insights to management action, from an existing established way of thinking and acting to a new way of thinking and acting. The application of the theory helps managers to create change by reconciling it with the interpreted history of the organisation, as expressed in its purpose and goals. This chapter summarises the process of theory building, and provides cross-references to the more detailed research process and to the discussion that is recorded elsewhere in the thesis.

The theory of volitional strategic change is developed from the literature, and from empirical evidence generated through action research (Eden and Huxham, 1996) in three qualitative, longitudinal case studies. The action research intervention was made possible by management of each of the three case organisations agreeing to undertake a scenario planning exercise as part of their on-going approach to strategic management.

The theory emerged from an exploratory research project, to study scenario planning in practice. Scenario planning is an analytic approach to help organisations develop an understanding of their contextual environment. Scenario planning can be understood as a specific episode of enactment of the environment by management (Weick, 1979; Smircich and Stubbart, 1985; Eden, 1992). The intention is to identify and understand the drivers of change, and to integrate this understanding into the managerial decision making process in order to improve organisational performance.

Scenario planning is a widely accepted approach to strategic management in many organisations – Shell (Wack, 1985a; 1985b; Galer and van der Heijden, 1992; Schoemaker and van der Heijden, 1992), British Airways (Moyer, 1996), ICL (Ringland, 1998). The scenario literature presents many anecdotal examples of the benefits and outcomes of the approach - scenario planning and changes in mental models (Wack, 1985a; 1985b), scenario

planning and organisational learning (Galer and van der Heijden, 1992; de Geus, 1988), scenarios and strategy development (Schoemaker, 1992; van der Heijden, 1996). Yet there is no rigorous empirical research to support or refute a link between scenario planning and improved organisational performance.

This project set out as an attempt to make such a contribution. However, during the exploratory study it became apparent that without further theoretical understanding such an empirical relationship would be extremely difficult to prove or disprove. As a consequence, the research focus evolved, from inquiry into understanding the impact of scenario planning on performance, to the development of a theory to understand the process of volitional change.

The findings highlight the essential role of establishing consistency between the interpreted history of the organisation in its environment, and the proposed change in the process of volitional strategic change. As others have shown, the interpreted history is expressed as managerial recipes (Grinyer and Spender, 1979). Managerial recipes are the set of beliefs (Sheldon, 1980; Pfeffer, 1981; Johnson, 1987) and rules of thumb (Grinyer and Spender, 1979) that are developed over time from experience, and institutionalised (Selznick, 1957; Berger and Luckman, 1966) to guide managerial thinking and acting. Grinyer and Spender, (1979) state that recipes are as “those rules of thumb that are generally accepted and shared by competent managers as the common-sense way of doing business. They take the form of a “success formula”. Such rules cover all aspects of the business, such as marketing, pricing, customer relations, product support, product quality, production methods, industrial relations, training, financial controls and so forth” (p 196). The findings highlight that the managerial recipes are the basis of interpretation and change (Bartunek, 1984; Weick, 1979; Daft and Weick, 1984) during the scenario development and enactment process.

The findings also highlight that managerial recipes are the expression of existing knowledge emerging from the past, with which the proposed strategic change has to be reconciled and integrated. This process of integration is conceptualised in the theory of volitional strategic change as ‘upframing’ (Normann, 2001). Upframing is defined here as the reconceptualisation of the (organisational) goal underpinning the managerial recipe at a higher systemic level where such integration can be made. In this way, the upframed managerial recipe acts as a ‘transitional object’ (Winnicott, 1971), enabling the new insights to be integrated with existing knowledge. A transitional object is defined as something taken from the old world to provide a platform for making sense of the new world from which action can emerge (Winnicott, 1971). In the three case studies, the volitional change

essentially depended on the conceptualisation of the transitional object as the key enabler. From these observations, it is reasoned here (in analogy with Winnicott) that without this device volitional change will not occur. This research project is the first opportunity to apply and test the concept 'upframing' in an empirical setting.

The paper is divided into six sections. Section one discusses the scenario intervention process and the objectives of each stage of the process. Section two discusses the research methodology, designed to conduct and guide the research process. Section three discusses the inductive theory building process, and provides examples of empirical data in support of the emerging conceptualisation of the process of strategic change. Section four presents the emerging theory in schematic form, and explains each theoretical construct that underpins the theory of volitional strategic change. Section five provides an elaboration of the concept of upframing in the theory, and its potential impact in interventions and change in the future. Finally, section six discusses the validity of the theory.

### **The Intervention Process**

Each intervention was based on a number of action learning (Revans, 1982) episodes, primarily workshops, where the participants worked together on problems defined by them. Action learning is defined as the concurrent integration of working, learning and changing by the participants involved in the intervention (Inglis, 1994). The workshops were derived from existing scenario methodology (van der Heijden, 1996). A brief description of each workshop and workshop objectives is now provided.

The intervention process aims at making a management team explore 'fit' between the organisation's business idea (Normann, 1973; van der Heijden, 1996) and the business environment, as the underlying driver for value creation and organisational success. A facilitator, a role kept separate from that of the researcher, leads the intervention. The facilitator starts with one-to-one interviews with individual participants, to explore their understanding of the business, customers and the environment. These interviews are amalgamated across all interviews, analysed by emergent theme, summarised, and presented anonymously by theme to the participants in the first workshop. The objective of the first workshop is to establish the participants' key concerns about the external environment. These key concerns form the basis of the second workshop - scenario building. The first workshop starts with the articulation of the case organisation's success formula to date. This success formula is conceptualised as the organisation's business idea (Normann, 1973; Bougon and

Komocor, 1990; van der Heijden, 1996), expressing the systemic relationship of the organisation's resources in their value-creating configuration.

The objective of the second workshop is the engagement of the participants in a conversation to explore the external environment. Management interact with outsiders, who introduce new concepts and relate these new concepts to the business for management to consider. During this interaction, management construct and articulate their environment (Weick, 1979; Smircich and Stubbart, 1985; Mir and Watson, 2000). This enactment is captured as scenario stories, representing multiple plausible alternative futures. These multiple futures are interpreted in order to identify the key drivers of change that are either impacting now, or will impact the organisation in the future. From this enactment, the participants develop new insights and structural understanding of the contextual environment.

The objective of workshop three is to explore the implications of the multiple futures for the organisation. The intention is that participants use this knowledge to generate strategic options. These strategic options are responses generated by participants to ensure future value creation as the basis of success and survival of the organisation.

Summarising the action learning episodes:

- workshop 1 – interview feedback, and development of the scenario agenda;
- workshop 2 – discussion of issues in the scenario agenda with outsiders, and scenario building and enactment of multiple futures;
- workshop 3 – articulation of the scenario implications, and development of optional responses in the form of possible strategic options; and
- workshop 4 – final presentation, in the form of a summary of the outcome of the intervention process.

Research data was captured during all these episodes.

## **Research Methodology**

The purpose of this section is to provide details about the research setting and the design of the research methodology. The research design was guided by Eisenhardt's (1989) framework for theory building from case research.

## Research Setting

The research setting was the application of scenario planning in three case study organisations. They agreed to participate and to apply scenario planning as part of their ongoing approach to strategic management. The researcher was allowed unrestricted access to people and information. The case studies were exploratory and longitudinal across multiple sites (Pettigrew, 1990). The purpose of including more than one case study was to explore the area of validity of findings, through gaining access to organisations with different characteristics. The characteristics of the case organisations are provided below. The three case studies were:

Clyde Bonding Company (CBC) is a privately owned company that blends, bottles and produces Scotch whisky. The scenario planning exercise focused on the future of the Scotch whisky industry. Caledonian Paper (CP) is part of a large paper-manufacturing group. They specialise in the production of high quality fine papers. The scenario planning exercise focused on the future of the paper and publishing industry. Campbell Lee Computer Services (CLCS) is a small IT consulting company, specialising in IBM hardware and third party MIS software that is IBM specific. The scenario planning exercise focused on changing industry standards, and the role of software for business development in the future.

In this chapter, the author illustrates the empirical process presenting empirical evidence on Clyde Bonding Company.

## Research Design

The intention of the research design was to develop a rich understanding of the intricacies of the change process, as it reveals itself in “both a temporal and contextual manner” (Pettigrew, 1990, p 268). This requires research to identify the variables involved in change, and any inter-connections and relationships between the variables. These variables can be internal and external to the case organisation. Pettigrew (1990) argues that to come to valid conclusions a longitudinal research design is needed. Data was gathered in two categories: (i) focused on the behaviour of participants, both verbal and non-verbal during intervention episodes, and (ii) background data. The focus was on documentation of learning and change within the participant organisations (Fiol and Lyles, 1985).

The approach to theory building adopted in this research project followed Eisenhardt’s (1989, p 533) eight-step framework. This theory building approach is tried and tested. The process is

“transparently observable” (Eisenhardt, 1989, p 537) in that it requires specific documentation on four inter-related issues: (a) the theoretical basis of selecting companies (b) the use of multiple data gathering methods (c) triangulation across methods and cases, and (d) replicability in theory development. This is particularly important for an area of management that is largely atheoretical. In addition, Eisenhardt (1989) provides eight steps to guide the research approach – (i) getting started (ii) selecting cases (iii) crafting instruments (iv) entering the field (v) analysing data (vi) shaping hypotheses (vii) enfolding literature and (viii) reaching closure. Each of these steps is discussed and applied to the present context in the following sub-sections, which details the logic of the specific research design. (see chapter 3.7.2 for detailed discussion)

### **Application of the Eisenhardt (1989) framework**

This section continues with a discussion of the Eisenhardt framework in more detail, explaining its application in this research project, and providing examples of empirical evidence from the Clyde Bonding Company (CBC) case study.

#### *Eisenhardt steps (i) getting started and (ii) selecting cases*

The initial task was the identification, selection and recruitment of organisations to participate in the research project. The research selection process used a repertory grid approach (Bannister and Fransella, 1971; Stewart and Stewart, 1981; Beail, 1985) to articulate the relevant characteristics of the potential case study organisations, and to identify organisations that were sufficiently “different” to participate in the empirical study. Different, in this context, means spread out across the dimensions (i.e. characteristics) resulting from the application of a repertory grid analysis.

The repertory grid exercise was conducted in collaboration with representatives of the Scottish Enterprise network. A workshop was held with these representatives. The exercise had a twofold purpose. Firstly, to access the Scottish Enterprise database and knowledge of potential case study organisations. Secondly, to seek the assistance of Scottish Enterprise representatives in gaining access to the ‘selected’ organisations. Thirty organisations were nominated by them and analysed in the repertory grid exercise. (see chapter 4 for detailed discussion)

The characteristics emerging from the grid exercise were as follows:

foreign owned - Scottish owned (in this case locally owned, locally managed and inherently Scottish management)

large number of employees - small number of employees

hi-tech (using or exploiting specialist knowledge) - low-tech

service company - manufacturing company

low exporter - high exporter

small turnover - large turnover

autonomous (decision making power) - remote (decision making power)

autocratic (decision making style) - consensus (decision making style)

young market - mature market (in terms of product development)

closed management style - open management style (being amenable to change)

niche product - portfolio of products

declining market - growing market

strategically aware - strategically blind (did not undertake any business planning)

people oriented (invested in training and development) – operations oriented.

The repertory grid identified the following 'ideal' case characteristics:

<b>Construct analysis</b>	<b>Case study organisation</b>
Strategically aware People oriented Open to change Growth in markets	Caledonian Paper
Hi-tec Foreign owned	No company recruited with these characteristics
Small turnover Specialised knowledge Autocratic decision making style	Campbell Lee Computer Systems
Declining market Consensus management Niche High exports Large - employees Manufacturing Remote decision making	Clyde Bonding Company

*Eisenhardt steps (iii) crafting instruments and protocols and (vi) entering the field*

In parallel with the case selection, the process of design of research protocols to guide data gathering in the field was undertaken. Following the guidance provided in Eisenhardt's approach to building theory from case research, multiple data gathering methods were designed and adopted, to cover all intervention episodes. These multiple data gathering methods included interviews, participant observation, critical incidents, workshop output, collaborative inquiry with participants (Bray et al, 2000; Heron and Reason, 2001) in the form of member checks (Stake, 1995), and collection of background data.

Interviews were conducted with all participants before and after the intervention, to explore individual understanding of the company, and of the challenges faced by the company. The purpose was to map initial understanding, identify key issues and concerns, and explore change in understanding as articulated by the participants in the intervention process. Participant observation during all intervention episodes provided a flexible approach, to gather data from managerial utterances and dialogue, including (i) informal exchanges with participants to discuss their utterances, (ii) recording critical incidents (Flanagan, 1954) arising during the workshops together with (iii) workshop discussions and output. In this way, the inquiry aimed to establish meaning and significance of the critical incidents for the individual participants. In addition, regular informal conversations and interviews with key informants were conducted to discuss the emergent impact of the intervention.

All of this data was recorded in research field diaries (Burgess, 1984). These were kept in chronological order as each intervention episode occurred. Reflective notes (Miles and Huberman, 1994) were developed and added, as a running commentary on the unfolding impact of the intervention. This empirical material was the basis of inductive data analysis and the emergence of new theory. (see chapter 3.7 for detailed discussion)

*Eisenhardt step (v) structuring raw field data*

The unstructured field data first had to be converted into structured empirical evidence, capable of systematic analysis. This involved three distinct stages – (I) categorisation (II) pattern search and (III) triangulation.



(I) Categorisation made use of the Vennix (1998) intervention research categories. Vennix (1998) argues that research into the effectiveness of interventions requires a focus on four themes:

- evidence of the ‘learning effects in terms of content and process’,
- evidence of the creation of a ‘platform for problem solving as the basis for action’,
- evidence of the effectiveness of the application of scientific knowledge in this field, and
- evidence of the effectiveness of the many elements of the intervention (Vennix, 1998).

From this a characterisation scheme was developed. The raw field data were structured by identifying ‘learning events’ which were then described in terms of these categories. Overall, some 600 learning events were identified and described. This research project presented the first opportunity to apply and test these categories in an empirical setting. (see chapter 3.7 and 3.10 for further discussion)

(II) Pattern search was carried out in two stages, within-case and then across-case (Eisenhardt, 1989). In this process, the database was searched for emerging theoretical constructs and empirical patterns. This was then documented by the researcher writing notes on emergent understanding as part of the process of building theory (Miles and Huberman, 1994). (see chapter 3.7 for detailed discussion)

(III) Triangulation of methods (Pettigrew, 1990) was based on within-case structuring of empirical evidence, and focused on the search for consistencies and contradictions in the empirical evidence. Triangulation across cases was based on comparison of findings. Replicability of theory development was based on making explicit observations and identifying patterns. Patterns in the data were documented, conceptual labels (Strauss and Corbin, 1990) were attached, and inter-relationships between the conceptual labels documented. (see chapter 3.10 for detailed discussion)

*Eisenhardt steps (v) analysing the data (vi) shaping hypothesis (vii) enfolding literature and (viii) reaching closure*

The purpose of this section is to discuss the process of data analysis through to theory building process, based on the three stages of (I) categorisation (II) pattern search and (III) triangulation.

**(I) Categorisation – constructing the “Vennix” database**

The database format is based on the four themes identified by Vennix (1998) for research into the effectiveness of interventions. Raw field data were identified and clustered as learning events and expressed in the Vennix categories. From this data empirical evidence was obtained for the development of the emerging theory.

As part of the structuring of the raw field data, the investigator identified and coded learning events with a unique classification number, noting the intervention episode, time of occurrence of the event, cross reference to the page in the field book, and the participants involved. These events were then recorded electronically to create the Vennix database. The Vennix database was organised around the following categorisation and classification scheme:

Reference and coding (to fieldbook)	Description of manifestation of learning event	Content or process learning	Intervention component responsible, including introduction of scientific knowledge	Problem definition (shared understanding)	Attitude or behaviour change
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(see chapter 5 for detailed discussion).

The following are a few examples of this process (from CBC):

(1) CBC participants articulating the key features of the company during workshop 1 as follows:

“The industry value chain is defined at three levels – raw materials, bottling, and brands. CBC operates in the first two levels.” (Operations director)

“The group focus for blending and bottling is within CBC.” (Finance director)

“The big players have brands, not us, we are bottling.” (Operations director)

“CBC is a niche player – efficiency and cost (in bottling)” (Managing director)

“We get production and efficiency from best practice.” (Production & Quality manager)

“Production throughput in long runs using standard bottle sizes makes us responsive.” (HR director)

“CBC’s unique selling point is being an independent problem solver who is flexible.” (Production & Quality manager)

“We want to achieve 10m cases per annum.” (Managing director)

“We are looking to develop or exploit opportunities for additional throughput.” (Operations director).

Memo: These quotations indicate the “inward-looking nature of management’s thinking”; the focus by management on production and efficiency; managerial aspirations stated as a problem, without understanding the goals attached to such a statement. Aspects of the managerial recipe have been articulated – production efficiency, as well as the areas where management would be susceptible to learning - business development insights and opportunities for additional bottling.

(2) The outsider introducing new concepts and CBC participants linking these new concepts to their business during workshop 2).

“The interviews suggest that all CBC activities are considered as one entity, how can these be unbundled and create a re-allocation of activities and risks?” (The outsider)

“I am depressed, we are being stuffed by our customers. We are locked into the risk of the customers.” (Managing director) “CBC give value, create value for others, why? CBC take a worthless product and create value in the process, for little reward.” (Operations director)

“CBC is absorbing suppliers and customers risk. Supplier risk arises from CBC holding large stocks of empty bottles, labels, packages and bottle caps. CBC pays for these stocks before they have been used in the production process.” (Managing director)

Memo: These quotations indicate management internalised and connected new concepts presented by the outsider with their existing understanding of the company and deduced conclusions that challenge their assumptions. During this discussion, the behaviour of the

managing director changed from thoughtful to agitated as he spoke. There was a heated exchange amongst the participants as they debated and understood the significance of the concept of risk in their business.

(3) One of the CBC participants presenting one of the scenarios in workshop 2.

“With static demand, the distributor is all powerful, the distributor owns the consumer. The whisky industry has accelerated this situation; other drivers in the whole industry are creating a positive feedback loop of control for the distributor. This will lead to one EU distributor. We are beginning to see a trend emerge, for example, Intermarche taking over Thomson in France. The distributor is creating a monopoly situation.” (Operations director)

Memo: These quotations indicate that CBC management have realised that a third party organisation is developing the capability to restrict access to customers and therefore effect control over their company. This is an example of a ‘jolt’ (an unexpected exogenous shock) - whisky is no longer the key to success, but access to customers will be the key to power and control in the future. The competencies of blending and bottling would not be good enough to survive in the future. CBC management realised that under these conditions they would be unlikely to achieve their goal of 10m bottles throughput per annum. During this presentation, there was passion and conviction in communication of the scenario story.

(4) CBC participants articulating the nature of change in the environment and drawing out implications for the company during workshop 3.

“The industry structure has moved from three tiers – raw materials, blending and bottling, and brand management to two tiers – production and customer relationships. We have no involvement with external customers and therefore no intelligence about market demand.” (Managing director)

“How do we exploit IT for planning and production to co-ordinate ‘precious scotch’?” (Operations director) “We need to re-configure the value chain around IT and information flow.” (Production & Quality manager) “We need to define customer activity, how do we encircle the customer?” (Human Relations director) “We need to re-define operational activities for supply chain control and enhanced customer service.” (Operations director) “The industry logics are now production and relationships, we need an integrated supply approach.” (Managing director)

Memo: These quotations indicate participants drawing out implications of a possible scenario for the company. In this future, production planning and scheduling would always be problematic for CBC under such circumstances. CBC management realised that by having no involvement with external customers they had no control over demand. CBC lacked a capability in managing the total whisky supply chain, which would be a requirement for future survival and success. During this discussion, there was a heated exchange amongst the participants as they debated their response to the drivers of change in the scenarios.

These examples of raw field data were translated into learning events and recorded in the Vennix database. The relevant entries in the database are presented below:

Reference and coding (to fieldbook)	Description of manifestation of learning event	Content or process learning	Intervention component responsible, including introduction of scientific knowledge	Problem definition (shared understanding)	Attitude or behaviour change
ws1 ref 18 page 30 (book 1) 9/2/96	management team beginning to articulate organisational purpose around dilemma of flexibility or low cost production	content	interview feedback in workshop 1 and discussion of success factors	heated debate amongst participants as to source of past success	agreement that past success was based on low cost
ws2 refs 35, 36 & 37 page 18 (book 2) 15/3/96	AG linked past performance to concepts introduced by outsider	process	new concepts introduced by outsider	locked into supplier and customer risk	participants beginning to challenge their assumptions
ws2 ref 70 page 69 (book 2) 15/3/96	RG questioning the dominant logic of the industry	process	developing scenario logics and presenting this story in plenary workshop	original representation of the industry flawed	opening up for learning
ws3 refs 143 and 152 page 22 (book 3) 29/7/96	Participants articulating new definition or purpose of the business based on "encircling the client"	process	brainstorming potential responses and debating their implications	exploring options for control	RG challenging current recipe and proposing a basis to move forward

## (II) Concept definition and Pattern Search

As discussed above, theory building results from the three stages of (I) categorisation (II) pattern search and (III) triangulation. Searching through the database revealed recurring phenomena. Analysis and interpretation of these triggered conceptualisation and concept definition. (see chapter 5 for further discussion)

Recurrent patterns also suggested causal relationships between these concepts, which were then validated in three ways:

- on internal consistency
- through triangulation
- through across-case validity.

From the relationships that passed these tests, the researcher formulated the emerging theory, which is discussed in section four - the Emerging Theory - below.

The following are some examples of concepts derived from the recurring phenomena, that gave rise to new concepts in each of the three stages:

- management as recipe application (see empirical example (1) above)
- problems articulated as goals (see empirical example (1) above)
- exogenous jolts challenging management (see empirical example (3) above)
- reflective inquiry by participants to understand emergent history (see examples (2) and (4) above)
- reinforcing change through story telling (see empirical examples (3) and (4) above)
- loss of control (see empirical example (3) above)
- search for position of control (see empirical example (4) above)
- articulation of knowledge gaps (see empirical example (4) above)
- attempts to scaffold change proposals into higher-level frame (see empirical example (4) above)
- emergent organisational purpose (see empirical example (4) above), and so on.

Together with these emerging concepts, patterns started to emerge that suggested cause and effect relationships between concepts. The organisation of the field data as "learning events", as characterised in the Vennix categories and structured in the database, enabled the

researcher to undertake systematic analysis, to probe for evidence of learning and change. The structuring of the field data in the database was effective, in searching and detecting emergent patterns. Some examples of the patterns are:

- recipes making people unable to see (see empirical example (1) above)
- recipes creating inertia (see empirical example (1) above)
- recipes determining language of conversations (see empirical example (1) above)
- goal leads to measurement, which reinforces the goal (see empirical example (1) above)
- outsiders creating jolts (see empirical example (2) above)
- outsiders challenging managerial assumptions (see empirical example (2) above)
- outsiders generating reflective managerial inquiry (see empirical example (2) above)
- scenarios producing jolts (see empirical example (3) above)
- conflict based on threat from environment (see empirical example (3) above)
- jolts challenging inertia from recipes and routines (empirical example (3) above)
- jolts creating motivation for change (see empirical example (3) above)
- jolts introducing energy and sense of urgency in management (see empirical examples (3) and (4) above)
- jolts generating reflective managerial inquiry (see empirical example (4) above)
- transitional objects based on who we are and who we will become (see empirical example (4) above)
- no action without transitional object
- transitional object overcoming threats, and so on.

Initially, these patterns came from within-case analysis. The next step was to confirm, or disconfirm, observed patterns by analysing the other cases for similar phenomena, in across-case analysis. Some examples of patterns coming back in all three cases are:

- previously undetected threats to the business (see empirical examples (2) and (3) above), which leads to
- understanding competitive position in the industry (see empirical examples (1) and (4) above), which in turn leads to
- questioning assumptions and approach to conducting business (see empirical example (4) above), which in turn leads to
- search for response (see empirical example (4) above), which results in understanding
- importance of people to the business, which in turn leads to

- the basis of differentiation for competitive advantage, which enables
- transition in thinking, and so on. (see chapter 5 for further discussion)

### (III) Triangulation

Triangulation to support the reliability of the findings in this project was based on two approaches – data triangulation and methodological triangulation (Easterby-Smith et al, 1991). Data triangulation was based on empirical data from one organisation, collected over different time frames, and from different sources. Each intervention lasted many months, enabling longitudinal data to be collected over time in the three cases. All of this data was collated and recorded in the Vennix database.

Methodological triangulation was based on comparing events and concepts from different data collection methods, including interviews, participant observation and critical incidents during intervention episodes, informal conversations with key informants, collaborative inquiry and documentary evidence. An example of this triangulation process is, the emergence of the response to the lack of control over the total supply chain management system of the Customer Service Centre developed by CBC. The key concept discussed here was control of the supply chain and access to the customer, which was highlighted in the categorisation and pattern sections above. Relevant data included:

Participant observation – during workshop 3 Clyde Bonding Company participants articulated the implications of the scenarios and engaged in developing a response to safeguard the company. Learning events and concepts such as “encircling the customer”, “re-defining operational activities for supply chain control and enhanced customer service”, and “needing an integrated supply approach” were recorded.

(Extract from) Closing interviews (with General manager) – questioned about the major uncertainties produced the reaction “CBC to become supply division, which will require trust to be developed due to the changing power bases”.

(Extract from) Closing interviews (Operations director) – questioned about managing customers produced the reaction “CBC needs to be more selective in developing relationships with customers; we need to stipulate what the customer gives CBC, for example, final delivery date, no changes to order, minimum orders etc, CBC will guarantee delivery if order set in standard two week time horizon. We can provide a special service, but that will be at a different price.”



Memo: the comments indicate members of the management team articulating elements of the proposed strategic initiative and the impact of change on internal and customer relationships.

Documentary evidence – review of presentation “Enhancing Customer Service” by the Operations director to the board of the parent company of CBC covered the following themes – Scenarios for the Future, Delivery Systems across the Group, Business Process Re-engineering to reduce complexity of company operations, as there were three delivery systems internally at that time. The delivery process was conceptualised as initially the Supply Division and the presentation included details of supply division responsibilities and benefits, together with a proposed implementation plan.

Memo: the management team had requested a meeting with the board directors of the parent company to engage with them in a conversation regarding the proposed strategic change. The board directors agreed with their proposal and requested subsequent meetings to discuss investment plans and the wider group changes.

Collaborative inquiry – after the presentation to the board a meeting was held with the Operations director to (i) discuss the presentation to the board and (ii) develop the research findings. The conversation highlighted that the board had given their approval and that CBC would become the Customer Service Centre in the future, in order to enable the group to re-engineer supply chain management, to reduce costs, and to simplify operating procedures.

From these three methodological sources it is possible to confirm observed relationships between empirical concepts, such as, previously undetected threats, the search for a position of control, and the transitional object to overcome the threats and to enable change.

### Enfolding Literature

At this point, the focus of the project had become the concept ‘transition in thinking’. In line with step (vii) of Eisenhardt’s framework (enfolding literature), two parallel activities were undertaken. First, a review of the literature about transition in thinking was undertaken. Emergent useful concepts from this literature were – transitional object (Winnicott, 1971; Rudnytsky, 1997; Bachar and Canetti, 1998; Arthern and Machill, 1999;) knowledge development through scaffolding (Vygotsky, 1986) and learning by assimilation and accommodation (Piaget, 1936). (see chapter 5 and 6 for further discussion)

Second, with this background, further systematic analysis of the Vennix learning incidents database for incidents of change was undertaken. Looking through the structured database (Eisenhardt step 5 (i)), see research design section), the researcher identified a pattern (Eisenhardt step 5 (ii)), with some learning events leading to change and others not. The researcher selected the “change” events, and subjected them to a within-case analysis. From this grounded concepts emerged, including:

- knowledge gaps
- impact of jolts
- managerial response to threats
- maintenance of the self
- learning for stability
- overcoming resistance to change.

It was during this second round of conceptualisation, that across-case comparison and pattern search (Eisenhardt, 1989) revealed the emergence of similarity among systemic relationships in the three cases. For example, the jolt challenging managerial assumptions about the nature of the business environment was prominent, followed by participants conceptualising the changing business environment and changing industry structure.

Another example of a concept from the management literature that emerged across all cases was negative goal avoidance (Eden and Ackermann, 1998), that is the avoidance of disastrous outcomes. In addition, a concept that emerged from child psychology literature, in relation to the child developmental process, was ‘transitional object’ (Winnicott, 1971). This concept proved highly relevant in describing the process of organisational change in all three cases.

The three stages – categorisation, pattern search and triangulation - were not undertaken as a linear process. The researcher went through iterative cycles in each stage, in a trial-and-error mode. Concepts suggested patterns, as much as patterns suggested concepts. Triangulation suggested new patterns. The literature suggested similarity in other fields, far away from the management literature (e.g. transitional objects), and these were introduced in the next stage of data inquiry. Other patterns that seemed recognisable could not be confirmed, and were dropped, since the research process produced no further insights for the researcher. As a result of all of this activity a new theory emerged, and that is presented in the next section.

## **The Emerging Theory**

The purpose of this section is to present the emerging theory and to highlight its internal validity. Internal validity arises from the exploration of the theoretical constructs using a wide range of extant literature sources. The researcher used the literature sources to ask the following questions – “what is this similar to?” and “what does it contradict?” (Eisenhardt, 1989). The purpose of asking these questions is to develop a “deeper insight into both the emergent theory and the conflicting literature, as well as sharpening of the limits to generalisability of the focal research” (Eisenhardt, 1989). This section presents the conceptualisation of the model derived from the empirical data, the literature that throws light on the theory, and an amplification of the constructs in the theory. (see chapter 6.3 for further discussion)

Elements of existing theory are drawn from several sources, including management, psychology and child development to provide “confidence that the findings were valid and generalisable because others had similar findings in a very different context” (Eisenhardt, 1989). Aspects of the theory derived from the existing management theory include, managerial recipes (Grinyer and Spender, 1979; Spender, 1989), (environmental) jolts (Meyer, 1982), and negative goal avoidance – (NGA) (Eden and Ackermann, 1998). Aspects derived from non-management theory, providing a new interpretation in a managerial context, includes transitional objects (from child development) (Winnicott, 1971; Rudnytsky, 1997; Bachar and Canetti, 1998; Arthern and Machill, 1999), scaffolding of information, and insights for knowledge development (Vygotsky, 1986) and identification of and motivation for change (from psychology) (Litowitz, 1993).

The theory emerging from the empirical research process, links existing theory with new theoretical constructs, in an explanatory framework about volitional change in action. For example, the emerging theory of volitional strategic change conceptualises volitional change as a three-phase process – recipe articulation, recipe challenge, recipe re-definition. The research findings presented earlier underpin this three-stage description of the change.

In addition, the theory introduces new constructs, “transitional object” (Winnicott 1971) and “upframing” (Normann, 2001). A transitional object, as defined here, is a mental construct that establishes continuity between the proposed change and the past. Upframing, as defined here, is the activity of searching for a transitional object by re-conceptualisation of the

(organisational) goal system of the managerial recipe at a higher systemic level, within the context of organisational history and future action.

The next section presents the theory in schematic form, and this is followed by a discussion of each phase and construct in the theory.

### The Emerging Theory in schematic form

The emerging theory of strategic change is presented in schematic format below. The intention of the schema is to show the causal relationships between the theoretical constructs, and the nature of change over time. The theoretical constructs are also discussed. Arrows indicate causality.

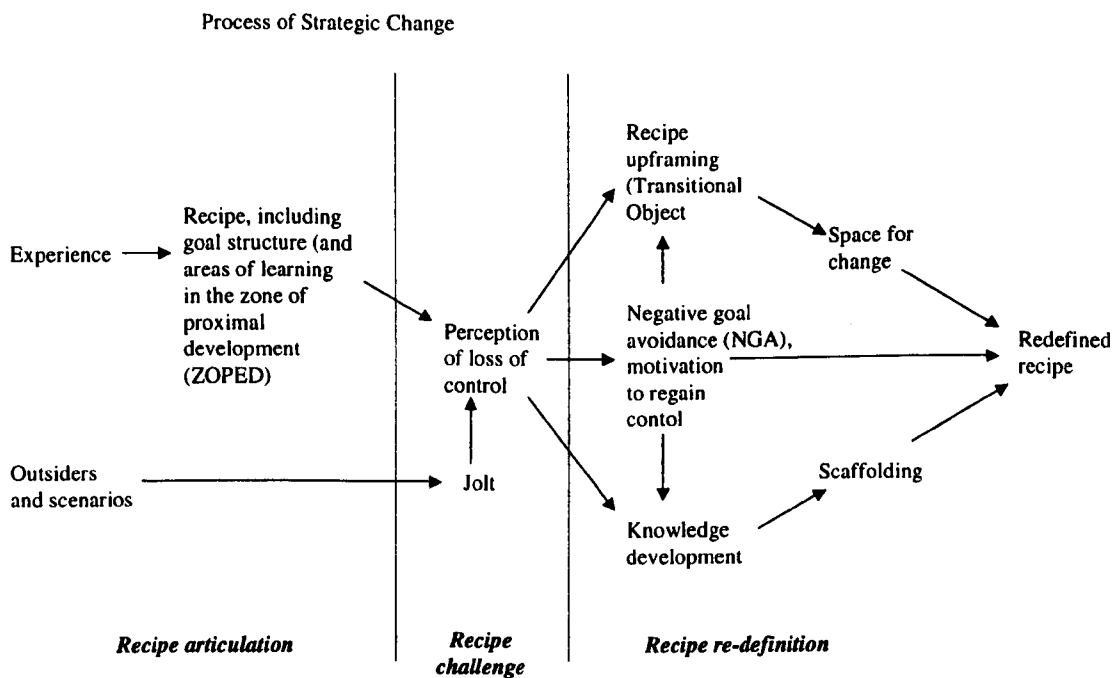


Figure 1 – The Process of Strategic Change

A key role in the theory is played by the concept of managerial recipe (Grinyer and Spender, 1979; Spender 1989). A managerial recipe is the participating managers’ theory in use (Argyris & Schon, 1978), developed from experience. A managerial recipe is the source of managerial action. A process of volitional change therefore requires a change in managerial recipe.

The first phase of strategic change is the articulation of the managerial recipe, including the identification and understanding of the underlying goal and aspirational structure of the recipe.

A recurrent pattern in the data shows how many aspects of the managerial conversation are as yet 'unconnected' during recipe articulation. That is, issues and puzzles are espoused but at that time participants are unable to articulate these as operational knowledge. This unconnected information is situated in the zone of proximal development (ZOPED) (Vygotsky, 1986), which is the "dynamic region of sensitivity to learning" (Palinscar et al 1993, p 44). This is referred to again in the third stage of the change theory, where knowledge development is based on 'scaffolding' insights that exist in the zone of proximal development (Vygotsky, 1986).

The second phase of strategic change is the introduction, or creation, of the 'jolt' into the ongoing management system. A jolt is "an unexpected exogenous shock" (Meyer, 1982). In the database of this project, the jolt is produced from the social construction (Berger and Luckman, 1966) and enactment (Weick, 1979) of a new environment, which is represented as scenario stories, or multiple plausible futures. The data shows how the newly enacted environment results from the introduction of new concepts, and how this process is helped by the interaction with outsiders, who introduce new concepts and try to link these with participants concerns. It is presumed there are other ways of introducing a jolt, for example, by deteriorating results, but these were not tested in this project.

The data shows how the jolt creates the perception of loss of control in the minds of participants. This acts as a key trigger of the change process. Participants identify and recognise the implications of the jolt. The jolt provides the motivation (Litowitz, 1993) to change.

The third phase of change is the search by participants for a position to regain control, and the overcoming of resistance to change. The motivation to search is a combination of the need to prevent "negative goal avoidance, that is, disastrous outcomes" (Eden and Ackermann, 1998, p 289), and the exploitation of opportunities identified during this process through knowledge development. Searching for a position to regain control requires identification of activities that overcome the potential loss of control. This is based on new knowledge developed by participants by scaffolding to fill knowledge gaps, which introduces the new knowledge required into the existing operational knowledge domain.

Overcoming resistance to change requires the creation of a 'space for change'. The data show that knowledge development, and being motivated by NGA, is not enough to create the change. Participants continue to prevaricate on what to do, until they can re-define the situation such that the change can be perceived as consistent with the history of the organisation and its behaviour. The pattern emerging from the data is, that to facilitate volitional change, participants require an intermediate step and a device to reconcile the movement from the old world to the new world with the old world. This step is called the "transitional process" and the device that creates this reconciliation is the "transitional object" (Winnicott, 1971; Rose, 1978). The transitional object is itself a managerial goal, defined at a sufficiently high level of conceptualisation to explain the old and the new recipes as consistent with each other. The process has been conceptualised here as "upframing" (Normann, 2001). During this process, the recipe is re-defined at a higher level of conceptualisation in the goals and aspirations hierarchy of the participants. "Space for change" is created, as the new responses are reconciled with existing goals and aspirations.

The data show that transition occurs only when the three conditions are in place, 1) the identification of and motivation for change exists (negative goal avoidance) 2) the scaffolding process has put the required new knowledge in place and 3) participants conceptualise and articulate the change in terms consistent with historical purpose.

### **Elaboration and Discussion of Upframing within the Emerging Theory**

The previous section set out the theory of volitional strategic change. In this section, the discussion elaborates the concept of 'upframing' (Normann, 2001), and provides an example from CBC.

Change is defined here as change in the managerial recipe. Recipes are the result of experience. The theory of volitional strategic change presented here emphasises the role of perceived history of the organisation, and of the individuals within it, and how they relate to history. The history of the organisation, encompassing the routine application of recipe driven strategy of a low cost production mentality, underpins the basis of past survival and past growth. This was made explicit during conversations and interaction between members. As defined earlier, recipes are "those rules of thumb that are generally accepted and shared by competent managers as the common-sense way of doing business. They take the form of a "success formula". Such rules cover all aspects of the business such as marketing, pricing, customer relations, product support, product quality, production methods, industrial relations,

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The process of upframing is used to search for a position of control at the higher level of goal conceptualisation, in an attempt to overcome the loss of control associated with the jolt, which was introduced by the new enactment of the environment. The upframed super-ordinate goal is called the transitional object. It acts as the basis of transition and change, as the bridge from the old world to the new world.

Awareness of a transitional object is one of the three key elements of proactive, unconflicted volitional change. The two related activities, which occur in parallel in (mental) space and time, are (i) negative goal avoidance and (ii) intellectual problem solving. The motivational element drives the intellectual activity; it triggers conclusions to emerge and causes action applying the new or re-defined recipe. The motivational factor is created by the pain associated with loss of control as the result of the jolt, as a form of “negative goal avoidance”.

The intellectual activity concerns making sense (by participants) of the insights resulting from the (intervention) process. This ‘making sense’ results in the development of a new recipe or re-definition of the recipe that overcomes the (perception of the) loss of control. This intellectual activity aimed at sensemaking is a form of scaffolding (Vygotsky, 1986). Scaffolding is the knowledge creating activity that links new insights, proposed responses and previously unconnected aspects of the managerial conversation with existing knowledge to create new, broader understanding of the organisation in its environment.

Summarising the above, it is argued here, that for proactive change to occur, there needs to be internal consistency in discontinuous change as a pre-condition to make change happen, in addition to motivation and understanding. The following is an illustration of the theory in action in the exemplar case study company CBC.

CBC, the whisky bonding, blending and production company, articulated their pre-intervention target as increasing production throughput by 25%. This target was set in a managerial recipe of “throughput maximisation”. Having enacted their environment, management identified that information and communication technologies (ICT) had the potential to change the nature of communication with suppliers and customers. Furthermore, management identified that actors, not considered previously, could use ICT to re-configure the industry supply chain. The jolt was the insight that they were squeezed from both sides of the supply chain. Factors not previously considered by the participants, for example suppliers and distributors changing their ICT systems, were passing increased supply chain risk onto CBC. This led to the proposal to consider reorganising CBC as the ‘supply division’ within



the wider parent company, with related supplier and customer communication capability to maintain control over the supply chain. The intention of the response was to (i) lower cost of production by more effective management of suppliers to achieve cost reductions and (ii) increase customer service, e.g. enabling ordering and tracking orders on line real time with the production facility. The goal could be formulated as gaining control over suppliers by exploiting ICT to get better deals, improve scheduling of replenishment and minimise stockholdings. The super-ordinate goal was “minimising cost”.

The discussion identified the intellectual aspect of change, in terms of proposed ‘on-the-ground’ activities and of actions by management and the organisation. However, at this moment in time, management continued to prevaricate and were clearly not ready to adopt the proposal. The argument revolved around how much risk attached to the “supply division” strategy, as the company lacked experience in dealing with suppliers at this commercial level. The jolt had been felt, the NGA motivation had led to a proposed solution, but management was not ready to move. This situation changed when it started to dawn on the participants that the new strategy could be seen as a logical continuation of what the company had always been good at, namely seeking “low cost”. The awareness broke through that the reason why the company had been pursuing a throughput maximisation recipe was to reduce its unit cost. If the company wanted to remain true to this reformulated identity of “the low cost producer”, it now needed to start addressing other aspects of the cost equation than just throughput. Most aspects of the old recipe, throughput for economies of scale, articulated as “efficiency in whisky production” are still in existence. The watershed in the conversation happened when the goal was re-articulated as “low cost”, which in the future would have to include whisky supply chain management. The risks were still there, but now felt more manageable, part of “our own business”.

Management now have a higher-level conceptualisation of the aspirational system of the new managerial recipe, allowing change to occur in line with the new interpretation of the company’s history. The recipe is no longer “throughput”, it is now low cost, of which throughput is only one aspect. The transitional object that links the old and the new worlds for management in this particular case study was, “being the low cost producer”. This transitional object allowed management to identify the element of continuity or consistency in the recipe that reconciled permanence and change, bringing the proposed action within the realm of responsible management.

From the empirical evidence presented here (and in the thesis), it is argued that the availability of an articulated transitional object resulted in the attenuation of the usual

intellectual defences against change, such as denial or procrastination (Janis and Mann, 1977). The managerial response of finding a position of control was based on the upframed recipe in the changed environment, where control over the situation could be regained.

### **Validity and Limitations of Emerging Theory**

The purpose of this final section of the paper is to present a discussion on the validity and limitations of the emerging theory. Case study research has long well established history, with many examples of ground breaking theory development from single and multiple cases, including the 1962 Cuban Missile Crisis (Allison, 1971), decision making processes (Pettigrew, 1973), the role of power in organisational development (Borum, 1980), the nature of strategic decision processes (Quinn, 1980), and conflict in strategic decision making (Eisenhardt and Bourgeois, 1992).

The theory presented here provides a holistic framework to understanding the process of volitional strategic change. It is developed from studying managerial thinking and acting, in the three case organisations, as management attempts to regain control over a situation that was previously perceived as stable and unproblematic.

The theory is developed from three longitudinal case studies. The three case organisations had different characteristics and operated in different industries. By identifying the main case characteristics, and carefully selecting the cases at the outset of the research project, the intention was to stretch the area of validity. The repeated verification of the findings across the three disparate cases enhances the trustworthiness of the emergent theory.

Yin (1994) provides four tests of validity – construct validity, internal validity, external validity and reliability. The researcher acknowledged these tests in the research design in an attempt to enhance validity. Steps taken by the researcher in the research design included - (i) multi method data collection (ii) data collection in natural settings and in real time in which the researcher observed first hand the interventions (iii) the researcher had an ongoing involvement with participants, especially key informants which enabled “thick descriptions” of the observations to be built up, and (iv) findings and emerging conceptualisation were discussed with participants for joint learning and new empirical evidence.

Triangulation at different stages of the theory building process also enhanced the trustworthiness of the emergent findings. Triangulation of empirical evidence was possible by the use of multiple data collection methods in all three cases. In addition, triangulation across

cases enabled the researcher to search and explore similarity and dissimilarity of findings, thus sharpening the emerging theory. Cross case triangulation also enabled the researcher to undertake comparison of concepts and causal relationships for consistency.

The use of literature from a wide range of sources enhances the validity of the theory as the researcher has (i) refined the emerging theoretical construct definition (ii) questioned the findings for similarity and contradictory arguments in other literature, confirmed findings with existing literature (Eisenhardt, 1989). The above arguments provide the basis for applying the emergent theory in a wider organisational context, beyond scenario planning interventions.

It is acknowledged that a single researcher undertook the research, and that even greater confidence in the findings would arise from cross investigator involvement in the research process. Throughout the research project, the researcher carefully documented all steps of the process for the purpose of transparency. This data is available to be built on in further research. There is ample scope to develop the research further by studying each theoretical construct in more detail. For example, would the theory be consistent without the input of an outsider, who introduced new concepts to challenge participant assumptions, during the intervention? What are other methods of introducing jolts? The research highlights the role of the external environment to challenge managerial assumptions. Scenario planning appears to serve this purpose well, especially in creating jolts. Nevertheless, further research to be needs conducted to understand more fully the role of multiple futures in the emerging theory.

The Vennix criteria for studying the effectiveness of interventions also provide many research possibilities, which would help to further inform the emerging theory. For example, the role of the facilitator in the change process needs to be explored. In addition, the myriad of activities that occur during intervention episodes, such as idea generation, development of schemas etc need to be researched and evaluated to better understand their impact on the change process.

With all inductive theory building research, there is a tension between description and precision for prediction. The researcher acknowledges this tension and recognises the need for further detailed research on all the constructs in the emerging theory of volitional change. The researcher does not wish to claim that such research has been conducted yet. However, due to the research design there is significant predictive value in this theory. The characteristics of organisations identified from the repertory grid exercise, ensures that the research project covered a significant range of commercial organisations, admittedly in a western cultural

environment. The triangulation with other disciplines, in particular with the discipline of psychology, increases the validity of the current study beyond the boundary of the repertory grid dimensions that were utilised in the empirical study - because it causally related the current theory with extant knowledge of human cognition and behaviour.

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# Chapter One

## **Towards a Theory of Volitional Change: The Role of Transitional Objects in Constancy and Change**

### ***1.1 Introduction***

This thesis is about a conceptual journey that leads to the development of new theory, which transforms existing theory and links theories previously not connected. The thesis is developed from empirical data gathered during interventions with three organisations. An intervention is an opportunity “to enter into an ongoing system“ (Argyris, 1970, p 15) for the purpose of helping those in the system. Lewin (1951) argues that an understanding of a social system could best be achieved by first introducing change into the system and then observing its effects. Lewin followed the motto “no action without research, no research without action” (Marrow, 1969, p 193). The intent is to create learning in these organisations for those participants (and the researcher) involved in the intervention. Learning that arises from critical questioning and challenge by management of their goals and fundamental principles on which the organisation is based. Argyris and Schon (1978) apply two concepts to describe such learning in organisations:

“Single loop learning is like the thermostat that learns when it is too hot or too cold and turns the heat on or off. The thermostat can perform this task because it can receive information (the temperature of the room) and take corrective action. Double loop learning occurs when error is detected and corrected in ways that involved the modification of an organisation's underlying norms, policies and objectives” (p 3).

Double loop learning is defined as:

learning that identifies and corrects mismatches, either in the organisation or between the organisation and its environment by first addressing “governing variables” (Argyris, 1992) and then variables



that drive actions. Governing variables in this instance are the espoused values of individuals. The beliefs and values that people hold which form or drive their action, which may differ from their espoused theories, is where fundamental learning and change has to occur (for double loop learning to transpire).

Spender (1998) defines such double loop learning as “the creation of knowledge, which is the resolution of uncertainty for the ‘knower’, and this cannot occur without a pre-existing level of consciousness and knowledge appropriate to the type of knowledge being newly acquired” (p 29). This thesis makes a contribution to understanding the process of double loop learning in terms of understanding cognitive processes of change, and the conditions required to make change possible.

From the interventions with the three case study organisations – Clyde Bonding Company, Caledonian Paper, and Campbell Lee Computer Systems - empirical data was gathered in a real world context. Applying an inductive theory building process of coding, analysis, conceptualisation and systemic inquiry of the structured empirical data resulted in an emergent theory explaining change from interventions using scenario planning. This emergent theory identifies factors or variables that are important to the success of (any) interventions. This thesis contributes to our understanding of how learning, double loop learning, occurs in an ongoing situation when the system is confronted with an environmental jolt.

The thesis is (to an extent) a historical account of this conceptual journey. However, the empirical studies go beyond mere historical recording and presentation, and engage with the empirical evidence to understand the drivers of change. Longitudinal data was gathered before, during and after the interventions in an attempt to understand the impact on the host organisation and the management who participated. Continual questioning of the data to explore and understand the dynamic of change, identified causal relationships which had not been explained in any one theory previously. Existing theory was integrated to explain the empirical findings.

## **1.2 General Area of the Thesis – Strategic Management**

The general area of this thesis is strategic management. “The scope of strategic management is greater than that of any one area of operational management. Strategic management is concerned with complexity arising out of ambiguous and non routine situations with organisation wide rather than operation specific implications” (Johnson & Scholes, 1999, p 6).

Strategic management can be proactive by developing initiatives for change or reactive by responding to stimuli, however, it concerns “motivations for strategic change and how organisations can initiate strategic change through what we call strategic management” (Nutt and Backoff, 1992, p 3).

A key issue for managers in their endeavours, is to ensure organisational survival and growth by ensuring “sensitivity to the environment (which) represents a company’s ability to learn and adapt” (de Geus, 1997, p 16).

The process of learning for survival and growth concerns studying the drivers of change in the environment, which leads to action, “identifying the opportunity or the threat was one matter, stimulating the change necessary to take advantage of the opportunity was another. There is a considerable difference between companies that stared blindly at threat and opportunity and those that reacted and changed” (Eleen de Rooji, 1996).

“The conventional view of strategic management, claims that change must be continuous: the organisation should be adapting all the time. Yet this view proves to be ironic because the very concept of strategy is rooted in stability, not change. Organisations pursue strategies to set direction, to lay out courses of action, and to elicit co-operation from the members around common, established guidelines. By any definition, strategy imposes stability on an organisation. No stability means no strategy (no course to the future, no pattern from the past). Indeed, the very fact of having a strategy, and especially of making it explicit, creates resistance to strategic change.

What the conventional view fails to come to grips with, then, is how and when to promote change. A fundamental dilemma of strategy making is the need to reconcile the forces for stability and for change - to focus efforts and gain operating efficiencies on the one hand, yet adapt and maintain currency with a changing external environment on the other" (Mintzberg, 1987, p 71).

The underlying managerial concern arising from these comments is the ability and willingness of managers to, firstly, identify and respond to external stimuli for change and, secondly, to adapt the organisation to reflect the implications of these external stimuli.

Strategic management is therefore "concerned with facilitating a skilful process within the organisation leading to the invention of appropriate strategy in a context of action through an iterative learning loop" (Eden and van der Heijden, 1996).

### **1.2.1 Starting Point of the Thesis**

In a fast moving world, advantage is associated with having the best strategy process rather than the best strategy. That is, strategy must be concerned with learning in the organisation. Learning that is purposeful, that allows 'fit' with the environment. However, the strategic management literature is not unequivocal about the relationship between the firm and the environment, with many contradictions and tensions. For example, strategy as positioning whereby business success is based on a segment or space with little or no competition; or strategy as resources whereby business success is explained as the application of unique resources; or strategy as learning where business success is explained by the ability of people in an organisation to adapt faster than any other organisation in the competitive space.

### **1.2.2 Focus of the Thesis**

Under the broad umbrella of strategic management, we can now ask the question "what is strategy?" In attempting to answer this question, it is important to recognise that:

“all strategy (making) walks on two feet, one deliberate, the other emergent. For just a purely deliberate strategy making precludes learning, so purely emergent strategy making precludes control” (Mintzberg, 1987, p69).

“A key to managing strategy is the ability to detect emergent patterns and help them take shape” (Mintzberg, 1987, p74).

The research focus is to study emergent strategy in practice. Emergent strategy in practice has two inter-related aspects. Firstly, “the task of detecting emergent strategy needs to get at deep knowledge and embedded wisdom, the theories in use. Not espoused theories or the rhetoric of strategy but the embedded norms and values, role definitions and the ‘organisational recipe’ all need to surface” (Eden and van der Heijden, 1998, p66),

Secondly, the task of developing a shared understanding of the external environment as “the future is no longer stable, it has become a moving target (due to complex combination of and inter-relationship of factors or driving forces). No single ‘right’ projection can be deducted from past behaviour. The best approach, is to accept uncertainty, try to understand it, and make it part of our reasoning. Uncertainty today is not just an occasional, temporary deviation from reasonable predictability; it is a basic structural feature of the business environment” (Wack, 1985a, p73).

Management thus need an approach to help them individually to “act thinkingly” (Weick, 1979) and to “strategise thinkingly” (Eden and van der Heijden, 1998, p72) about the organisation and the business environment to assist ‘strategy making’ or ‘re-framing’ as part of strategic decision-making. Scenario planning is such a tool:

“in order to help re-frame managers outlook”, it is necessary to “design scenarios so that managers question their model of reality and change it when necessary, so as to come up with strategic insights beyond their minds previous reach” (Wack, 1985a, p84).

“Scenarios are a tool for helping us to take a long view in a world of great uncertainty. Scenarios are stories about the way the world might turn out tomorrow, stories that can help us recognise and adapt to changing aspects of our present environment. They form a method for articulating different pathways that might exist for you tomorrow, and finding your appropriate movements down each of those possible paths. Scenario planning is about making choices today with an understanding of how they might turn out” (Schwartz, 1991, pp 3-4).

### **1.2.3 Reasons for Focusing on Scenario Planning Interventions**

There are two reasons for scenario planning being the focus of this thesis - experiential and theoretical. Firstly, in my experience as a management consultant, many management consultants have ‘answers’ to managerial problems; however, managers have difficulty in ‘ownership’ of these ‘answers’. For many years, I had tried to find an approach to help managers address their problems, and help them to develop their own responses, which they implement. I participated in a scenario elective as part of my MBA and realised that this may be an approach to overcome these concerns.

Secondly, scenario planning is now a ‘fashionable’ approach to helping management to study and adapt to the business environment; assist in detecting emergent strategy; and support strategic decision-making in organisations. However, there is very little empirical evidence to support scenario planning (interventions). The scenario literature is dominated by reflective practice about (i) scenario methodologies, (ii) scenario planning in practice, and (iii) challenges for scenario planning or interventions in organisations. Learning and adaptation (de Geus, 1988), change in mental models (Wack, 1985), and overcome forecasts and single line plans (Fahey and Randall, 1998) are examples of reflective practice claims in the extant literature. This thesis provides empirical engagement with these claims.

#### **1.2.4 Background to Scenario Planning Interventions, SMEs and Links with Scottish Enterprise**

In the early 1990s, Scottish Enterprise, the primary business development agency in Scotland, undertook a large scenario exercise to determine the key driving forces that would have an impact on and shape the future of the Scottish economy. This was to assist them to develop a coherent understanding of events which would shape the Scottish economy. This experience with scenario planning stimulated a desire within Scottish Enterprise to explore the suitability of scenario planning as an approach to business development and intervention for the Scottish economy. Specifically Scottish Enterprise wanted to explore the appropriateness of scenario planning as a business development tool for SMEs.

Accordingly the research project had the good fortune to receive substantial support from Scottish Enterprise National, whose main role is the responsibility of creating wealth and jobs in Scotland. Their primary method of operating was to use external consultants to provide business development support to Scottish based companies. In an attempt to broaden the scope of business development approaches, Scottish Enterprise commissioned Professor Kees van der Heijden and me to undertake a number of scenario projects with selected companies. This provided the opportunity to undertake research to explore scenario interventions within SMEs.

Scottish Enterprise primarily works with small and medium sized enterprises (SMEs) and it is with a number of these companies that the scenario projects were conducted. To widen the scope of company selection, Scottish Enterprise National asked a number of Local Enterprise Companies (LECs) to provide access to their database and network of SMEs. The next stage was to select a number of SMEs to provide them the opportunity of participating in the scenario project.

There are several methods of determining what is an SME, with the Department of Trade and Industry providing guidance on the basis of turnover, number of employees, asset valuation and so on. However, SMEs

differ greatly. In an attempt to identify emerging unique objective characteristics of SMEs, I facilitated a workshop with business development executives from Scottish Enterprise National and several Local Enterprise Companies. The individuals represented the following organisations - Glasgow Development Agency, Renfrewshire Enterprise, Lanarkshire Development Agency, Forth Valley Enterprise, Scottish Enterprise and the Bio - Technology unit. The characteristics identified were based on the experience and knowledge that the LEC executives had of the SMEs. This approach enabled me to identify the characteristics of the companies that would be invited to participate in the project, and also seek help from these organisations in gaining access to the SME management team. After selection of these SMEs, the next challenge was to convince these SMEs to participate.

The workshop and process of selection of SMEs is discussed in more detail in chapter 4 of this thesis.

This is the origin of this project, which became a 'learning journey'. The research, discussion and conclusions are based on the interviews and discussions with the managers who participated in each scenario project; observations arising from three workshops with each company; and (my own) notes and reflections of emergent issues arising during these projects.

Understanding emerged on cognitive processes resulting from the interventions, allowing the development of new theory on 'management of change'.

### ***1.3 Statement of Purpose***

This is an exploratory research project. The original purpose of this research project was to study the impact of scenario planning interventions in organisations described as SMEs. The initial intention was to develop a theoretical understanding for scenario planning, based on case study research. This is now superseded by the development of a broader theory of strategic change based on interventions. Scenario planning is now secondary

to the thesis, although the theory does have relevance for the future application of this approach. The empirical findings led to the development of a theoretical understanding about how managers change in action.

#### **1.4 Structure of this Thesis**

The first step of the research project was an analysis of the literature in a broad based way to get started. This provided insights in how managers develop cognitive models of reality, strategise and act. This led to planning for an action learning intervention. The next step was a review of research approaches to gather data in such a research context. This is discussed in chapter 2.

From this initial literature a set of research questions was developed. This is discussed in chapter 2. The approach to undertake the exploratory project was developed further. This is discussed in chapter 3.

Having selected case study organisations for the exploratory project the next step was to gain access and enter the field. Case study selection is set out in chapter 4. Having selected the case studies I engaged with action research in the course of which I collected a vast array of unstructured field data. Chapter 5 describes the first analysis of this data using the Vennix (1998) categories. An extensive database was established from this exercise. The next step was a detailed line-by-line inquiry to explore the emergent learning that had occurred. This led to the development of my initial hypothesis. The next step was to explore and understand the emergent findings. This led me back to the literature in a much more focussed way. Iterating between the empirical evidence and the literature led to development of theory about the impact of the interventions. This is discussed in chapter 6. From this theory building process, I was able to formulate my own theory about management of change based on transitional objects. This theory was then tested with the empirical data. This is also discussed in chapter 6.

At the end of the 'learning journey' it is now possible to formulate the purpose better, in terms of understanding cognitive processes around change, and



conditions required to make change possible. We are interested in the role of interventions in the change process. The ultimate purpose is to define new theory of organisational change.

This thesis is about a 'learning journey' that leads to the development of new theory, which transforms existing theory and links theories previously not connected. The structure of the thesis reflects this journey, from starting point to design of research methodology to inductive analysis to theory building.

The chapters of the thesis are:

Chapter 2 – Initial Literature review including Strategic Management, Managerial Cognition and Action Learning in Organisations

Chapter 3 – Research Methodology for Action Learning Interventions

Chapter 4 – Case selection using Repertory Grid Technique

Chapter 5 – Empirical Findings (including further iterative literature search)

Chapter 6 – Discussion of Findings

Chapter 7 - Conclusion

## Chapter 2

### Initial Literature Review Management, Strategy, the Environment and Change

#### 2.1 INTRODUCTION

This chapter explores the strategy and strategic management literature to understand current thinking about strategy, the role of management in making strategy, and how management manage strategic change. Strategy is discussed in terms of a plan that highlights 'the best strategy' or 'the winning strategy' (Mintzberg, 1987). My own experience of practice suggested that these aspirations are no more than ideals. This is also evident from the literature, Mintzberg and Waters (1985) suggest that, in addition to strategy as a conscious, rational output of managerial activity and decision making, strategy may emerge as "patterns or consistencies realised despite, or in the absence of, intentions" (p 257).

The literature is further confusing as many writers talk about the best strategy process, which recognises the importance of learning and knowledge, rather than the best strategy (Edmondson and Moingeon, 1996). This raises the question - what is the best strategy process (Raimond and Eden, 1990)? To complicate matters further Mintzberg (1987) suggests managers should 'craft strategy' and reconcile change and continuity. Mintzberg (1987) states "organisations must make sense of the past if they hope to manage the future. Only by coming to understand the patterns that form in their own behaviour do they get to know their capabilities and their potential. Thus crafting strategy, like managing craft, requires a natural synthesis of the future, present and past" (p 75).

Van der Heijden (1996) sheds some light on the strategy process issue when he likens the strategy process to a strategic conversation, which has formal and informal components. Formal components include managerial review and reflection on past experience as the basis for ongoing planning for the future. Informal components as managers make sense of their emergent situation, using this understanding as the basis of negotiating and manoeuvring with other managers,

pushing for a particular agenda rather than another. These informal activities occur outside the formal planning activities.

The formal components include established organisational planning routines, as well as recognising opportunities for strategising as a way of detecting emergent strategy (Eden and van der Heijden, 1998). This research project focuses on strategising and interventions, in an attempt to understand the role of the past, present and future to bring about strategic change in organisations.

Gioia, Thomas, Clark and Chittipeddi (1996) state that strategic change “involves either a re-definition of organisational mission and purpose or a substantial shift in priorities and goals to reflect new emphases or direction. It is usually accompanied by significant changes in patterns of resource allocation and/or alterations in organisational structure and processes to meet changing environmental demands” (p 209).

Strategy is about the past, present and future. To manage and plan for the future requires management to recognise and understand the business environment. To do so recognises that strategic management is concerned with explorations into the business environment in search of a better future. Scenario planning provides one approach for such exploration. The purpose of scenario planning is to surface tacit managerial knowledge about the firm and the environment; surface and challenge managerial assumptions; provide a problem-solving frame and result in learning and joint understanding (Wack, 1985a). This learning and joint understanding will be the basis of future action. Such future action is strategic change as defined above. This research project acknowledges that strategy is not about establishing the right or best solution.

There is little empirical evidence about the process of such strategic change arising from the use of scenario planning. This is an exploratory research project to understand how strategic change occurs from an intervention adopting scenario planning.

The intention of the literature review is to develop an understanding of those issues concerning:

- the relationship between management and strategy
- the relationship between the organisation and the environment,
- the role of scenario planning to bring about strategic change, and

- the process and process variables involved in strategic change.

The chapter is set out in the following structure:

- Exploring strategy and strategic management literature
- Strategic change in organisations – change in action
- Interventions and scenario planning as an intervention approach
- Implications and conclusions

### **2.1.1 Starting Point**

This thesis is based initially on my own experience in management consultancy concerning the ownership or lack of ownership by the management of the outcome of consultancy interventions. The mindset of these consultancy interventions was to find the 'best strategy' or the 'foolproof action plan' on behalf of the host organisation's management team. Unfortunately, the management team could not often identify with the "foolproof action plan" as they had little or no input into the development of the 'plan', never mind implementation. With this background I was interested in conducting research to try to understand what would make such an intervention more effective.

I am also interested in strategy and strategic management and sought to find an answer to this problem in the strategy and strategic management literature. The literature has "strongly differing opinions on most of the key issues" about strategic management (de Wit and Meyer, 1999, p 4). The nearest to a conclusion is Eden and van der Heijden (1998, p 60) who state "managers can create processes in organisations that make them more flexible and adaptable, and so better able to learn from their mistakes". What does such a process look like? How might such a process create greater ownership of its outcomes for management? What are the key variables of such a process?

Scenario planning seems to be such an approach, yet to date, this is supported primarily by practitioner literature (Grayson, 1987; Galer and van der Heijden, 1992; Moyer, 1996; Ringland et al, 1999). Scenario planning is an approach that can be organised and facilitated either by management internally or can be undertaken by someone unconnected with the organisation. The empirical study of this thesis is concerned with the latter approach, a scenario intervention, with the intervention facilitated by an external facilitator. The empirical study is set in a small/medium

sized enterprise (SME) context (as defined in chapter 4 of this thesis). The study applies the scenario approach with the top team of the host SME organisation. This study is intended to gather empirical data to understand the impact on the participants and the organisation.

Interventions are defined as “methods designed and used to assist in articulation, definition, and clarification of a ‘messy’ problem (Cropper, 1990, p 35). The interventionist has expertise in these methods. The interventionist works with the management team allowing them to explore the ‘messy’ problem with such methods. In this context, the relationship between the management team and the external interventionist is interactive. The intent is to release the management team through self-diagnosis and self-reflection (Gummesson, 1991; Schein, 1969).

This is the starting point for this thesis, working on problems with management, in their context and studying how they behave through the scenario intervention. Eden and Huxham (1996, p 526) argue that this approach is one characteristic of action research, “an involvement with members of an organisation over a matter which is of genuine concern to them and in which there is an intent by the organisation members to take action based on the intervention”. This action-oriented approach is developed further below in section 2.4.

### **2.1.2 Strategic Management and Learning for Advantage**

Hofer and Schendel (1979, p 11) state that strategic management “deals with the entrepreneurial work of the organisation, with organisational renewal and growth, and more particularly, with developing and utilising the strategy which is to guide the organisation’s operations”. This thesis is set in the broad discipline and literature called strategic management. Strategic management is “concerned with complexity arising out of ambiguous and non-routine situations with organisation wide rather than operation specific implications”. “Because strategic management is characterised by its complexity, it is also necessary to make decisions and judgements based on conceptualisation of difficult issues” (Johnson & Scholes, 1999, p 16).

With this complexity in mind, the “planning as learning, and learning as planning” philosophy (Michael, 1973; de Geus, 1988) has emerged as a key aspect of the strategic management literature. With it came research into individual thinking and learning, and research into organisational or collective thinking and learning. The ‘strategy as learning’ principle was designed to give the organisation a competitive

advantage (Starkey, 1996), with any strategic learning that occurs designed to maintain fit between the organisation and the environment.

Adaptation and innovation are key issues for strategic management and strategic change. How organisations learn and the role of interventions in creating learning, for adaptation and innovation, is the focus of an intervention using a scenario approach. The first step is to review the strategy and strategic management literature for knowledge of this subject.

### **2.1.3 What is Strategy?**

Strategy and strategic plans are widely recognised as the outcome of managerial activity to manage such complexity (Ansoff, 1965; Chandler, 1977, Hofer and Schendel, 1978). Strategy has become the common currency from the planning process (Whittington, 1993; Whipp, 1996). "A strategy is a general view of what sort of business the enterprise is or should be in, and entails some planned and systematic consideration of how to remain or become successful in that business, addressing factors internal to the organisation, such as its structure and people, and external factors, such as its customers and competitors" (Fulop and Linstead, 1999, p 407).

Strategic thinking and acting by management ranges from rational and objective choice (Ansoff, 1965; Porter, 1980) to muddling through (Lindblom, 1959) where management do not appear to follow a consistent basis, as they use intuition and political expediency, as management is involved in an on-going process of choice development and selection.

The outcomes of any strategic thinking process should assist management to ensure survival and success of the organisation. This approach is challenged by de Bono (1984) who states "strategy is good luck rationalised in hindsight" (p 143) and Burgelman (1983) states that "strategy is a theory about the reasons for past and current success of the firm".

The above discussion is the first indication of a tension within the strategic management and strategy literature - can managers plan success at the outset or is success recognised retrospectively? How are these philosophical tensions resolved? Van der Heijden (1996) suggests that there are three competing paradigms or schools of thought in strategic management – the rationalistic paradigm, the

evolutionary paradigm and the processual paradigm, and these paradigms or schools can help resolve such tensions. Each school is considered below

Whittingham (1993) suggests there is a fourth school of thought – the systemic paradigm. This fourth paradigm considers the notion of rationality from a sociologist perspective, in that, interaction occurs in deeply rooted social systems. It is argued here that this perspective is necessarily embedded in the processual paradigm. Each organisation has a unique cultural setting and history. This will impact on management as they think and act, develop plans and objectives, and adapt over time. Each organisation also has a unique interaction with its environment, and it is the interpretation and management of these interpretations that will again impact adaptation over time. These aspects are implicit within the processual paradigm. The processual paradigm is concerned with adaptive and purposeful learning to maintain fit with the environment. Miles and Snow (1984) state “fit is a process as well as a state – a dynamic search that seeks to align the organisation with its environment and to arrange resources internally in support of that alignment” (p 11). Miles and Snow (1984) develop their argument in that “truly outstanding performance, achieved by many companies, is associated with tight fit – both externally with the environment and internally among strategy, structure, and management process. In fact, tight fit is the causal force at work when organisational excellence is said to be caused by various managerial and organisational characteristics “ (p 15). Without such fit there is likely to be strategic drift (Johnson, 1987).

Within adaptive learning strategic management is concerned with integrating experience, sensemaking and action into one holistic phenomenon (van der Heijden, 1996) for fit between the organisation and the environment.

#### **2.1.4 Three schools of thought on Strategy**

Each of the three schools – Rationalistic, Evolutionary, and Processual is considered further to understand their implications for adaptive learning. It is argued that Whittingham’s fourth school – the systemic paradigm, is included within the processual school as it acknowledges explicitly culture as part of the strategy and change process.

#### *2.1.4.1 Rationalistic School*

Whittingham (1993) states that for the rationalistic or classical approach “good planning is what it takes to master internal and external environments” (p 3).

Strategy matters in that rational analysis and objective decisions make the difference between long run success and failure” (p 3). Andrews (1971) reinforces this approach that deliberate strategy is the original plan which management stick to regardless of opportunities that emerge in the future. The rationalistic paradigm contends that there is one best answer to planning, that is the best strategy, and that the challenge is to find it. In this paradigm, management think, then act. The challenge here for researchers is to understand the processes with which management collectively conclude the answer to finding the 'best strategy'. Strict interpretation here suggests that there is no scope for adaptive learning to maintain fit between the organisation and the environment.

#### *2.1.4.2 Evolutionary School*

A number of writers have argued that as the environment is too dynamic, a winning strategy cannot be planned for as a rational or objective management function (Carroll, 1984; Hannan and Freeman, 1988; Mintzberg, 1994), as any strategy will be based on a limited number of assumptions.

The evolutionary paradigm argues that whatever methods managers adopt, it will only be the best performers that survive. In the evolutionary paradigm strategy is described, as “like plants which flourish because the wind blew their seeds onto the sunny side of the wall, business success is generally the result of happenstance – just being at the right place at the right time” (Whittingham, 1993 p 19). Whittingham (1993) draws the conclusion that “environmental fit is more likely to be the result of chance and good fortune, even error, than the outcome of deliberate strategic choice” (p 19). The evolutionary perspective clearly has serious implications for strategy making and managerial strategising - other than focusing on operational efficiency. This paradigm again leaves little scope for adaptive learning for the core activity of the business.

#### *2.1.4.3 Processual school*

The only other option for management is innovation of new products and/or services from active experimentation and investment in those emergent winners (Whittingham, 1993).



In the processual approach the objective is not to strive for the “unattainable ideal of rational fluid action, but to accept environmental uncertainty and work with it” (Whittingham, 1993, p 23). In working with the environment, management acknowledge a plurality of interests in strategy (Mintzberg, 1987; Pettigrew, 1990). Van der Heijden (1996) argues that business success is about original invention and that an organisation needs to engage in a process to generate such original invention. This original invention is directed at maintaining the match between the organisation and its environment. The key in this paradigm is not the best strategy, but the best strategy process that harnesses such organisational plurality for invention. This suggests the need for adaptive learning.

In considering these schools of thought, the key issue arising concerns ‘environmental fit’ – evolutionary determinism or management choice (for adaptive learning), what does the literature suggest?

## **2.2 UNDERSTANDING IMPLICATIONS OF THE THREE SCHOOLS OF THOUGHT ON STRATEGY**

The three schools of thought have different implications for management:

- the business environment is full of complexity which limit any managerial strategising – the evolutionary paradigm
- managerial acting and thinking is based on complete agreement about objectives and the approach to be taken to achieve these objectives – the rationalistic approach
- developing processes for adaptation, learning and change – the processual school.

However, human nature is about adaptation and learning (Ormrod, 1999). Learning is about change in mental associations known as cognitive change, and also about change in behaviour. In a managerial and organisational context, learning is the process through which people acquire and process information through interaction with their environment in order to increase their understanding of reality by understanding the results of their activities as well as the activities of others which impact the organisation (Hedberg, 1981).

This implies a philosophy of purposeful action by management (Checkland & Scholes, 1990). The idea of purposeful activity would suggest conducting research

based on learning and adaptation - the processual paradigm. This implies research into the relationship between management acting and thinking. To do so requires three inter-related activities (i) individuals need to share assumptions, (ii) there needs to be individual and collective inquiry, and (iii) the learning outcome should result in modification of theories in use (Argyris and Schon, 1978).

The intention is to explore the strategic management and strategy literature to identify and understand issues involved in relationship between the organisation and the environment, which results in strategic change.

## **2.3 INITIAL LITERATURE REVIEW –THEMES IN THE LITERATURE**

The following section summarises the themes identified in the initial literature review about learning for strategic change and fit with the environment. The underlying theme in the literature is tension and contradiction. This is presented below, together with implications and next steps for this thesis.

### **2.3.1 Tensions within Strategic Management**

The key underlying theme emerging from this literature review is ten tensions and opposing views in the theory(s) existing in the strategic management literature. Given these tensions, the challenge is to conceptualise the issues in a framework to allow (a) reconciliation of these tensions (b) identification of issues for further consideration in the empirical study in this thesis. These issues are conceptualised below in the 'strategy tension taxonomy' (see figure 1 below):

## Strategy Tension Taxonomy

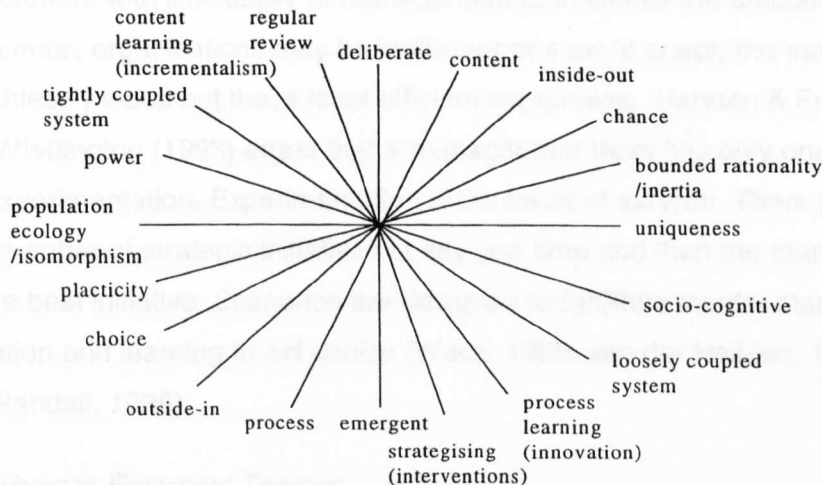


figure 1

Each of these tensions are discussed in more detail below, with the intention of understanding the implication of these tensions for management's attempt to adapt or innovate for on-going success and survival.

### 2.3.1.1 Choice-Chance Tension

Within strategic management literature there is disagreement about the nature of the relationship between an organisation and its environment (Smircich and Stubbart, 1985) and the impact this has on management decision-making. Child (1972) argues for strategic choice, where the organisation selects environmental domains to operate in. Aldrich (1979) challenges the notion that organisations can select an environmental domain and then consciously change to reflect change in the environment.

The element of individual choice, based on deliberate thinking processes, is inherent within the strategic decision making process. This implies a 'unitary' approach to decision making based on a general agreement about goals and the best means to achieve them. It fails to recognise plurality of interests, and therefore conflict between organisational actors. Strategic choice also fails to recognise bias, information processing overload, and cognitive barriers to information recognition (Neisser, 1976; Gioia & Sims, 1986).

At the other extreme of strategic choice is chance or survival of the fittest. Survival of the fittest views the firm operating in a jungle, where strategy is about survival in a hostile environment with little ability of management to influence the outcome. Similar to animals, organisations may be inefficient or slow to adapt; the market place will ruthlessly weed out these least efficient companies. Hannan & Freeman (1998) and Whittington (1993) argue that a management team has only one option to follow – experimentation. Experimentation is the basis of survival. There is a need to pursue a number of strategic initiatives at any one time and then the market place will select the best initiative. Scenarios are designed to facilitate mental managerial experimentation and learning to aid choice (Wack, 1985; van der Heijden, 1996; Fahey and Randall, 1998).

#### *2.3.1.2 Deliberate-Emergent Tension*

'Corporate Strategy' (Ansoff, 1965) was one of the first attempts to develop a theoretical underpinning for strategic management. This was based on a deliberate and conscious approach by management to planning, with assumptions based on neo-classical economics. Management action is oriented towards capturing market share and developing monopolistic position in a market (Mintzberg, 1994). Mintzberg and Waters (1985) concluded from empirical studies that there were patterns in strategy making, which challenged this deliberate, rationalistic approach. For the deliberate approach to be helpful to management, an organisation had to operate in an environment of stability. However, the mid 1970's saw a challenge to this notion, with the emergence of 'Sharpbenders' (Grinyer, Mayes and McKiernan, 1988), 'Turnaround' (Grinyer and Spender, 1979) which challenged the deliberate approach by highlighting the impact of external change on an organisation.

The notion of emergence highlights the limitations of managerial knowledge and their ability to plan for success. The emphasis of management behaviour changed towards acknowledging limitations and the boundaries within which management thinking and acting happens. The challenge is to find processes to assist management with managing emergent strategy, and emergent strategising (Eden and van der Heijden, 1998) has placed an emphasis on linking thinking and acting in this process. The emphasis for management is to move towards developing an understanding of the past, the present and the actions of others that will impact the organisation in the future.

### *2.3.1.3 Content (Design)-Process Tension*

The 'design/deliberate' school of thought generated a plethora of analytical approaches to assist management understand and manage their organisation, such as, distinctive competencies (Selznick, 1957), organisational routines (Cyert & March, 1963), industry structure (Porter, 1980) with the intention of management finding the best strategy. Emergent strategy (Mintzberg & Waters, 1985), environmental shocks (Lawrence and Lorsch, 1967; Tushman and Romanelli, 1985) all challenge the assumption and ability of an organisation to analytically realise an optimal strategy. van der Heijden and Eden (1998) suggest that "managers can create processes in organisations that make them more flexible and adaptable, and so better able to learn from their mistakes" (p 60).

### *2.3.1.4 Outside-in (Positioning)-Inside-Out (Resource Based View of the Firm) Tension*

Successful companies are externally oriented and market driven (Day, 1990; Webster, 1994). The outside-in approach is based on companies taking cues from customers and competitors and using these cues to develop their own strategy (Jaworski and Kohli, 1993). Understanding customers, industry structure and relative bargaining power within the industry drives the company, culminating in the identification of positioning (Porter, 1980; Mintzberg, 1990). Companies are searching for fit or alignment with the external environment (Andrews, 1971). This approach has been criticised for being inherently static and simplistic in opportunity identification (Foss, 1997; Spender, 1992). This outside-in approach does not discuss or identify how management can use simple taxonomies to represent complexity in the external environment to generate knowledge to aid decision-making in management teams.

An inside-out perspective argues that strategies should not be built around external opportunities, but around a company's strengths (de Wit and Meyer, 1998) with the focus on developing key strengths into difficult to imitate competencies or the acquisition of exclusive assets (Teece, Pisano & Shuen, 1990; Prahalad & Hamel, 1990; Sanchez, Heene & Thomas, 1996; Stalk et al, 1992; Collis and Montgomery, 1995; Barney, 1991).

The challenge for the Inside-Out approach is to maintain resources or competencies that match the external environment (Rumelt, 1996) to prevent inertia or lock-in to a set of resources or "recipe" (Grinyer and Spender, 1979) that results in 'strategic

drift' (Johnson, 1987). As resources move to a dominant position in management's thinking, management become fixed on these resources as the continuing basis of success. Adopting a resource-based approach to strategy requires management to ensure linkages between plans, resources and behaviour, or even tight coupling (March and Simon, 1958; Weick, 1979; Spender and Grinyer, 1995). However, "it is also argued that tight coupling results in punctuated change, while loose coupling results in gradual, continuous change" (Spender and Grinyer, 1995). Loose coupling also has damage attenuation and absorption capabilities making organisations more adaptable and less susceptible to external jolts (Meyer et al, 1990).

The key is not to focus on one end of the inside-out/outside-in dichotomy, but to use the knowledge or insights from both perspectives to challenge the relevance of any 'recipe' against detailed analysis of the external environment. Managerial insights from the scenario intervention would be the basis of adapting the firm for future success and survival.

The scenario intervention presents a potential opportunity to gather empirical data regarding managerial thinking and behaviour in such circumstances.

#### *2.3.1.5 Uniqueness-Population Ecology/Isomorphism Tension*

Organisations are both creators and prisoners of their environments (Miles & Cameron, 1982). Organisational survival depends to a significant extent on the adjustment and renewal capacity of strategy making processes. The intent of adjustment and renewal capacity is to learn faster than the competition (de Geus, 1988). This can be explained by the emphasis on establishing distinctive competencies (Selznick, 1957; Kay, 1993; van der Heijden, 1996, Collis and Montgomery, 1995) in the literature as the basis success and renewal.

A new model of organisational success has emerged recently - increasing returns to experience, rather than diminishing returns to experience. This has increased the scale of success for many organisations, increasing the drive to learn faster (de Geus, 1988). The paradox of learning today is that learning focusing on similar bases of success. As one organisation is seen to be successful, other organisations will try to emulate that success and copy the procedures and technologies employed by that organisation. However, this approach leads an organisation, industry, or society to persist in using a set of procedures or technologies that may be far from optimal (Arthur, 1994).

As organisations strive for the same or similar bases of success, this results in ecologies of learning (Levitt & Marsh, 1988; Hannan and Freeman, 1977) where organisations are collections of sub-units, learning in an environment that consists largely of other collections of learning sub-units (Cangelosi and Dill, 1965). The focus of such learning is the copying of procedures and technologies of others, with all organisations in such an environment moving towards an isomorphic situation. The implication of population ecology convergence is a common fate for those learning sub-units with respect to undetected exogenous shocks.

The challenge for interventionists is to help the management of an organisation to develop learning processes to detect exogenous shocks prior to their occurrence.

#### *2.3.1.6 Bounded Rationality/Inertia - Flexibility/Plasticity Tension*

Managers act on a set of assumptions that prescribe how a decision should be made (rather than how a decision is made) (Bazerman, 1998). However, individual judgement is bounded in its rationality, as people act intentionally rational, within the limits of their knowledge and understanding (Simon, 1957; March and Simon, 1958). Bazerman (1998) states that the “bounded rationality framework views individuals as attempting to make rational decisions, it acknowledges that decision makers often lack important information on the definition of a problem, the relevant criteria, and so on. Time and cost constraints limit the quantity and quality of available information” (p 41).

Bounded rationality is a consequence of the following issues and behaviours - working within a limited knowledge base, working with limited time for thinking ahead, and management focusing on the internal operations of the organisation. These behaviours lock management into a narrow homogeneous thinking mode that restricts their ability to learn about possible drivers for change in their business environment. Over a period of time, this results in inertia (strong persistence of existing form and function) and ‘strategic drift’ (Johnson, 1987) as the firm is unable to respond to exogenous factors.

Rumelt (1995) states that there are “five friction’s” or sources of inertia in organisations. These are “distorted perception, dulled motivation, failed creative response, political deadlocks and action disconnects” (p 103). These sources of inertia reinforce managerial mindsets and lock management into a basis of thinking based on past experience. To overcome inertia in organisations (Rumelt, 1995, p 101) identifies “plasticity” within the organisational recipe or mindset, as the key to

“respond to exogenous shocks and changes in competitive conditions”. Plasticity is the ability of the management to learn and adapt on behalf of the organisation.

#### *2.3.1.7 Loosely Coupled System-Tightly Coupled System Tension*

Learning is considered a key aspect of strategy, and learning is about developing shared understanding and meaning in management teams, with learning embedded in action (Weick, 1988). Understanding the process(es) of developing shared understanding or meaning is dependent on the frame within which meaning is allowed to occur in an organisation. This frame will either reject or embrace opportunities for developing shared understanding of external reality.

Weick (1979, 1988, 1995) and Bougon and Komocar (1990) argue that organisations can be considered as systems of strategic loops. These strategic loops can be either ‘tightly coupled’ or ‘loosely coupled’. “Loose coupling occurs when separate loops have few variables in common or when the common variables are weak compared to the other variables that influence the system” (Weick, 1979, p 111). Loosely coupled systems are characterised by improvisation, as management action consolidates a series of small steps, closing off alternatives, as part of sensemaking or acts of learning. Loosely coupled systems are subject to multiple interpretations and learning and sharing is more fragmented. Loosely coupled systems are more likely to be willing to experiment.

Tightly coupled systems are characterised by plans linked to action, action linked to structure, bringing order to behaviour, which limits improvisation and precludes opportunistic behaviour. Learning is likely to occur in a tight framework of defined issues. Tightly coupled systems are characterised by concerted action and no disagreements. Weick (1988) argues that no disagreements masks a reality of shared agreement as management teams never confront their shared understanding, such as it is, and then confidence imposes order in situations.

#### *2.3.1.8 Socio-Cognitive-Power Tension*

Organisations have limited resources. This results in rewards and opportunities that are never adequate to meet everyone’s expectations, thus conflict and power struggles are endemic (Fulop and Linstead, 1999). The political perspective views an organisation as coalitions of individuals or groups who are by and large pursuing their own agendas and interpretations of what constitute appropriate or valid goals



(Bailey, 1970; Child, 1973; Burrell and Morgan, 1979). This can limit or nullify any attempt to reach consensus or joint understanding in a management team.

Eden (1992) argues that strategy development or learning is a social process, that strategising is a process of negotiated order, and that power and politics are inherent within this process. "Negotiated order in organisations depends upon social negotiation, where work on problems involves the interaction between interested parties who have to exist in relation to their past and expected future" (p 801).

Eden (1992, p 799) states "that the development of strategy in organisations will be more effective if it is seen as predominately a social rather than analytical process". Management interact to understand and interpret their environment, with the intention of moving towards shared understanding. Silverman (1970) argues that an organisation is "the interaction of motivated people attempting to resolve their own problems. The environment in which an organisation is located might usefully be regarded as a source of meanings through which members defined their actions and made sense of the actions of others" (p 126).

Smircich and Stubbart (1985) state that there are "three different models that represent ideal types for explaining how organised participants know their environments". Firstly, an external environment that is objective, concrete, and independent of management. Secondly, a perceived external environment that is limited by the boundaries of the perceivers. Finally, the environment is enacted. By enacting the environment individuals find meaning by making relationships and connections from patterns of action of others not connected with the organisation.

Learning in management teams is the focus of strategic management processes (de Geus, 1988; Galer and van der Heijden, 1992; Eden 1992). The challenge is to create a learning environment to assist management teams, where primary importance is placed on meanings, actions and understanding or the interpretive capacities of individuals as the building blocks for learning (Addleson, 1996; Mirvis, 1996).

Ginsberg (1990, p 522) argues for consensus in management teams as "the extent to which a diverse set of assumptions or beliefs has been synthesised into a commonly shared understanding". Socio-cognitive consensus should be interpreted in terms of agreement on the frame of reference with respect to which the various interpretations are compared (Fiol, 1994).

Attention is focused on conditions that might enable and support what have been variously termed communities of understanding (Addleson, 1996), organisational renaissance (McWhinney, 1992), systems of self-correction and creativity (Mirvis, 1996), self-organising systems (Stacey, 1993).

### *2.3.1.9 Strategy Content (Output)-Strategy Process (Journey)*

A lot of debate in the strategic management literature centres on the difference between the 'Strategy Content' and 'Strategy Process'. The argument in the literature is that strategy process is the manner in which strategies come about, and that strategy content is the product of a strategy process. Weick (1987) argues "that what is important is not the content of a firm's strategy, but its existence in the first place and the form in the second. Part of this tension is the belief that management may hold about their organisation, may be different from the emergent position of the firm. This is often found in practice when management claim that their business plan is out of date before it is signed off.

Weick elaborates on his understanding of the importance of existence, by stating "firm success is primarily the result of differences in process, including formulation, articulation and implementation". This is amplified by Hendry and Johnson (1993) who suggest "the emphasis is on the way people think about strategy and make sense of their organisational worlds, about organisational learning and adaptation". Hendry and Johnson (1993) suggest that more research should be directed at "how managers deal with strategic issues - with the process of strategic management".

Existence could be argued as a tangible objective or it could be argued that existence is a subjective construct. Different research processes would be required to be designed to study either tangible existence or subjective existence.

With this in mind, Rumelt et al (1994) set out fundamental questions about strategy to determine a research agenda for the 1990's. These questions include:

- how do firms behave? (do firms really behave like rational actors, and if not, what models of there behaviour should be used by researchers and policy makers?)
- why are firms different? (what sustains the heterogeneity in resources and performance among close competitors despite competition and imitative attempts?)
- how are policy outcomes affected by the policy process?

Rumelt et al (1994) develop this last question further. If strategy is not the domain of one individual, then how should an organisation organise itself to generate and execute policy?

Porter (1994) raises some issues which "if there was better understanding may shed light on our understanding of a dynamic theory of strategy". These issues include the balance between environmental determinism and company/leader choice in shaping competitive outcomes; stickiness or inertia in terms of future competitive understanding and positions by management teams who are successful; learning (by management teams) from the chain of causality; and most fundamental of all - crafting empirical research from longitudinal studies.

Developing Rumelt et al (1994) and Porter's (1994) line of argument, the challenge for researchers in the field of strategic management, is to understand the processes underlying strategy development and implementation. The best way to do this is to be involved with an organisation(s) as they begin to make sense of their environment. To be involved with an organisation as the management reflects on past experience and plans for the future. To be involved with managers as they attempt to develop strategy. Rather than study the output with understanding the activities that shape and make the output. These questions are re-visited in section 3.3.4 as the research questions for this thesis are developed.

#### *2.3.1.10 Planning - Improvisation/Interventions Tension*

Most organisations have some kind of approach to planning. Whichever approach to planning is adopted it is designed with the intention of assisting management plan and control their business. Emphasis in the literature focuses on how planning can be captured in planning systems (Lorange and Vancil, 1997; Chakravarthy and Lorange, 1991). Advocates of the planning perspective argue that strategies should be deliberately planned and executed. In their view, anything that emerges unplanned is not really strategy. A successful pattern of action that was not intended cannot be called strategy, but should be seen for what it is - brilliant improvisation or just plain luck (Andrews, 1987).

Following Andrew's (1987) argument, this approach does not recognise (i) uncertainty in the business environment (ii) plurality of interests in an organisation competing for recognition (iii) the notion of emergence in an organisation's path or journey (iv) the role of humans and learning in managing an activity system. Many unpredictable factors can also have an impact on management. Management's role

is to maintain survival of the organisation, develop it successfully, learn and learn faster than the competition (de Geus, 1988). What approaches or processes are there to help management learn in circumstances of such complexity and diversity?

#### *2.3.1.11 Summary of Initial Review*

The discussion in this section was designed to be an initial review of the strategic management literature to identify current key themes in regard of learning for strategic change and fit with the environment. This initial review highlighted the lack of consistency in the strategic management literature with regard to learning for strategic change and fit with the environment. The review highlighted many tensions in the literature. The next step is to explore why there is a lack of consistency and many tensions in the strategic management literature. By doing so the intention is to develop further understanding about learning for strategic change and fit with the environment

### **2.3.2 Strategic Management or Learning with Ambiguity, Complexity and Uncertainty**

The previous discussion highlights ten tensions in the strategic management literature. It was suggested at the end of this discussion that there is a need to identify and understand approaches or processes that acknowledge and somehow integrate the implications of the tensions in a way that is helpful and purposeful for management to enable them to be more skilful in managing the relationship between the firm and the environment.

Wack (1985) in his seminal article on scenarios "Scenarios: Uncharted Waters Ahead" challenged the then thinking of managers and planners by introducing uncertainty into the planning process. As one of the original exponents of scenario planning Wack (1985) suggested that "as the future is no longer stable, planning and thinking need to accept uncertainty, try to understand it, and make it part of our reasoning" (p 73).

Marsh (1998, 44) states "uncertainty isn't not knowing what tomorrow will be like. Uncertainty is not knowing which issues, trends, decisions and events will make up tomorrow". Scenarios are based on surfacing tacit knowledge, and developing causal links between aspects of this tacit knowledge to develop an understanding of these issues, trends and events.

In any organisation there are many “paradigms or ways of perceiving the world” (Stacey 1993). It is these paradigms that form the basis of reasoning and should be the focus of any intervention. These paradigms determine the way management deal with ambiguity, complexity and uncertainty as they manage their business. These paradigms are individual construct systems that are the basis of knowledge and perception. Ways of harnessing this diversity of paradigms is inherent in strategising (Eden & van der Heijden, 1998) - an action oriented thinking process involving decision makers.

The purpose of any intervention is to understand these paradigms, and challenge and de-stabilise them, and bring about change or double loop learning. Vennix (1998) argues that any intervention should (i) assist individual learning (ii) create a climate for shared understanding and (iii) foster consensus and commitment in decision making. Changing or re-framing these paradigms should generate multiple perspectives about a situation. These multiple perspectives should enable the development of a more holistic understanding of the firm and its context, bringing greater flexibility to respond to a situation.

Given the importance of learning from ambiguity, complexity and uncertainty, it is appropriate to set out definitions of these terms.

#### *2.3.2.1 Ambiguity*

By ambiguity, I mean events that have more than one possible meaning. Ambiguity arises when key elements in a situation or decision cannot be characterised, when important factors are either unclear or unknown. This is contrasted with uncertainty, in which important factors are clear but making a prediction is not. Situations are ambiguous when future conditions, the links between future conditions and courses of action, criteria to compare courses of action, and problems provoking the need to act are, to one degree or another, unknown (Nutt 1989).

#### *2.3.2.2 Complexity*

Complexity arises when it is not possible to see a pattern or the linkages between related parts. Complexity arises when managers believe they cannot make accurate predictions because they lack critical information or cannot sort the information they have into relevant and irrelevant categories (Downy, Hellreigel and Slocum 1975). For example, complexity may stem from the interaction and interplay of suppliers,

customers, competitors, government and other stakeholders in the contextual environment, which is out with the control of management.

An increase in complexity can increase perceived uncertainty because a greater number of diverse elements interact in a greater number of ways. Complexity affects what people notice and ignore (Weick 1995). As a result, with greater complexity goes further search for and reliance on habitual, routine cues (Weick 1988), which increasingly mislead.

### *2.3.2.3 Uncertainty*

Uncertainty is the irreducible unpredictability arising from non-linear complexity. Van der Heijden (1996) identifies three types of uncertainties – risks, structural uncertainty and unknowables. Risks can be assessed on the basis of probabilities. Unknowables cannot be planned for in advance, the only response is fast reaction when reacting to the unexpected. Structural uncertainties arise in situations where a unique event could be explained through cause and effect reasoning. These were the issues alluded to by Wack earlier.

As the future is uncertain, ambiguous and complex it is important for management teams to consider a number of plausible alternate futures in advance of decisions leading to action (Godet 1987; 1996; van der Heijden 1996). This points to scenario planning as a useful intervention approach.

Scenario planning is concerned with managing future uncertainty (van der Heijden, 1996). Managing uncertainty is a key justification for scenario thinking, as exploring alternative scenarios provide a structure to seemingly unrelated or unconnected events and therefore enables managers to take a broader, more holistic view of their business environment. By taking a scenario approach, it becomes possible to construct a number of plausible alternate futures in which management thinking and ultimately action can be grounded. The challenge is to help managers develop a tolerance for ambiguity, complexity and uncertainty.

### **2.3.3 Initial Literature Review Conclusions**

This section summarises the key issues emerging from the literature concerning the relationship between the organisation and fit with the environment, the role of management in strategy making, and draws conclusions for this research project.

The initial literature highlights ten tensions surrounding the relationship of these issues. One of the tensions suggested that the environment was too problematic for management and strategy making. The environment was characterised by ambiguity, complexity and uncertainty. To counter this tension, the literature suggested that on-going purposeful learning would help management understand their environment and result in adaptation.

This proposition highlights the need for learning processes in strategy making to enable individual and collective learning to occur.

Mintzberg (1994) is more forthright about ambiguity, complexity and uncertainty, which he terms turbulence, "turbulence turns out to be a condition, not of the outside environment, but of our inner selves. It's an imagined condition" (p 7). "Turbulence is thus not some condition out there, existing in some abstract environment or imposed by some malevolent deity. It is simply uncertainty in the market place, due to the unexpected. But while these are surprises to the recipients, they are not to the organisations that created the changes in the first place" (p 9). Mintzberg (1994) concurs with a proactive learning approach (rather than a reactive response to others' actions). He suggests management should adopt a "watch us do" approach (p 9).

These conclusions are based on the proposition that these tensions can be reconciled, and that elements of these tensions can be integrated through learning. The argument being developed here is that the strategy as learning principle is about purposeful learning that is ongoing. That learning is the basis of future survival and success. Learning which is both individual and collective. Learning that helps managers reconcile differences in their assumptions and perceptions. Learning that allows managers to individually and collectively understand and manage their environment. Therefore, learning activity must be future oriented, and result in change in thinking and acting.

The literature argues that for learning to be purposeful it must result in action (Argyris & Schon, 1978), that the action must be about adaptation and survival (Burgelman, 1991), and that the action leads to behavioural and cognitive change (Argyris and Schon, 1978). The conclusions are considered around three inter-related variables (i) learning and action (ii) change for survival (iii) change – cognition and behaviour. These inter-related variables are discussed below.

### 2.3.3.1 Learning and Action

The strategic management and strategy literature now places emphasis on learning in organisations (Edmondson and Moingeon, 1996). Processes for learning in strategic management need to encompass the past, making sense of past action, understanding the present, and understanding how the forces for change in the past and present will impact the organisation. Argyris (1993) suggests that learning is an action concept, “learning is not simply having a new insight or a new idea. Learning occurs when we take effective action, when we detect and correct error” (p 3).

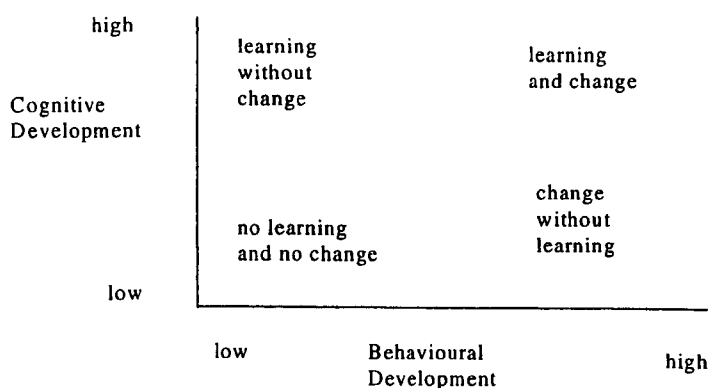
### 2.3.3.2 Change for Survival

The literature argues that planning and strategy no longer be considered as a one off episode, but as a process of strategising for continual learning. This approach suggests that strategy making is an on-going and live process. Eden and van der Heijden (1996) suggest “strategising is concerned with developing a process of conversation and action within the organisation which will create favourable conditions for the emergence of a winning structure and pattern of behaviour” (p 4). This thesis is set in the context of trying to understand such phenomena created by an action learning intervention e.g. scenario-planning intervention.

### 2.3.3.3 Change – Cognitive and behavioural – how?

Kim (1993) suggests that learning is considered from three perspectives - cognitive, behaviour, or a combination of the two. Fiol and Lyles (1985) suggest the following approach to consider the impact of learning and change:

Learning - Cognitive and Behaviour Change





Understanding strategic management and interventions as a learning opportunity must take recognition of change in both cognition and behaviour. The challenge for the researcher is to gather empirical evidence to identify the process of learning – cognitive and behavioural – from an action learning intervention using scenario planning.

The opportunity to gather empirical data on this subject is developed on three levels. Firstly, at the individual level from one to one interviews. In addition ongoing discussions as the research unfolds. Secondly, at the group level from observations arising during intervention workshops. Finally, as thinking results in action for and on behalf of the organisation over time, longitudinal data on events on change will be gathered.

#### *2.3.3.4 Implications*

There are lots of perspectives on strategy and strategic management, as evidenced by the 3 schools of thought on strategy and the ten tensions. I am making a choice for this research project, and accepting the argument developed for the processual school. The processual school positions the research project midway in the tensions. This assumes management are willing actors in an ongoing process of searching for good fit between the firm and the environment. The research is structured around learning, and specifically action learning to help managers manage their environment. Scenario planning is an approach to help managers manage their environment. If learning, adaptation and innovation are key issues for strategic change four research questions arise when considering the impact of scenario interventions:

**What generates a desire in management to adapt to changing circumstances?**

**What provides the context within which adaptation is addressed?**

**What is the role of past experience in the adaptation process?**

**What creates the link between thinking and acting in strategic learning?**

These four questions arise from the consistent argument in the literature about the search for 'fit' with the environment (Miles and Snow, 1984; van der Heijden, 1996), drift from the environment (Johnson, 1987) and linking action to environmental

drivers of change (Andrews, 1971; Argyris and Schon, 1978; Weick, 1979;). What is unclear in the literature is the role of scenarios as a way of understanding the environment in bringing about change. The literature on scenarios is dominated by reflection on practice (Wack, 1985; van der Heijden, 1996; Ringland, 1998), with no empirical evidence to support these claims. Grinyer and Spender (1979) and Grinyer, Mayes and McKiernan (1988) argue that managerial recipes are the basis of change. What is unclear from the literature is the link between recipes and change. This thesis will use empirical evidence to explore the issues identified in the above questions.

## **2.4 STRATEGIC CHANGE IN TOP TEAMS – EXPLORATION TO UNDERSTAND ACTION LEARNING AND CHANGE**

### **2.4.1 Introduction**

Four research questions have been established. The assumptions from the literature review are:

- I. Managers have multiple responsibilities and objectives, and one of their responsibilities and objectives is the survival of the organisation. This survival is based on management's ability to adapt and change the organisation to reflect current and future business drivers.
- II. Adaptation is an outcome of individual and collective learning in the firm for the purpose of survival and success.
- III. Individuals are willing actors in the process of learning.
- IV. Learning is based on reflection of the past and understanding of that past experience, development of new knowledge that is linked to business survival and success, and the formation of new understanding of the requirements for future.
- V. Learning is an outcome of mapping the environment and understanding the implications of this construction for the business.
- VI. Mapping the environment is an outcome of the scenario planning intervention.
- VII. Scenario planning is an action learning approach.
- VIII. Learning results in new action that is a response to the intervention.

Management are involved in day-to-day activities within the business, which is also a form of ongoing action learning. However, the action learning in this research project is based on an intervention in a practical setting with the managers of the case study organisations and is action learning arising from episodic interventions. These episodic interventions are the basis of empirical fieldwork using an action research methodology.

The focus of the next section is to develop a coherent understanding of action learning and its link to action research.

## **2.4.2 Planning an Action Learning study**

Adaptive learning to maintain fit between the organisation and the environment is at the heart of the strategic management literature. Action learning is defined as “a process that develops people and organisations using important issues confronting the organisation as a vehicle to do so” (Inglis, 1994, p 3). Morgan and Rameriz (1984) make the point that many decision making procedures set out to reduce the variety of solutions by a process of systematic elimination, action learning works at increasing the number of options encompassing as much variety as possible. How will management in the case study organisations behave in such a setting?

Inglis (1994) suggests “action learning will change the way that managers think and behave, both individually and collectively. This in turn will alter the way in which the organisation musters its resources to respond to internal and external change, the opportunities and the threats” (p 31). Here we make the link back to fit with the environment. For action learning to be successful it should challenge the existing organisational paradigm and change the organisation (Inglis, 1994).

### *2.4.2.1 Understand relationship between thinking and acting, and acting and thinking*

Morgan and Rameriz (1984) suggest that to manage complexity it is important to increase the variety in the organisation to match the variety in the outside world (Ashby, 1983). Eden and Ackermann (1998, p 16) argue that “the idea of managing complexity contrasts with complexity reduction, where important and relevant aspects of a situation are ignored or not appreciated. Strategy is therefore expected to contribute to a manager’s capability to act quickly, without paralysis by analysis, and yet the actions are informed by a framework of previous thinking, actions which in turn inform future thinking and action”.

Eden and Ackermann further argue that “strategic management involves creating and moulding the future, along with making sense of the past, constructing rather than predicting, and responding to some predetermined future reality. It is also importantly about developing the capability for long term flexibility and strategic opportunism rather than making and sticking to long terms plans. Emergent strategising is a key concept for us. It addresses the way in which most organisations demonstrate patterns of decision making, thinking, and action, often taken for granted ways of working and problem solving coming from the habits, history, and hand me downs of the organisation’s culture” (p 3-4).

### **2.4.3 Planning a learning and research intervention adopting Action Research**

#### *2.4.3.1 Action Research Defined*

“Action research involves the researcher in working with the members of an organisation over a matter which is of genuine concern to them and in which there is an intent by the organisation members to take action based on the intervention” (Eden and Huxham 1996).

Action research originated from the work of Kurt Lewin. It is “characterised by six features:

- (i) action research is problem driven,
- (ii) action research is client centred
- (iii) action research challenges the status quo and is simultaneously concerned with
- (iv) producing empirically disconfirmable propositions that
- (v) could be systematically be interrelated into a theory designed to be
- (vi) usable in everyday life” (Argyris 1982).

Given the concern for action noted above, it is reasonable to conclude that learning is the first and overarching objective for the researcher, the clients, and the system in which they are embedded (Argyris 1982), and it is learning and knowing that have been identified as the basis for this thesis.

A description of action research which fits with the needs of this thesis is provided by Rapoport (1970) “action research aims to contribute both to the practical concerns of

people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable, ethical framework". Here we see a marriage between the aims and objectives of the participating companies to better understand, their business and its contextual environment, and the provision of the opportunity to undertake research for this thesis.

Thus the methodology adopted to undertake such a research project has to include fieldwork in the real world. Action research and the researcher are seen as part of the field project as the intention is to create change within the host organisation (Easterby-Smith, Thorpe and Lowe 1991). The methodology is designed to enable the researcher to work with a number of, in this project three, organisations studying complex situations. It uses a scenario approach, which is "designed to challenge managers microcosms or mental models and the assumptions which these are based upon, to provide new insights as to how the world works, which enables the managers to change their view of reality, and ultimately leads to a change in organisational behaviour" (Wack 1984).

#### *2.4.3.2 Action Research Rationale*

Reason and Rowan (1981) put forward a new paradigm for the philosophy and practice of research that is collaborative and experiential. "New paradigm" research means doing research with people rather than on people; it involves working with people so that as a researcher I can understand the impact of a scenario intervention within each case study organisation. This is the approach that this research project has taken from the outset.

There are two procedures for Action Research projects with organisations (Donahue and Spates 1972):

- firstly, the field experience is based on a combination of personal encounters and reading on a topic to develop understanding, or
- secondly, investigation of the selected topic, which involves working with the community under research.

The field experiences focus on dynamic situations in the social world. The emphasis of field experience is to use the opportunity to observe complex social phenomena. By doing so, the researcher can understand the events happening in the lives of real people, to advance the comprehension of the social world (Donahue and Spates 1972). This involvement of the researcher can be taken a stage further, known as

“co-operative inquiry” (Heron 1981; Reason 1988). Co-operative inquiry results in the researcher as “co-subject” in that he conducts research, but is also part of the acting. By taking this approach the researcher can focus more on researching human action at the individual level, rather than/as well as at the organisational level (Easterby-Smith, Thorpe and Lowe 1991).

Easterby-Smith, Thorpe and Lowe (1991) state that the following features are normally part of an action research project:

- a belief that the best way of learning about an organisation or social system is through attempting to change it, and this therefore should to some extent be the objective of the action researcher
- a belief that those people most likely to be affected by, or involved in implementing these changes should as far as possible become involved in the research process itself.

Action research is less large scale public programmes (*although its origins is community oriented*) but face to face, intensive, longitudinal involvement with particular individuals and groups within particular organisations, with the intention of understanding how these people experience, give meaning to, act and interact with respect to particular situations (Jones 1987).

#### 2.4.3.3 Action Research Guidelines

It is now possible to take this discussion about action research further and develop a close link to the scenario methodology in practice. Susman and Evered (1978) propose the following guidelines for action researchers:

- Action research is future oriented. In dealing with the practical concerns of people, action research is oriented towards creating a more desirable future for them”.

Scenario planning has been defined as an organisational perception tool (van der Heijden 1996) designed to broaden and deepen an individual's understanding of their contextual environment, to help them manage their business. To do so requires an in depth understanding of “predetermined” (Wack 1984), which are events in the pipeline not yet recognised by the individual; “the structure of the future for new organisational principles and

forms is partially already here in the technologies and computers and communication” (McMaster 1996).

- “Action research is collaborative. Interdependence between the research and client system is an essential feature of action research and the direction of the research process will be partly a function of the needs and competencies of the two”.

The case organisations will learn more about the driving forces affecting their business and mutually the client and the researcher will learn more about the practical application of scenario planning.

- “Action research implies system development. The action research process encourages the development of the capacity of a system to facilitate, maintain and regulate the cyclical process of diagnosing, action planning, action taking, evaluating and specifying learning”.

Scenarios are intended to help organisations identify forces as “predetermined” and “uncertainties”. By better understanding how the predetermined will play out, it is possible to focus attention on uncertainties, to develop greater understanding of these. The participants wish to understand the uncertainties to develop understanding of the potential impact on the business. By understanding the implications of the uncertainties, participants are able to devise action to allow them to manage the business with more confidence. Research will focus on the intervention episodes and participants learning during these episodes. In addition, longitudinal research will focus on ongoing managerial reflection of this action.

- “Action research generates theory grounded in action. In action research, theory provides a guide for what should be considered in the diagnosis of an organisation as well as for generating possible courses of action to deal with the problems of members of the organisation”.

The scenario methodology deals with a representation of the organisation (its Business Idea) and with the opportunities and threats in the external environment, it will be possible to develop a range of strategic options that will enable the organisation to manage future change.

- “Action research is agnostic. The action researcher recognises that his or her theories and prescriptions for action are themselves the product of previously taken action and, therefore, are subject to re-examination and re-formulation upon entering every new research situation”.

The collaborative approach adopted in this research project between the client and the researcher requires reflection upon any insights gained during the process prior to implementation and change including reflections and insights generated from ongoing or unfolding literature review.

- “Action research is situational. The action researcher knows that many of the relationships between people, events and things are a function of the situation as relevant actors currently define it”.

Each organisation is context specific, and a constructionist approach will be adopted with each participant organisation. The researcher will work with participants to understand their words, the meaning and purpose of the words, and the context within which the words were spoken.

A collaborative approach with the client or host organisation will be adopted. By adopting this “partnership”, it will allow the researcher to become “immersed” in the organisation. This should provide the researcher with the opportunity to gain insights concerning the scenario process, anchored in a real world context.

#### **2.4.4 Types of Learning**

Argyris (1982) states “learning leads to new action and new problem solving, which enables individuals and systems to continue to learn”. Argyris and Schon (1978) differentiate between learning as a ‘product’, that is, something that becomes known, and learning as a process, which results in something new being developed.

Argyris and Schon (1978) distinguish between single and double loop learning. In single loop learning, the individual mental model (Neisser, 1976) or recipe (Grinyer and Spender, 1979; Spender, 1989) or frame (Goffman, 1986) results in corrective action of a problem without any attention to the underlying causes of the problem. Single loop learning will result in action based on previous theory; action will be based on a largely unchanged set of rules or constructs. Double loop learning results in new ways of thinking which will render the individual mental model (Neisser, 1976) or recipe (Grinyer and Spender, 1979; Spender, 1989) or frame (Goffman, 1986) or an aspect of it obsolete. The individual mental model is found to be structurally



unsound, as some or all of the premises or assumptions that underpin the mental model (Neisser, 1976) or theory in use (Argyris and Schon, 1974) are redundant. Redundancy comes about when the individual either considers a problem from a new perspective or creates new insights. The key to double loop learning for an individual is the magnitude and significance of destroying existing constructs, premises or assumptions, and creating new constructs, premises or assumptions, which should result in change in behaviour.

#### **2.4.5 Rationale for Interventions in Organisations**

As discussed above, this thesis is based on empirical data to understand organisational learning and adaptation.

There are a number of well-documented interventions that can bring about strategic change within an organisation each of these are discussed in more detail below.

Intervention is defined as the opportunity to work with an organisation to bring about new learning that results in strategic change. Cropper (1990) states that an intervention is both an intellectual and social activity.

The research design is based on undertaking action research with small medium sized enterprises (SMEs). Action research starts from the view that research should lead to change, and therefore that change should be incorporated into the research process itself (Easterby-Smith, Thorpe and Lowe 1991). The link between research objectives and the intervention are discussed below, and discussed in detail in the methodology chapter.

Rowan (1981) states “research changes the world in three ways: it makes a difference to the researcher; it makes a difference to those who come to know about the research; and it makes a difference to whatever is studied”. As a researcher I am interested in the notion of intervention as inquiry to learn and understand more about change in individuals and organisations.

Much of the action research approach is based on Lewin's (1947 and 1951) work with organisations. Kleiner (1996) summarised Lewin's approach as follows “you cannot know an institution until you try to change it, and you cannot change it without reflecting on its purpose. This requires research to study organisations in collaboration with the management team to bring about change. The scenario intervention provides such an opportunity. Building on Lewin's principles, as a researcher/interventionist my project is to enter the organisation with the intent of

creating and studying a new and different social setting (Fryer and Feather 1994). Change is brought about by a (scenario) intervention. During the intervention I observed and studied the implications of that intervention for the individuals and the organisation (who were subject to that intervention).

The scenario intervention is designed around a number of workshops with the management team. "It is necessary for the researcher to actually participate in the process himself" (Gummesson 1991). By participating in these workshops I adopted Lewin's philosophy to study the impact of such an intervention. Accordingly, I participated in and observed the events of a number of scenario workshops in order to achieve this aim.

Before discussing scenario planning and scenario interventions, it is first necessary to discuss various types of intervention in more detail.

## **2.5 TAXONOMY OF SYSTEM BASED LEARNING INTERVENTIONS**

### **2.5.1 Introduction**

Cropper (1990) proposes two assumptions for interventions and strategising in organisation, firstly, that problem solving is an intellectual process, and secondly, problem solving is a social process. The challenge is to devise interventions as experiential learning for management teams.

### **2.5.2 Discussion of system based learning intervention approaches**

System based learning intervention approaches include Strategic Assumptions Surfacing and Testing (SAST) (Mason and Mitroff 1981), Strategic Options Development and Analysis (SODA) (Eden 1989, Eden and Ackermann 1998), Group Decision Support Systems (GDSS) (Rosenhead 1989, McGoff, Hunt, Vogel and Nunamaker 1990), Systems Thinking (Senge 1990), System Dynamics (Morecroft 1992), Soft Systems Methodology (Checkland 1981) (Checkland & Scholes, 1990), Scenarios (Schwartz 1991, Schoemaker 1992, Wack 1985, and van der Heijden 1996), and Game Theory (von Neuman & Morgenstein, 1944). Each of these interventions has their own approach and objectives, and they are discussed in more detail below. A critique of each system based learning intervention approach is also offered to enable a conclusion to be drawn that supports scenario planning as an intervention approach to manage the environment. It is acknowledged that there are

many more interventions, however, this discussion is limited to those that are based on system driven inquiry as the basis of learning.

#### *2.5.2.1 Strategic Assumptions Surfacing and Testing*

Strategic Assumptions Surfacing and Testing (SAST) brings together the management of an organisation to help them uncover the critical assumptions that underlie policies, plans and strategies. The process is designed to uncover and challenge key assumptions on which every business plan has been developed (Mason and Mitroff 19981). Mason and Mitroff (1981) state that SAST “focuses managers attention on the relationship between the participants involved in a problem context, and not on the supposed characteristics of the “system” that constitutes the problem context. It is the “participants” rather than the “systems” dimension that SAST focuses on. SAST starts with a problem to be solved, and SAST is a dialectical approach to aid such problem solving (Flood and Jackson (1991). Although SAST harnesses pluralism, a major critique of SAST is its inability to deal with complexity in problems (Flood and Jackson, 1991). As with Game Theory, SAST makes no explicit reference to structural forces that will drive change in the future, even though these may be tacit assumptions made by the management team.

#### *2.5.2.2 Strategic Options Development and Analysis and Group Decision Support Systems*

SODA and GDSS are “soft OR” approaches (Eden 1990) which are intended to provide management teams with a computer based modelling facility which can act as a device to aid negotiation, working with individuality and subjectivity as the basis for problem definition, creativity and options (Eden 1990). This problem solving approach, to an existing problem. This approach does not explore the organisation and its “fit” with the external environment.

#### *2.5.2.3 Soft Systems Methodology*

Soft Systems Methodology (SSM) is an intervention approach that tackles complex human problem situations. SSM attempts to foster learning and appreciation of the problem between a group of stakeholders (Eden 1990).

Checkland & Scholes (1990) discusses the principles of SSM as finding out about the situation in the real world which has provoked concern; selecting some relevant human activity systems; making models of these human activity system; using the

models to question the real world situation in a comparison phase; and use the debate initiated by the comparison to define purposeful action which would improve the original problem situation.

#### *2.5.2.4 Systems Thinking*

Systems Thinking is a conceptual framework (Balle, 1994) which takes a holistic view of the business world. Systems Thinking is concerned with optimisation, and is primarily used to identify and diagnose internal organisational problems. Systems archetypes or templates have been constructed to aid diagnosis of dynamics of problems. Here the intention is to provide a thinking structure in context Accordingly, systems thinking looks at the interplay of the interactions between elements.

Senge et al (1994) develop this further and discuss Systems Thinking as a method and language for describing and understanding the forces and interrelationships that shape the behaviour of systems. Goodman (1992) confirms this, "Systems Thinking can be thought of as a language for communicating about complexities and interdependencies". Systems Thinking focuses on the causal linkages between variables. This is to help better understand the relationships, both positive and negative and correlation and mutually exclusiveness of variables, in an attempt to understand structural relationships. A common form of developing understanding about these relationships is in the form of an influence diagram bringing out feedback loops.

Stacey (1993) states that understanding systems behaviour "comes from thinking in terms of the mutual or circular causality in feedback loops". It is by understanding organisations as systems of loops, managers become more aware of behavioural characteristics of the organisation.

Systems Thinking is a more directive problem solving approach, without necessarily exploring the organisation and its "fit" with the external environment.

#### *2.5.2.5 System Dynamics*

System Dynamics is a modelling approach for thinking about how the operating policies of a company and its customers and suppliers interact to shape the company's performance over time (Forrester 1961). System Dynamics also uses behavioural decision theory to specify a model's information flows and decision-making processes (Morecroft 1985; Sterman 1987). System Dynamics provides insights into the systemic nature of problems, providing problem solving guidance to

allow management action to correct the system under review. Vennix et al (1995, p 39) states “the primary goal of a system dynamics model is to enhance understanding of the system’s behaviour to find robust policies to tackle strategic problems”.

Modelling a system infers one world. As Vennix (1996, p 45) argues “system dynamicists tend to take an endogenous rather than an exogenous view: systems behave the way they do because of their internal structure rather than as a result of external factors”.

The argument in strategic management is that learning occurs when management consider the fit or strategic alignment between the organisation and its environment (Burns and Stalker, 1961; Lawrence and Lorsch, 1967; Andrews, 1980; Miles & Snow, 1984). System Dynamics does not put emphasis on the impact of uncertain exogenous factors and therefore provides only half of the strategic story.

#### *2.5.2.6 Game Theory*

Game theory, although not an intervention approach, is a method of analysing strategic interaction between competitors in an industry, in an attempt to better understand the expected behaviour of competitors and their mutual recognition of interdependence (Parkin and King, 1992). Game Theory assumes that competitors are likely to react to the moves of the company and then attempts to identify reaction by competition. This helps management teams understand the response to their actions. It does not include an understanding of the structural forces in the contextual environment that drive change in the future.

#### *2.5.2.7 Scenario Planning*

Scenarios are designed to illuminate choices in the present, in the light of possible futures (Godet & Roubelat, 1996). It is by focusing attention on the structure of the external environment that scenarios help managers understand current reality. Scenarios look for interconnectedness in events that initially appear disparate. (This builds on some of the Systems Thinking and System Dynamics concepts.)

This is the key to scenario interventions. Instead of an inward focus on problems of the organisation, with the ensuing politics of management, the challenge is to understand the outside world in the search for fit as to the way forward. Scenarios do not start with a specific problem, but allow the participants to understand their own thinking, the thinking of others, and surface their concerns without defining a

problem. Problem definition is a later stage in the intervention process and this needs collective organisational agreement. This will be the basis of learning from the intervention. By having a richer understanding of the events that shape the organisation's future managers are able to move forward with more collective confidence.

If this is the case, then this raises issues around diversity in cognitive frameworks that may be used to stimulate fresh approaches to strategy formulation, but which may also impede action. How may this tension be managed? How dependent is this on the individual manager's vision of the organisational recipe (Grinyer and Spender, 1979) or the business idea (van der Heijden 1993). The argument developed above distinguishes scenario interventions through the focus on the outside, rather than starting with the inside.

Scenarios are designed to aid management thinking by creating a dialectic process to surface differing views, allow conversation and discussion on these perspectives. The aim is to develop alignment in management thinking to enable coherent and consistent management action. Scenario planning is an approach to assist management reach consensus by learning during the intervention. van der Heijden (1996) argues that the focus needs to be on the ongoing "strategic conversation", penetrating both the formal and the informal exchange of views through which the strategic understanding develops, and accordingly leads to action.

#### *2.5.2.8 Scenario Planning as an Action Learning Approach*

All approaches described, except scenarios, are designed as (specified) problem solving devices. There must be awareness of a problem before they can be used. This action learning intervention approach requires a 'jolt' (Meyer, 1982) or shock to be administered to the system. This action learning approach brings a problem into existence, a problem that the participants had not considered previously. Scenarios is the preferred mode of intervention for this reason, it also sets problems or raises questions against multiple futures, one of which is likely to be capable of acting as the 'jolt'. A further important feature is that the scenario process is capable of projecting the 'jolt' vividly, in the form of stories of the future.

## **2.6 SCENARIO PLANNING AS AN LEARNING INTERVENTION APPROACH**

### **2.6.1 Introduction**

In this section the discussion will focus on scenario planning as an intervention method. The intention is to explore the scenario literature to develop the research objectives further. The discussion is centred on Bernard's (1938) process oriented strategy theory. This theory is the subject of much recent debate, with Weick (1987) arguing that what is important is not the content of a firm's strategy but its existence in the first place and the form of the enactment in the second.

We can interpret Weick's comments to imply that management have explicit and agreed understanding about the goals, objectives and processes to achieve these goals and objectives. By enactment Weick is suggesting that managerial action is based on this subjective understanding the environment. Understanding the environment is an output of activity. This output describes and clarifies a previously equivocal situation. This process leads to common understanding and agreement about future understanding. In other words, strategy is primarily the result of a process (possibly including formulation, articulation, and implementation which enables differences in opinion to be surfaced and negotiated).

Strategic management is about being future oriented, to aid thinking and sensemaking (Weick 1995), which should lead to joint understanding and action within the management team. Strategic management is concerned with facilitating a skilful process within an organisation leading to the invention of appropriate strategy in a context of action through an iterative learning loop (Eden and van der Heijden 1996). The learning loop is based around managerial reflection about experience, drawing inferences from this experience, building theory about this experience, and developing future action based on these theories, resulting in new experiences (Kolb, Rubin and McIntyre, 1971).

This section is structured as follows:

- scenarios and scenario planning defined
- scenario planning in practice
- scenarios and learning
- scenarios and cognitive change

### **2.6.2 Scenarios and Scenario Planning Defined**

Scenarios are a dialectic tool, facilitating managerial discussion about uncertainties, uncertainties that the organisation is trying to understand. These uncertainties may be about current events or issues or the uncertainties may be about events that have still to unravel in the future.

Scenarios are hypothetical sequences of events constructed for the purpose of focusing attention on causal processes and decision points. Scenarios are about exploring and discussing what is happening now to identify possible changes in advance and consider their consequences to challenge and change the mental models (worldview) of decision makers (Hadfield 1990).

Scenarios answer two kinds of questions - "precisely how might some hypothetical situation come about, step by step?" and, "what alternatives exist, for each actor at each step, for preventing, diverting or facilitating the process?" (Kahn and Weiner, 1967).

What is the purpose of Scenario Planning? The power of scenario planning lies in its potential to help managers develop such understanding in situations that seem unstructured and threatening. It forces managers to consider their horizon or vision, challenges and extends mental models, to consider cause and effect, and identifies levers available to establish control over the situation (van der Heijden (1996).

Scenario planning is a methodology to help managers understand and interact with their environment. To better understand their environment and pro-actively rather than reactively manage strategic change that leads to their aspiration achievement. Scenario planning is about "mental tuning", that is develop a future oriented readiness in management through development of memories of the future (Ingvar, 1985). The external environment is about uncertainty, rather than stability. Management are required to develop an approach to manage this uncertainty.

### **2.6.3 Scenario Planning in Practice**

There is a significant growth in the number of organisations discussing their use and experience of scenario planning as a management tool (such as Berger 1964, Wack 1985, Schwartz 1991, Godet 1987, Hadfield 1990, van der Heijden 1996, Moyer 1996; and Ringland, 1998). Linked to these discussions are the discussions around building shared vision (van der Heijden 1993), organisational learning (Galer and van der Heijden , 1992), and development of business strategies (Leemhuis 1985,



Schoemaker and van der Heijden 1992, and Mason 1994). There is also discussion about the use of scenarios to help understand wider global change (Kahane 1992, Millet 1992).

There is therefore *prima facie* evidence from the literature that scenarios aid individual and collective learning, with evidence from organisations such as Shell (Wack 1985), British Airways (Moyer 1996) and ICL (Ringland, 1998). This literature is based on the experience and insights of practitioners. There is very little theory building in this literature.

Scenario planning in practice covers a broad range of issues including the development of strategies or action plans which give guidance for implementation, based on better understanding of the organisation's contextual environment. In this category Wack (1985) discusses one of the lessons from Shell's experience of scenario planning, that scenarios help re-frame a manager's outlook or worldview. This reframing can occur in a number of ways – a better understanding of structural uncertainty by enacting the environment, leading to new problem definition; reducing the amount of differentiation in managerial thinking leading to shared problem definition; the identification of issues for further research producing new ideas or creating less subjectivity about key managerial concerns.

This research project makes a contribution towards widening the debate and understanding about the use of scenario planning, to help develop theory about a practitioners art.

#### **2.6.4 Scenarios and Learning**

The above debate is linked to the learning in organisations debate in the literature (Pedler et al 1991; Argyris 1992; Probst and Buchel 1997), which suggests that organisations are moving towards the concept of 'learning organisation'. Scenario planning is designed as a learning process to achieve this goal (Fahey and Randall, 1998). The organisation is seen from the point of view of an entity that observes, builds theories, and acts upon these theories (de Geus, 1988) that will result in change.

What benefits accrue by using scenarios as part of an organisational thinking approach? Van der Heijden (1996) states that Shell made five discoveries resulting in reasons for using scenarios - robust decision making, stretching mental models

leading to discoveries, enhancing corporate perception, energising management, and finally using scenarios as a leadership tool.

The inference from these discoveries is learning by management teams using a scenario approach. The key recurrent theme in the scenario literature is learning and cognitive change, resulting from better understanding of the business environment. This theme is incorporated into the research questions set out above.

### **2.6.5 Scenarios and Cognitive Change**

A recurring theme which comes through in the work of many writers is the ability of scenarios to change the worldview or mental models, mental maps, microcosm or thinking of individual managers participating in a scenario project (Wack 1985, Senge 1990 and 1994, van der Heijden and Nurmio 1992, van der Heijden 1996).

van der Heijden (1996) notes that the challenge is to help managers open their existing worldviews to link and understand disparate pieces of information, thoughts and insights that may occur during the scenario process.

Wack (1985) states “scenarios help managers structure uncertainty when (a) they are based on sound analysis of reality and (b) they change the decision makers assumptions about how the world works and compel them to recognise their mental model of reality. The second issue noted by Wack is incorporated into the research questions set out above.

The argument proposed is that scenario planning is based on a facilitative process enabling members of an organisation to consider those issues they believe are uncertain and ambiguous in the business environment. Management teams develop together plausible representations of the factors creating uncertainty, ambiguity and complexity. Scenarios thus represent the dynamic nature of the environment. Management teams interact with each other, building models or representations of the external environment. Whilst they are building such models, they are surfacing their tacit understanding of a situation, and exploring through cause and effect reasoning, how this may develop over time.

The challenge for any interventionist adopting a scenario process is to enable this new information that may initially appear to be irrelevant or unconnected to the existing (organisational) mental model to penetrate the “zone of proximal development” (Vygotsky 1986) of each individual. This “zone of proximal development” is the territory which links existing knowledge bases and

understanding with new data to form new wisdom or insights, through reasoning and logic to enable movement in the thinking of the individual. Once this has occurred individuals are able to discuss, negotiate and influence each other about the future direction of the organisation. Thus it is possible to move from scenarios to strategy or action. Decisions are strongly influenced by the shared visions of the managers involved (van der Heijden 1993).

### **2.6.6 Conclusion**

This literature is primarily practitioner based, with little empirical evidence to support claims of the impact scenarios can make on individuals in organisation. The argument put forward in the literature is to link scenario interventions to cognitive change in individual's and collective thinking to bring about (new) joint understanding. It is unclear if and how this occurs. This is part of the research objective and focus during research fieldwork within this project.

## **2.7 LEARNING AND COGNITIVE DEVELOPMENT**

### **2.7.1 Introduction**

The research questions identified earlier are:

What generates a desire in management to adapt to changing circumstances?

What provides the context within which adaptation is addressed?

What is the role of past experience in the adaptation process?

What creates the link between thinking and acting in strategic learning?

This section reviews the strategic management and cognition literature to identify issues involved in researching strategic change. The dominant approach developed over the last 10 to 15 years to support this research is cognitive mapping (Eden, 1988; Huff, 1990;).

A cognitive theory of organisations has emerged, which proposes, "an organisation is a deliberately created and maintained social institution within which consciously co-ordinated behaviours by members aim to produce a limited set of outcomes" (Jelinek and Litterer, 1994 p 12). Jelinek and Litterer (1994) further state that "a

cognitive theory of organisations assumes that within organisations, member behaviour can have two purposes: productive action aimed at outputs; and maintenance activity, intended to maintain, renew or adapt the organisation to insure its survival" (p 13). This later assumption is linked to both the research questions identified above and also the intent of scenario planning as discussed in section 6 above.

Jelinek and Litterer (1994) identify the importance of the cognitive theory, by arguing, "shared cognitions enable individuals to select actions that will fit with those of others to yield a joint outcome, to understand what others are doing, and to have their own acts understood as they, themselves, understand them" (p 14). It is possible for managers to jointly understand the basis of business success, and develop understanding of the external environment. This approach supports the purpose of this research project.

### **2.7.2 The purpose of this research project in the area of cognition**

The objective of this thesis is to explore and determine if and how a scenario intervention leads to change in the thinking and acting of the managers, individually and collectively. How managers behave in such circumstances, as there is little empirical research about the impact of scenarios and the relationship between scenarios and changes in an individual's mental model. The approach to achieving this is discussed in more detail in the following sections.

By conducting research on management teams over a period of time it is possible to participate in their ongoing conversation regarding their business. This allows the researcher to track the scenario intervention and look for evidence of cognitive change, as well as evidence of organisational change. Evidence is gathered during the intervention and from the ensuing discussions, assumption surfacing, and debate and challenge. The SME management team, individually and collectively, are the unit of analysis for this thesis.

### **2.7.3 Linking Cognition to the Strategic Management Literature**

There is a growing interest in the strategic management literature in the area of managerial cognition (Axelrod, 1976; Weick, 1979; Eden et al 1979; Sims and Gioia, 1986; Huff, 1990; Eden and Spender, 1998). Empirical studies focus on individual

cognition and belief systems (Axelrod, 1976) and groups and collective cognition (Bougon, Weick and Binkhorst, 1977).

Jenkins (1998) identifies that research on individual and collective learning has focused on a wide range of issues including selectivity and agenda setting (Kiesler and Sproull, 1982; Dutton et al, 1983), cognitive biases in strategy formulation (Schwenk, 1984; Duhaime and Schwenk, 1985; Fletcher and Huff, 1990), information processing (Walsh, 1988; Dutton et al 1989), strategic learning (Argyris and Schon, 1978; Fiol and Lyles, 1985), competitive structure and positioning (Reger, 1988; Porac and Thomas, 1990; Daniels et al, 1993), and managerial attribution of performance (Salancik and Meindl, 1984; Huff and Schwenk, 1990; Clapham and Schwenk, 1991).

The attention has focused on managerial approaches to strategic problems and problem solving - "how organisational members construe their world" (Porac, Meindl and Stubbart, 1996). Porac, Meindl and Stubbart (1996, p xii) argue that "the important theoretical substance of managerial cognition is not the downstream choice process but in the upstream sense-making process that extracts a pattern of meaning from inherently ambiguous environment.

#### **2.7.4 Gathering Evidence of Cognitive Impact of Intervention**

Can an intervention make an organisation more successful than may have otherwise been the case without this intervention? To answer this question it is necessary to pose another question - what is success, how is it measured and how would we know if scenario planning has been successful? After the intervention the organisation will take another destiny, shaped by the intervention process. The organisation, like a river, will continue with its journey, but will never be the same organisation. Working with the assumptions of the cognitive theory of organisations, management will reach understanding of their past and present, as they determine their future. Evidence will be gathered on how management come to conclusions about their future as a consequence of the intervention.

The traditional measure of success, based on accounting profit and financial results is inappropriate for this project for several reasons. Firstly, there are many different accounting bases upon which profit is determined and accordingly, it is possible for manipulation of the financial results. Secondly, there are a wide variety of accounting standards and generally accepted accounting principles that leave discretion with the

management team to adopt one of these policies. For example, the subjective nature of the decision to charge depreciation of capital assets, can have a significant impact upon financial performance. Thirdly, it may not be possible to attribute financial success to an event at a moment in time and thus it may be at a later date that the financial benefits may be recognised. Thus it is important for an intervention researcher to develop an approach to study the impact of the scenario intervention. The approach in this research project is based on conducting interviews with participants', pre and post intervention. Cause maps will be developed from these interviews. The pre and post intervention cause maps will be compared to search for change in cognition. This approach is discussed in more detail below.

### **2.7.5 Cognitive Development**

Johnson-Laird (1983) states "the psychological core of understanding consists in your having a "working model" of the phenomenon in your mind. If you understand inflation, a mathematical proof, the way a computer works, DNA or a divorce, then you have a mental representation that serves as a model of an entity in much the same way as, say, a clock functions as a model of the earth's rotation" (p 2).

Individuals, regardless of background, intelligence or culture store data as assumptions, images or theories internally (in the mind) which when activated assists them to understand and cope with everyday occurrences. These internal assumptions, images or theories may be personal (to ourselves) or they may be at the institutional level (based on shared previous organisational experience). Balle (1994) describes mental models as "deeply held, often subconscious sets of assumptions about how the world works". Our mental models can be either simple representations or complex theories. Senge (1990) describes mental models as "images of how the world works, images that limit us to familiar ways of thinking and acting".

Cognitive development is the study of cognition as it unfolds throughout the lifespan of a being (Solso, 1998). The study of managerial cognition is an attempt to "gain access to the personal model which a manager has created, and which, we assume, she/he uses when making decisions" (Spender and Eden, 1998, p 3), "managers make decisions, so we want to know about the cognitive frames in which these decision processes take place" (Spender, 1998, p 14). Spender and Eden (1998, p 3) further state "we are interested in the boundaries and structure of the model created, and in the process through which its creator navigates its terrain". It is this

managerial mindset that the scenario approach attempts to change. The intention in this thesis is to study the impact of scenario intervention upon managerial cognition and strategic change in the case study organisations.

Richardson (1998) discusses two models of cognitive development in people. These two models are associationist and constructionist. These two models differ in the theoretical explanation of development and learning.

A constructionist approach to development and learning is based on the notion that during perception we form and test hypotheses regarding precepts based on what we sense and what we know. Perception is the combined effect of what comes in through our sensory system and what we have learned about the world through experience (Solso, 1998). A constructionist approach argues that thinking processes are the means through which perception is triggered so as to form novel relationships between concepts already existing and new concepts (Richardson, 1998).

Bower (1970) suggests that structural organisation of knowledge exists and that individual's cognition is a network of associations of knowledge that interact with each other. Knowledge is formed by associating perceptions and representations of the real world within and between categories or associations. Bower (1970) argues for semantic organisation as grouping or clustering of elements, words, or images with like meaning.

The argument put forward here is that neither theory is exclusively appropriate. It is a combination of both theories that begin to explain managerial thinking. People construct meaning from events, conversation etc and associate this meaning with existing knowledge to either enhance their understanding or supersede redundant knowledge. From a managerial cognition perspective we need to understand the basis of associations and also how managers construct new knowledge during or as a consequence of (scenario) interventions. Piaget (1926) and Vygotsky (1986) develop theoretical explanations of this process.

Piaget (1926) and Vygotsky (1986) argue for an evolutionary adaptation of thinking and develop theories to support cognitive development as evolutionary adaptation. Piaget (1926) suggests a two-stage process of assimilation and accommodation. From his research, Piaget proposed that people possess mental structures that assimilate external events and convert them into mental thoughts. To enable this

conversion, Piaget suggests that existing mental structures accommodate new knowledge, thus facilitating cognitive development.

Vygotsky (1986) suggests a three-stage process of cognitive development. Firstly, formation of thematic concepts in which relationships between objects is important. Secondly, formation of chain concepts that identify commonality between objects. Thirdly, the formation of abstract concepts. Abstract concepts are the foundation of creativity and new knowledge (Soslo, 1998). For Vygotsky, the initial stage of development was social in nature, from society to the individual, as existing knowledge was internalised. For example, blue is a colour and relates to other colours. The second stage of development was based on similarities between objects, proximity and relationships. For example, dogs are dogs regardless of their breed, and dogs and cats are similar as they are household pets. The final stage of development is based on inner speech and concept formation. This final stage is important for this research project (and links to Piaget's theory discussed above).

Shared understanding is based on a social constructionist approach (Berger and Luckman, 1966) through the ongoing social practices of management (Middleton and Edwards, 1990). Weick and Roberts (1993; 1996) discuss shared understanding and argue that the ongoing communication process is key to "heedful interrelating". Weick and Roberts (1993; 1996) argue "actors in any system construct their actions (contributions), understanding that the system consists of connected actions by themselves and others in the system (representation), and interrelate their actions within the system (subordination)" (p 330). Following this argument, Rouse (1993) argues for the permeability of social knowledge and scientific codified knowledge, highlighting the on-going development of shared understanding.

A social constructionist approach argues that social practices are integral to remembering and forgetting, which manifests as organisational routines (Nelson & Winter, 1982) as and when required during social practice. Developing the social constructionist basis of shared understanding, Spender (1998) argues that learning occurs as part of an activity system (Asch, 1952). The activity system is based on systems, structures, culture, routines and recipes. This embraces individual and collective knowledge. The collective mind is conceptualised as a pattern of heedful interrelating of actions in a social system (Weick and Roberts, 1996, p 330).



Learning occurs through the dialectical interplay of interests and perceptions among a set of actors (Spender, 1998, p 28).

Spender (1998) states “learning is...the process of equilibrating the knowledge imbalance between the cognising system and the environment” (p 29). Spender (1998) develops this argument further by using rhetorical questions to raise issues for research into cognitive development and change. “The problem of organisational cognition is not, therefore, to explain the development of a set of organisational roles and rules”, but, “the puzzle is to explain the development of the higher-level collective consciousness which lies behind the organisation’s self-referencing and autonomous cognition and behaviour” (p 29).

### **2.7.6 Towards a working definition - Mental Models**

This section focuses on individual and collective cognition, the role of individual and collective cognition in organisations, working towards the development of a working definition appropriate for the research questions. This research focuses on mental models and schemas as the basis of managerial thinking and acting (Weick, 1979; Eden, Jones and Sims, 1979) and changes in thinking (Huff, 1990) that results in new action.

The term mental model means the conceptual model that each member of the management team carries in his or her head to explain the business or more generally, how the outside world operates (Morecroft, 1992). Morecroft (1992) states “mental models are networks of facts and concepts which mimic reality and from which executives derive their opinions of strategic issues, options, courses of action and likely outcomes”. Furthermore, Morecroft (1992) argues, “mental models shape executive debate and dialogue”. It is through scenario planning that we can begin to challenge the executive’s existing mental model, widen the scope of his thinking and open up debate about new opportunities. As the future has not been made, multiple futures are possible. Scenarios are designed to challenge the existing business as usual mode of thinking and facilitate the possibility of alternate futures. By understanding multiple futures management are able to understand the past and current business drivers. From this understanding, management take control of developing a response that determines their future action.

From the above discussion, mental models or schemata (Neisser, 1976) may be thought of as structurally adaptive perception processing routines which link generic

and specific representations of reality into organised cognitive structures (Richardson, 1998). Glaser (1984) states schema are modifiable information structures that represents generic concepts stored in memory. Weick (1979) on the other hand describes schema as an abridged, generalised, corrigible organisation of experience that serves as an initial frame of reference for perception and action. A schema is not an image, but a model that underlies the ability to form an image (Johnson-Laird, 1983). From this it is argued that schema derives new associations based on, for example, contiguous or temporal dimensions (Mandler, 1985). Mead (1951) defines culture as a body of learned behaviour, a collection of beliefs, habits and traditions, shared by a group of people and successively learned by new members who enter that society.

Grinyer and Spender (1979) suggest the term 'recipe' that bridges the multiple scientific descriptions, with the experience of management. The recipe "refers loosely to those rules of thumb which are generally accepted by competent managers as the common sense way of doing business. Such rules cover marketing, pricing, customer relations, product support, product quality, production methods, industrial relations, training, financial controls and so forth" (p 196). Normann (1976) and van der Heijden (1996) describe this as the 'business idea', which is a constellation of shared beliefs and assumptions about the nature of the organisation and its environment.

### **2.7.7 Cognitive Maps and Causal Mapping**

Tolman (1948) observed that rats learned to move about in a maze based on repeated running about in the maze. Tolman interpreted the behaviour in the rats as working with a mental picture or 'cognitive map' of their environment. Previously learning and human behaviour theory had been based on the traditional stimulus-response model (Pavlov, 1927; Watson, 1916).

"A cognitive map or cause map is a representation of a person's cognition; that is, what he or she thinks about a particular issue or situation. It takes the form of a diagram because it represents those thoughts by an assembly of lines, words and spaces on paper" (Open University). Eden (1989) states "cognitive mapping is the label for the general task of mapping a person's cognition within the field of psychological research on perception...it is a modelling approach which directly derived from Kelly's (1955) substantive theory within cognitive psychology". Eden

continues “cognitive mapping as a modelling system is founded on the belief that language is the basic currency of organisational problem solving”.

It is important to develop a working definition of ‘cognitive maps’ for this research project. This eliminates confusion in terminology and also helps to clarify the purpose of the approach adopted here. For the purpose of this research project the approach adopted is “causal mapping is a subset of cognitive mapping and is concerned with representing cognition as a set of causal interactions (Jenkins, 1998, p 232).

This map is based on individual thoughts and expressed through conversation. This conversation is then interpreted and converted into a diagram (the cause map). These cause maps should help reveal the manager's assumptions that have been made about the business. Cause maps can be seen as a picture or visual aid in comprehending the managers' understanding of a particular, and selective, element of the thoughts (rather than the thinking) of an individual (Eden 1992). In this research project, the researcher will conduct interviews with individual managers and develop the map of their thoughts.

In this instance the cause map becomes a model that is susceptible to analysis in the context of the research project. Cause mapping if used as such represents the way in which a person defines an issue. It is not a general model of someone's thinking, neither is it intended to be a simulation model of decision-making (Eden 1989).

There are three reasons for undertaking this process of cause mapping. Firstly, due to the diagrammatic form of the cause maps it is easier to gain an understanding and insight to the manager's thoughts from the picture. Secondly, transcribed interviews fail to provide easy access to an individual's assumptions and thinking. Cause maps will be developed in the field with the intervention participants to aid development and structuring. Thirdly, by asking the same trigger questions (Amara & Lipinsky 1983) to all managers, it is possible to cross compare any alternative views that may arise, and track if and how these cross views change as a result of the intervention.

Polyani (1967) suggests that there are two types of knowledge, explicit (or conscious) and implicit (tacit or automatic). Conscious cognition is informed by implicit cognition (Reber 1993). The intention with cause mapping is to make thinking explicit and to uncover individual assumptions. Eden and Ackermann (1998) suggest that in uncovering thinking, cause maps come in three types (Norris 1970). These

three types are monolithic, segmented and articulated structures. These three types highlight the importance of the structural features of the cause map rather than the semantic aspects of the cause map.

Monolithic structures are described as rigid and integrated, suggesting that they have been established over time and are unlikely to change easily. The implications being that the associative links between the concepts have been well worn as a consequence of long and repeated use, so that individuals who demonstrate these sorts of deep associations will be reluctant to change. Segmented structures are unique chunks of thinking that appear to be unrelated or not linked to other clusters, but allow an individual to make links across these seemingly disparate clusters. A wide perspective of ideas or thinking is present in the cause map, but the associative links between clusters of constructs are less well developed than in the monolithic structures. This would suggest that an individual is able to handle a wide range of cognitive complexity. Articulated structures are more pliable and are more likely to change to environmental signals. The articulated structure is amenable to change with new associations are likely to occur. This is key to the success of any intervention. The new associations are evidence of learning or reframing.

Eden and Ackermann (1998) suggest that the value system “embedded within it” is the fundamental characteristic of a cause map (p 200). Eden and Ackermann (1998) argue that meaning is dependent not just on the construct or constructs themselves, but also upon the consequences attributed to it and upon the other constructs that support or develop a line of argument. In this context the cause map highlights the relatedness of constructs (arising from the interview process), which form the basis of an individual's aspirational goal system, explaining an individual's thinking and the basis of such thinking.

The argument proposed in this thesis is that stable structures will remain, but will be adapted when challenged by large-scale dis-confirmation of the basis of their underlying structure. The process of developing cause maps pre and post intervention enables analysis to be undertaken which can (a) reveal depth of elaboration of issues, or (b) highlight an increase in cognitive complexity, or (c) suggest centrality of concepts or (d) identify increased use of scenario language egg new concepts or explanations in the cause map. This is discussed further in chapter 5, section 1.\*.

### **2.7.8 Individual Cognition and Collective or Organisational Cognition**

It seems reasonable to assume that cognition exists at the individual level (Spender, 1998), but is there cognition at the collective or organisational level? The development of shared meaning or collective cognition has been subject to significant debate (Spender, 1998). A theory of collective or shared understanding was developed using the notion of cryptic constructs that link individual cognitive or cause maps (Bougon and Komocar 1990). Shared understanding is established through coherent and purposive set of rules (Spender, 1998). The overlap occurs in the 'zone of acceptance' (Simon, 1958, p 12). Spender (1998, p 17) further argues "the collective or group mind is possible inasmuch as the members of the group share objectives and values". The degree of sharing can range from complete coherence in sharing to some overlap in sharing, and no sharing or dysfunctionality of the group. The degree of sharing is described as tightly coupled or loosely coupled systems (Spender and Grinyer 1995).

Scenario thinking is a social activity. Management participate to try to develop a joint understanding of the past and articulate drivers in the external environment impacting on the present. This is an attempt to develop an appropriate basis of moving forward successfully in the future. Eden and van der Heijden (1993) support this view as they argue that strategy results from a bargaining process within an organisation, highlighting the need to ensure the effectiveness and quality of the underlying communication process.

This suggests that not only is there a concern for change in thinking at the individual level, but also at the collective level.

### **2.7.9 Mapping Taxonomy**

Cause mapping can be used to map strategic thought (Huff 1990). Cause mapping is a modelling technique which intends to portray ideas, beliefs, values and attitudes and their relationship one to another in a form which is amenable to study and analysis (Eden et al, 1983). Huff (1990) states that cause maps can be placed on a continuum. From the continuum it is possible to identify five categories of maps that depend on the interpretative input from the researcher. These five categories are as follows:

- I. maps that access attention, association and importance of concepts
- II. maps that show dimensions of categories and cognitive taxonomies

- III. maps that show influence, causality and system dynamics
- IV. maps that show the structure of argument and conclusion
- V. maps that specify schemas, frames and perceptual codes.

As the maps move from (i) to (v) the researcher has greater interpretative input. In this research project cause maps are used as a visual aid or picture in comprehending the researcher's (my) understanding of particular elements of the thoughts of the individual (Eden 1992). The cause map represents the responses to trigger questions arising during interviews. By using this taxonomy it is possible to develop a link to the research questions and changes in the cause maps. The cause map developed during the interview, is the researcher's map or representation of the interviewees words, arguments and propositions that are linked through causality. In searching for cognitive (and strategic) change from the intervention, the researcher is arguing that participants will represent their thinking in terms of monolithic, segmented and articulated structures. Change should be evident from lines of argument, causality and reasoning.

#### *2.7.9.1 Mapping in the Field – Linking discussion and practice*

Whilst recognising that this subject is discussed more fully in the methodology chapter, it is included here briefly to integrate theory and practice. At the outset of each SME scenario project, I conducted individual interviews with members of the SME management team who participate in the scenario project. The purpose of these interviews was to have a free flowing conversation to surface a broad range of issues which are of concern or are important to the individual participating in the process. Each of these interviews was recorded as a cause map during the interview.

At the conclusion of the scenario intervention, all of the participating manager's were interviewed again. These interviews have also been mapped. The pre scenario intervention and post scenario intervention maps have been analysed to determine if there has been a change in the manager's thinking which can be related to the scenario methodology. By analysing these interviews it was possible to draw conclusions about scenario planning interventions.

The intention was to map the way the management team as individuals think about the outside world. The intervention provided an opportunity to develop shared understanding of the outside world. The intervention provided the opportunity to find

out if this leads to overlap in understanding. This will provide evidence of firstly, greater joint understanding, and secondly, “scaffolding” in thinking (Vygotsky 1986). Scaffolding occurs when existing understanding is linked with intervention insights that lead to new organisational action.

#### *2.7.9.2 Espoused Theories v. Theories in Use*

The issue for the researcher is ‘how to surface and understand individual’s worldview’s?’ and how to ensure identification of the key issues for the management team. That is, the manager’s theories in use rather than their espoused theories (Argyris 1982). This is accomplished by combining several field approaches, as discussed more fully in the methodology chapter.

The first approach occurs when the individual interviews are conducted. Trigger questions are designed to initiate and continue a free-flowing conversation with the individual manager. These trigger questions come in ‘sets’ that assist the interviewee in developing his/her understanding of a situation. The set also helps the researcher to cover issues from several angles.

If it was the espoused theory that the manager was discussing, the interviewer would be presented with a nice, straightforward, neat and logical flow of words. However, what happens in the interview is a “jumping about” by the manager as he/she talks at random about the issue(s) as they occur to them. The aim of the interview is to discover the emergent system of aspirations, and identify the underlying belief systems that underpin these aspirations (and which can therefore be changed). To do so, it is necessary to let the manager talk as freely and as uninterrupted as possible. It is then possible for the interviewer to build up a map with the various linkages and seek confirmation of the map with the interviewee as the interview unfolds. By doing so the interviewer begins to get closer to the manager’s theories in use.

The typical interview in the scenario approach lasts between one and a half and two hours in duration. In this time the researcher may have established between 150 and 250 “nodes” in the cause map. Throughout the interview, the researcher makes links between the words or statements to build a coherent representation of the manager’s thinking. In doing so the researcher establishes meaning. The process is about establishing deep knowledge (rather than shallowness) as we are dealing with high levels of complexity.

By following this approach it is possible to begin to surface the embedded beliefs of the individual. These interviews are synthesised and structured by theme. The interviews are presented to participants anonymously. This identifies the areas of commonality in the team and is also the basis of establishing the domain for further study. By expressing a belief about key concerns, it presents the interventionist with an opportunity to help develop understanding of this issue. Once this has occurred, it is possible for the intervention to begin to stretch the thinking of the individual managers and thus seek to introduce the first seeds of strategic change.

### *2.7.9.3 Mapping, Scenarios and Cognitive Change*

By developing cause maps during the interview the researcher is continually analysing the data. The process forces people to articulate their thoughts and therefore as they go through this process they are continually clarifying their thoughts. Weick (1979) asks 'how do I know what I think until I hear myself talk'?

Cause maps are used to help identify and establish areas of commonality between the management team as they work through the intervention process. The pre and post intervention maps were compared for similarity and dis-similarity, and increase in commonality and overlap.

The signs of commonality and overlap may occur at different levels (Brown, 1992), such as:

- look for changes in the language of the management team as the process unravels, as both a use of new language to help them understand the issues and also as expanding the range of their ability to conceptualise an issue and mutually understand the impact of the issue on their organisation
- look for debate among the management team and alignment of their thinking
- look for greater alignment of thinking towards organisational action
- look for evidence of strategic change in action .

## **2.8 CONCLUSION AND IMPLICATIONS FOR RESEARCH**

The strategic management literature review highlighted a lack of clarity about strategy, the role of management in strategy making, and the relationship between the firm and the environment. The literature review identified ten tensions in this



area. To reconcile these tensions the researcher has adopted a 'strategy as learning' principle in support of purposeful managerial activity. Learning in this context is to help management adapt the organisation to ensure future success and survival. To ensure success and survival there is a need for explorations into the business environment in search of a better future. Scenario planning provides one approach for such exploration.

Scenario planning is supported primarily by practitioner literature. The literature suggests that change occurs from the application of such an approach. The literature makes (but lacks empirical evidence to support) claims that scenario planning brings about change in individuals. The literature also claims that this change in individuals results in new organisational action.

This research project studies interventions applying scenario planning with three case organisations. The intent of the intervention is to bring about strategic change. From this intervention it is possible to conduct an exploratory study into the impact of such an intervention.

This review established the following research questions:

What generates a desire in management to adapt to changing circumstances?

What provides the context within which adaptation is addressed?

What is the role of past experience in the adaptation process?

What creates the link between thinking and acting in strategic learning?

These four questions can be summarised as one overarching question:

**How can we understand how interventions result in learning (cognitive change) and how does this result in new organisational action?**

The next step in this chapter was the planning of a change in action intervention. The intervention is based on an action learning approach. The research framework is guided by action research as an approach to study real world phenomena.

The literature highlighted the necessity for cognitive and behavioural change to support learning. Behavioural change was studied by observations over time with the case study organisations. Longitudinal evidence was gathered to study managerial action subsequent to the intervention. The approach adopted to gather evidence of cognitive change was cause mapping. Cause mapping of participants thinking was carried out, pre and post the intervention to gather evidence of the impact of the intervention.

Having conceptually defined the project in broad terms the next stage of the thesis is to set out the ontological and epistemological assumptions underpinning the research project.

## **Chapter 3**

### **Ontology, Epistemology, Methodology and Research Design**

#### **3.1 INTRODUCTION**

##### **3.1.1 Link to the Literature**

The research issue or questions identified in the literature review of this thesis is to understand how 'interventions result in learning (cognitive change) and how this results in new organisational action'.

To explore the research aims, the researcher needs to find ways of capturing and representing individual managerial thinking at various times; searching for movement or re-framing in thinking; understanding the basis of such change; understanding the process leading to joint understanding (Eden and Ackermann, 1998) and understanding consensus (Fiol, 1996) resulting in action.

##### **3.1.2 Aims**

The aim of this chapter is to discuss the ontological and epistemological assumptions underpinning this thesis. From this rationale, the next step is to develop and support the choice and development of research methodology to gather and analyse field data, and theorise from the grounded findings.

Research is an orderly and disciplined manner of seeking, gaining and conveying insight about the fundamental nature of empirical results and their relations with one another. The researcher's interest in a particular

occurrence and desire to understand its deeper meaning and structures is at the centre of the research activity (Easterby-Smith et al, 1991; Mason, 1996).

By using scenario planning as an intervention tool it is possible to adopt an investigative approach to better understand what changes cognition sufficiently to lead to a change in organisational behaviour and action.

### **3.1.3 Learning about Action Research**

This thesis is embedded in the world of practice, where social actors work with problems in their social context. This approach embraces real world complexity to engage with and theorise about interaction, patterns of activity and causal relationships between phenomena.

A key objective for the researcher undertaking this thesis is to continue on a personal process of learning. Research in its broadest sense is not identified with any particular methodology of discovery, but with knowing. In this thesis, knowing is the process of reflective discovery for the researcher about the impact of the interventions. This is achieved by collaborating with the social actors in a process of joint reflection about the intervention. Learning about conducting action research. Integral to this objective is learning about conducting field research including interviewing and observing in the field, analysing data and theorising from the research findings. In this thesis there is a reciprocal loop between data, literature and theory building.

In addition to the research apprenticeship is learning about strategy in practice. Some aspects that are key to this objective include learning about detecting emergent strategising, learning about interventions, learning about conducting scenario workshops. Helping the clients is important, but starting the research journey is also important.

Therefore the methodology has been developed which fits with the nature of the fieldwork, the personality of the researcher, and his longer-term academic goals.

This chapter is split into three sections. The first section deals with the ontological and epistemological debate surrounding management and organisational research. The second section is a synthesis of existing approaches to building grounded theory from case study research. The third section develops the methodology or research design, and the steps undertaken to gather and analyse data, search for understanding, and theoretical development of the (intervention) research findings.

## **3.2 ONTOLOGY AND EPISTEMOLOGY**

### **3.2.1 Introduction**

This section considers the fundamental assumptions about how individuals interpret and manage their world. From this the researcher develops a definition of the epistemology of knowledge, including knowledge about phenomena. Once this underlying justification for this thesis is articulated, it is then possible to develop a suitable method to allow the research to be conducted.

“Researchers should be clear about the essence of their enquiry” (Mason, 1996, p10). To do so requires consideration of reality - does the world exist independently of actors and observers, in which social facts can be observed independently as patterns, regularities or irregularities? Or, alternatively, does the world exist only to the ‘knower’ (Mason, 1996, p 140) acting and constructing understanding of a phenomenon as it occurs? In the second case social reality is subjective to the knower, and knowers are centrally implicated in the production of knowledge, rather than knowledge being independent and external to the knower.

This thesis assumes that reality is “located in individual’s heads” (Mason, 1996, p 12), but based on phenomena external to social actors affecting internal reality. Furthermore, this thesis adopts a constructionist ontological position, whereby “meaning is subjective but is also constrained by the context of the goals that the individuals seek to achieve. Understanding and action, including strategic action, thus derive from the framework of meaning ascribed by the organisation’s members (Gioia and Chittipeddi, 1991, p 435). The social gathering of management teams discussing the internal realities leads to shared sensemaking and sense giving in top team strategic change (Gioia and Chittipendi, 1991). Mir and Watson (2000) argue for context driven strategic management research as knowledge is based on social practice, subjective to the individual, inter-subjective between individuals rather than isolated in an individual. This requires the researcher to be situated in the world of practice studying the social interaction as it occurs.

This thesis asserts that individuals are social sensemakers, acting and interacting (consciously and sub-consciously) on an ongoing basis for sensemaking (Weick, 1990). It is only humans, individually and collectively, not institutions or structures, that construct or make sense of the world. Sensemaking is the process that integrates proposed strategic change with existing interpretive schemes, after considering the appropriateness fit between the organisation and the environment (Gioia and Chittipendi, 1991). In this context “the role of the researcher is to understand everyday or lay interpretations, as well as to supply social science interpretations, and to move from these towards an explanation (Mason, 1996, p 140).

Mintzberg and Waters (1985) identify a number of tensions in thinking about the nature of strategy in organisations - deliberate and realised, deliberate and unrealised, and emergent. This suggests that social actors are fundamentally involved in developing an understanding by sharing of their organisational experience - coming to understand reality. That is the emergent understanding of a stream of actions that are not random but form a pattern (Mintzberg and Waters, 1985). The nature of this process is both

historical and future oriented, and involves reflection by the management team (Schon, 1983; Eden and van der Heijden, 1998), based on the interplay between tacit and explicit knowledge (Polyani, 1962; Nelson and Winter, 1982; Spender, 1998), processes to help social actors make sense (Weick, 1979).

These points will now be developed in some detail.

### **3.2.2 Subjectivity and Objectivity in Social Science**

Key to organisational analysis and inquiry is the generation of “knowledge” about the social world. What do we understand by knowledge? Burrell and Morgan (1979) discuss two extremes - one view of the world as hard, real and external to the individual, and the other as softer, personal and more subjective. Can “knowledge” be communicated in a tangible form or is it much more subjective, gained from experience or insights. This discussion extends to how “reality” is constructed. Is “reality” imposed on individuals or is “reality” unique to individuals and a product of an individual’s subjective experience?

In this thesis it is assumed that it is the latter description or belief about “reality” that prevails. The starting point is a phenomenological, “social constructionist” perspective, which sees human action not as a given response to some external stimuli, but arising out of meaning and significance people construct in events” (Jones 1985; 1987).

It is argued that central to this research project is “the microcosm of the decision maker: his inner model of reality, his organised set of assumptions which structure his understanding of how and why his business environment is going to unfold, and what are the critical factors which make for success. This inner model never mirrors reality: it is always a construct: microcosms are basically superior “simplifications”: they deal with complexity by focusing on what really matters” (Wack 1985, p 150).

The assumptions implicit in this statement are fundamental to this thesis. How do people determine their reality? Are they part of the world and able to take action that will determine their future, or do they respond in a deterministic fashion to their external environment (Burrell and Morgan, 1979)? Can an intervention change the way an individual makes sense of his/her environment? The “model” of man which is adopted here, sees him not as an organism responding to some “stimulus”, nor “driven” by internal needs or instincts, nor as a person whose thinking and actions are socially “given”. Rather it is of a human being who acts in the light of personal interpretations or constructions he places upon events, in a process of inquiry about his reality so that it becomes, not a random unpredictable place, but one of order and meaning over which he may have some control (Eden, Jones and Sims 1983).

By anchoring this thesis in the social constructionist paradigm, the researcher acknowledges the assumption that it is possible for individuals to manage their future proactively (a more detailed discussion on social construction follows below).

In order to develop a theoretical base, it is argued that a qualitative research rather than a quantitative research approach should be adopted (Parkhe, 1993). In developing such an approach it is necessary to consider many of the key issues discussed in the literature such as mental models (Senge 1990; Wack 1984), managerial cognition (Wack 1984; Eden 1991) and the need to change this, shared vision (van der Heijden 1996), and consensus for action (van der Heijden (1996).

This requires research designed to deal with “messy” concepts and soft issues that are designed to deal with the complexity of organisations (Boulding, 1956). By doing so, the objective of the research is to study processes, not outcomes. This requires the researcher to become part of the research process.



“Meanings are created, communicated, sustained and modified through the processes of social interaction” (Jones 1989). In the research design the social interaction arises from workshops, interviews and sharing reflecting.

In undertaking research into the basis of managerial cognition and action, it is important to understand each manager’s “reality” before and after the intervention. In this project the researcher has attempted to do this by conducting and mapping interviews with the participants before and after the scenario intervention. In doing so the intention is to identify the manager’s understanding of the organisation and its contextual environment by searching for the key or important issue or themes.

To do so the researcher has to have a clear understanding of how the participant constructs his/her world. The principal concern is with an understanding of the way in which the individual creates, modifies and interprets the world in which he/she finds himself/herself. The emphasis in extreme cases tends to be placed upon the explanation and understanding of what is unique and particular to the individual rather than what is general and universal.

Schwartz (1992) states that a precondition for this is to “challenge the *individual* maps and force people to ask themselves difficult and often painful questions about how the future might be different from the recent past”.

### **3.2.2.1 Spectrum of Assumptions**

Morgan and Smircich (1980) propose a spectrum of “basic assumptions characterising the Subjective - Objective (Phenomenological - Positivist) debate within Social Science” to think about the various approaches. The spectrum is highlighted below and will be used to continue to develop the rationale for the research methodology.

	<b>subjective approach to social science</b>					<b>objective approach to social science</b>
<b>core ontological assumptions</b>	reality as a projection of human imagination	reality as a social construction	reality as a symbolic discourse	reality as a contextual field of information	reality as a concrete process	reality as a concrete structure
<b>Assumptions about human nature</b>	man as a pure spirit, consciousness, being	man as a social constructor, the symbol creator	man as an actor, the symbol user	man as an information processor	man as an adapter	man as a responder
<b>basic epistemological stance</b>	to obtain phenomenological insight, revelation	to understand how social reality is created	to understand patterns of symbolic discourse	to map contexts	to study systems, process, change	to construct a positivist science
<b>some favoured metaphors</b>	Transcendental	language game, accomplishment, text	theatre, culture	Cybernetic	Organism	machine
<b>research methods</b>	exploration of pure subjectivity	Hermeneutics	symbolic analysis	Contextual analysis of Gestalten	Historical analysis	lab experiments surveys

## Table 1 Spectrum of Assumptions - Morgan and Smircich (1980)

At one extreme of this spectrum is the assumption that individuals are disconnected from each other, that reality is unique and subjective to the individual. At the other extreme is that reality already exists, is given, and that humans are independent of this reality. These two extremes both preclude any useful or purposeful human activity (Checkland, 1981; Checkland and Scholes, 1990). This thesis is concerned with individual reality and social interaction as top teams interact towards purposeful activity. That means we have to position the research somewhere in the 'reality as social construction' in the spectrum.

By accepting an ontological position based on a social constructionist perspective, it is acknowledged that ambiguity, complexity and uncertainty exist in the world, as well as giving a role to social actors in interacting with and creating the world. By acknowledging ambiguity, complexity and uncertainty, the challenge for researchers is "not to gather facts and measure how often certain patterns occur, but to appreciate the different constructions and meanings that people place upon their experience " (Easterby-Smith et al, 1991, p 24). The process of developing understanding between social actor and social scientist is fundamental to this thesis. Both are viewed as co-researchers (Heron, 1981) in the process of confirming construal and understanding of observations, findings, and emergent theory.

By considering the Morgan and Smircich (1980) spectrum as a continuum, rather than a 'take it or leave menu', in which researchers fit or sit comfortably in one dimension of the spectrum, the researcher interested in social processes, interpretations, social practices, experiences and understanding's in a managerial context, can explore in an unencumbered way.

By taking a social constructionist perspective or approach to research, this thesis is grounded in a process of collaborative inquiry (Reason and Rowan,

1981), as the researcher is concerned with how the social world is interpreted, experienced or produced, by social actors (i.e. managers in the case study organisations).

Research based on a constructionist methodology is not about testing hypotheses, or developing operational instruments for measurement purposes, but is concerned with “social phenomena” existing not only in the mind but also in the objective world – assuming that some lawful and reasonably stable relationships are to be found among them. The lawfulness comes from the regularities and sequences that link together phenomena. From these patterns we can derive constructs that underlie individual and social life. The fact that most of those constructs are invisible to the human eye does not make them invalid” (Miles & Huberman, 1994, p4).

In recognising the above issues, the researcher follows a process broadly in which:

- qualitative research is conducted through an intense and/or prolonged contact with a ‘field’ or life situation.
- the researcher’s role is to gain a “holistic” (systemic, encompassing, integrated) overview of the context under study: its logic, its arrangements, its explicit and implicit rules
- the researcher attempts to capture data on the perceptions of local actors “from the inside”, through a process of deep attentiveness, of empathetic understanding (*Verstehen*), and of suspending or ‘bracketing’ preconceptions about the topics under discussion
- the researcher may isolate certain themes and expressions that can be reviewed with informants, but that should be maintained in their original forms throughout the study
- a main task is to explicate the ways people in particular settings come to understand, account for, take action, and otherwise manage their day to day situations

- many interpretations of this material are possible, but some are more compelling for theoretical reasons or on grounds of internal consistency
- relatively little standardised instrumentation is used at the outset. The researcher is essentially the main “measurement device” in the study
- most analysis is done with words. The words can be assembled, sub-clustered, broken into semiotic segments. They can be organised to permit the researcher to contrast, compare, analyse, and bestow patterns upon them” (Miles and Huberman, 1994, p7).

The approach advocated here straddles pure phenomenology, where the researcher is part of the ‘clan’, and social interactionism, studying group action and interaction, by accessing key strategic conversations. The commonality is interpretation of understanding by the social actors (with and by the researcher) as they make sense of the impact of the scenario intervention. This latter emphasis typically takes two forms: “reflexivity, where the researcher remains in an asking or questioning stance; or dialectics, where the researcher and local actors may have opposing interpretations of the data” (Miles and Huberman, 1994, p 8).

### **3.2.2.2 Purposeful Human Activity**

The constructionist approach argues that purposeful human activity is concerned with developing an understanding of the issues impacting on the individual and groups, in the organisation, how these are resolved, which in turn leads to (human) action. Here, the researcher is interested in how individuals construct and share their reality, reality that allows them to take joint action. Mir and Watson (2000) argue “constructionists challenge the notion that research is conducted by impartial, detached, value-neutral subjects, who seek to uncover clearly discernable objects or phenomena. Rather, they view researchers as craftsmen, as toolmakers (Spivey, 1995)

who are part of a network that creates knowledge (Law, 1992) and ultimately guides practice” (p 941). This can be explained as an on-going cycle:

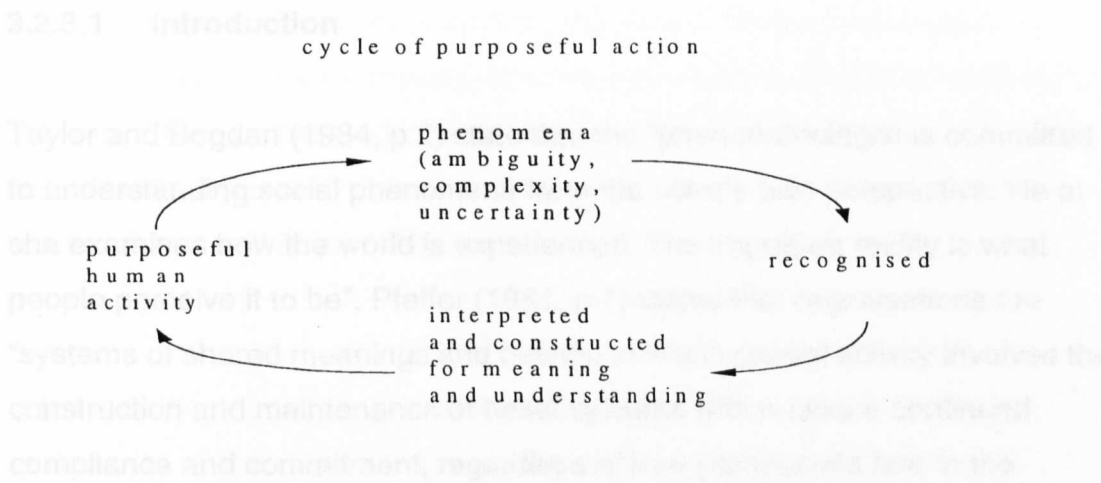


figure 1 - cycle of purposeful human activity (Burt, 2001)

### 3.2.2.3 Social Construction and Scenario Planning

Smircich and Stubbart (1985) identified three models of environments available to strategic management scholars and practitioners: an *objective* environment which is sustained on the premise of a sharp organisation-environment dichotomy, a *perceived* environment which is based on a notion that research needs to identify the environment from a variety of fuzzy perceptions, and an *enacted* environment which suggests that organisational-environmental dichotomies are experienced in organisational settings, not through an act of *perception*, but through an act of *construction*.

Constructionist theories of strategy research focus on this third type of environment. It allows linkages between organisational realities and larger social systems and the contingent conditions under which strategy research may be transferred across time and space (Mir and Watson, 2000, p 950).

This is the context within which this study is set, and links to the cycle of purposeful human activity. What processes of thinking, relating, interpreting and sensegiving occur during enactment? Based on understanding the environment not as a concrete given, but a subjective process of coming to knowing during enactment, what insights, reactions occur as a consequence?

### **3.2.3 Phenomenology and Phenomenological Sociology**

#### **3.2.3.1 Introduction**

Taylor and Bogdan (1984, p 2) state that the “phenomenologist is committed to understanding social phenomena from the actor’s own perspective. He or she examines how the world is experienced. The important reality is what people perceive it to be”. Pfeffer (1981, p 1) states that organisations are “systems of shared meanings and beliefs, in which crucial activity involves the construction and maintenance of belief systems which assure continued compliance and commitment, regardless of how participants fare in the contest for resources”. Management is about symbolic content or substance of talk (Pye, 1995). Pfeffer (1981, p 46) further states “language, symbols, settings, stories, ceremonies and informational social influence to produce socially constructed realities are as much the tools of managers as are economic analysis, finite mathematics and theories of leadership and organisational design that stress the rational, objective results of managerial action”. Pye (1995) suggests that all behaviour is symbolic and that symbolic interactionism is the basis of management action, as management act towards things in terms of their meaning for them (McCall and Simmons, 1996; Mangham, 1978; Meltzer et al, 1975).

Social reality can be made up of a wide range of components, including, “people, social actors, bodies, subjects, objects, minds, psyches, rationality, emotion, thought, feeling, memory, senses, consciousness, sub-consciousness, instincts, understandings, interpretations, motivations, ideas, attitudes, beliefs, views, identity, essence, being, self, individuals, others, collectivities, representations, cultural or social constructions, experiences, accounts, stories, narratives, biographies, evolution, development, progress, texts, discourses, words, codes, communications, languages, actions, reactions, behaviours, events, interactions, situations, social relations, social or cultural practices, social processes, rules, morality, belief systems,

institutions, structures, the material markets, cultures, societies, groups, producers, consumers, nature, genes, humans, animals, empirical patterns, regularities, order, organisation, connectedness, empirical haphazardness, spontaneity, disorder, disorganisation, chaos, and disconnectedness, underlying mechanisms, one objective reality, multiple realities or versions” (Mason, 1996, p 11 and 12). The researcher is concerned with studying how individuals interact with these phenomena, amongst themselves, and construct and understand the world.

### **3.2.3.2 Working with Language**

Schwandt (2000, p 191) argues that there are four ways of defining the notion of interpretive understanding – empathetic identification, phenomenological sociology, language games, and philosophical hermeneutics. Each of these approaches has different implications for interpretive inquiry generally, and the inquiry during this research project specifically. The implications of these four interpretative approaches are discussed below.

Empathetic identification or “a process of grasping an actors intent” which requires understanding of beliefs, desires, thoughts etc. Phenomenological sociology is “principally concerned with understanding how the everyday, inter-subjective world is constituted”. “Two tools often used in that reconstruction are indexicality and reflexivity (Potter, 1996). The former is based on the assumption that the meaning of a word or utterance is dependent on its context of use. The latter directs our attention to the fact that utterances are not just about something but are also doing something; an utterance is in part constitutive of a speech act”. Language games are the process in which human speech is governed by rules and where “human activity is meaningful by virtue of the system of meanings to which it belongs”. Understanding the system of meanings is the challenge for the researcher on entering a cultural setting to conduct research. “A fourth and radically different, way of representing the notion of interpretive understanding is found



in the philosophical hermeneutics of Gadamer” (1975, 1977, 1981, 1996).

The researcher “is not to develop a procedure of understanding but to clarify the conditions in which understanding takes place”.

In this research project the researcher is concerned with how the social actors come to a state of knowing during enactment, what insights, reactions occur as a consequence?

Assuming that each of these issues - empathetic identification, phenomenological sociology, language games, and philosophical hermeneutics – are part of a continuum and not choices to be made by the researcher, the researcher can work with the research subjects using any of these approaches to explore and understand the construction of an interaction with the social world. The researcher acknowledges that the field research is set in different cultural and linguistic settings (each case organisation has its own past and language) and will be sensitive to these differences. Equally the researcher is interested in understanding how understanding occurs.

Interviews provide opportunities to explore the aspirations and belief systems of research subjects (Eden, 1992) and identify structure of thinking in terms of monolithic, articulated or segmented structures (Norris et al, 1970).

Identification and understanding of these aspirations provides insights into the actors’ intent. The challenge for the researcher is to understand how intent changes as a consequence of the intervention. Observation during workshops allows the researcher the opportunity to capture the utterances and discussions of the participants. These utterances and discussions will be shaped by the dominant system of meaning established in the organisation. By initially concentrating on critical incidents (Flanaghan, 1954; Bryson et al, 1994) the researcher can work with the participants to develop understanding and significance of his/her understanding within this meaning context. This process allows for development of context specific meaning and interpretation as used by the participants.

The intervention design enables the researcher to enter the system to be studied and gain familiarisation with the language and system of meaning, and work with the social actors empathising within their social setting. The researcher is both detached and involved in the research setting. Detached during strategising and interaction between members of the case study organisations, observing, recording and interpreting this interaction. Involved as the research explores this interaction with the social actors. To do so required the researcher to recognise his interpretive biases, which are recorded in the research field books as the first stage of interpretation of interaction. The challenge was to develop understanding of interaction from the participants' perspective.

### **3.2.3.3 Towards Collaborative Inquiry**

The phenomenological sociology process allows the researcher to interact with the subjects or participants, to allow them to explore their process of understanding, through reflexivity, to jointly develop understanding.

The researcher is concerned with constructing social explanations about phenomena as observed. My ontological position suggests that truth is 'in the eye of the beholder' and the researcher is interested in the processes the research subject(s) use to construct their reality as a precursor to taking action that is meaningful for them as social actors.

To research this world, the researcher needs to experience it to begin a process of inquiry and to allow the development of theoretical explanations. Not only will the research data be observed and gathered in its social context, the researcher will also interact and collaborate with the observed, with the intention of developing shared understanding (Reason and Rowan, 1991).

### **3.2.4 Collaborative Approach to Inquiry**

This thesis is about studying interventions, using scenario planning, to understand if and how it can create or lead to change in individual managerial cognition and organisation behaviour. Managerial cognition is full of tensions and differences, which are reconciled through individual and collective learning. Learning is both change in cognition and change in behaviour. Both changes are studied in this thesis. The primary concern is change in cognition arising from the process and activities of the intervention, as drivers of change.

The approach put forward in this thesis is that of gathering data, which occurs in a natural setting, primarily observations of participants in workshops and structuring these observations for theorising. These observations include utterances, everyday language, individual specific language, or organisational specific language. A variety of approaches exist, from naive research data gathering of observations without critical inquiry or reflection, to objective research when the researcher is detached and isolated from the world being researched, to a objectively subjective approach which argues for a research process of collaboration between researchers or social scientists and the subjects of the research (Rowan and Reason, 1981). To ensure that observations are not interpreted from the observer's position, a joint or collaborative approach to explore and understand these observations is adopted in this project. The objectively subjective approach is key to this collaborative inquiry.

### **3.2.5 The Philosophy of Pragmatism and Purposeful Human Activity**

The epistemology of this thesis finds its basis in 'pragmatism'. Pragmatism is a philosophical movement, which holds that both the meaning and the truth of any idea is a function of its practical outcome. Fundamental to the philosophy of pragmatism is a strong anti-absolutism: the conviction that all principles are to be regarded as working hypotheses rather than as metaphysically binding axioms.

Pragmatism has been developed as a theory of meaning (Pierce 1870), holding that an intrinsic connection exists between meaning and action - that the meaning of an idea is to be found in its “conceivable sensible effects” and that humans generate belief through their “habits of action”.

James (1903) developed this further, and developed pragmatism as a theory of truth. True ideas are useful “leadings”; they lead through experience in ways that provide consistency, orderliness, and predictability. The truth of an idea or action should be judged in terms of its outcome in human experience.

What is true for one time and place may not be true for another - reality, as well as human knowledge of it, is constantly evolving. What is true, or false, is dependent on its practical outcome. Real, true, or good ideas, are developed in the course of humanity’s interactions with the environment; they emerge as they work to lead humans successfully through their experiences. Truth tends to be that which gets accepted in the free competition of ideas.

Pragmatism has an emphasis on action rather than entity, emergent effect rather than cause, process and development rather than finality and permanence. Focusing on the fullness of experience and the richness of nature, pragmatism sees humankind not as a spectator separated from nature but as a constant creative interaction with it. Pragmatism thus tends toward a naturalism in which process plays an important role.

This discussion on the philosophy of pragmatism, leads us to link the social constructionist approach about reality to management teams working to better understand their business environment. By arguing for a social constructionist approach to reality, the research focus should be at both the individual managerial cognition level, and at the organisational behaviour level.

The implications of social constructionist ontology on research design are as follows:

- the need to develop methods which attempt to identify change at the individual level, such as, by comparison of pre and post intervention cognitive maps; and
- the need to develop methods which identify change in organisational behaviour, by maintaining a relationship with the management team throughout and beyond the life of the intervention project to identify longitudinal evidence that identifies phenomena arising from the intervention.

These implications will be considered as the research methodology is developed.

### **3.3 THEORY DEVELOPMENT – INDUCTIVE OR DEDUCTIVE APPROACHES**

#### **3.3.1 Introduction**

Theories can be developed inductively and deductively. Parkhe (1993) discusses and puts forward a typology of the different approaches to research. The typology is developed across three dimensions:

- (i) subjective/idiographic/qualitative/insider rather than objective/nomothetic/quantitative/outsider;
- (ii) theory generation or theory testing; and
- (iii) inductive/deductive approach to theory development.

This would suggest that for theory development, research is either qualitative applying an inductive approach to theory generation, or quantitative with a deductive approach to theory building. This research project is set in the former category.

Approaches to theory development should allow generation of theory beyond testing existing theory in new sites. A qualitative approach will access crucial, hidden slices of reality and thus “emphasise the importance of understanding through which humans make concrete their relationship with the world (Berger & Luckman, 1966; Morgan & Smircich, 1980). Parkhe (1993) advocates an idiographic, rather than nomothetic perspective. This perspective is individual centred and uses naturalistic environmental contexts to recognise particular and unique experience of the social actor (Luthans and Davis, 1982). This will produce rich and exciting empirical studies, revealing deep insights into complex and dynamic interplay among relevant forces (Miller & Friesen, 1982).

This view supports a constructionist approach, where “human beings, far from merely responding to the social world, may actively contribute to its creation, the dominant methods become increasingly unsatisfactory, and indeed inappropriate. The requirement for effective research in these situations is clear: scientists can no longer remain as external observers, measuring what they see; they must move to investigate from within the subject of study and employ research techniques appropriate to that task” (Morgan & Smircich, 1980, pp 497-498).

Parkhe (1993) argues for qualitative methods when undertaking “messy” research. Messy research is defined by “ill-defined core concepts, and unknown relationships” (p 236). Where phenomena are not well understood and the relationships between phenomena are not known, precise experiments that precede rather than succeed field studies amount to being precise about vagueness (Butler, Rice and Wagstaff, 1963). To help develop theoretical frameworks, the key is to adopt an “inductive/theory-generating/idiographic research” approach (Parkhe, 1993, p 228).

Parkhe suggests that current management research is typified by “gaps in theory” and “needs to be placed in the context of a larger typology of

approaches to theory building” and that current approaches fail to deal with behavioural and ongoing ‘management of context’ issues.

This approach reflects real world complexity and fuzziness. “Quite unlike its pristine and logical presentation in journal articles, real world research is often confusing, messy, unstructured, intensely frustrating, and fundamentally non linear” (Marshall and Rossman, 1989, p 21).

### **3.3.2 Framework to Develop Research Approach**

In undertaking real world research Mintzberg (1977) argues that research should study systems of interrelationships among clusters of variables rather than isolated variables. The inductive process needs to identify both theoretical clusters and also explanations of the relationships and interconnections between clusters. By addressing real world complexity the researcher develops theoretical explanations of the subject studied.

Yin (1994) develops Mintzberg’s approach and argues that exploratory research allows the researcher to examine phenomena and develop suggestive ideas in a flexible way. Descriptions of patterns emerging from the exploratory research are the early stage of theory development. Further data analysis studying these empirical findings moves the study through a continuous cycle of theory generation, theory testing and theory reformulation. This suggests a programme of research consisting of single case study (phase 1), followed by systematic replications of the initial case study (phase 2) and finally the application of other methodologies that complement case study research and raise the level of theory development (phase 3) (Parkhe, 1993).

This is the broad framework adopted in this thesis to aid theory development about the impact of interventions using scenario planning to study change in action.

### 3.3.3 Questions of reliability, validity and generalisability

Easterby-Smith, Thorpe and Lowe (1991, p 41) raise the question: “will the research stand up to outside scrutiny and will anyone believe what I am saying about it? To address this question the researcher is concerned with validity, reliability and generalisability. Although there is some reluctance among the phenomenologists to accept the issues that originate from the positivist paradigm (Kirk and Miller 1986), they impose certain disciplines on the researcher as the research design is developed and as the fieldwork occurs.

	Positivist viewpoint	Phenomenological viewpoint
Validity	does an instrument measure what it is supposed to measure?	has the researcher gained full access to the knowledge and meanings of the informants?
Reliability	will the measure yield the same results on different occasions (assuming no real change in what is to be measured)?	will different researchers make similar observations on different occasions?
Generalisability	what is the probability that patterns observed in a sample will also be present in the wider population from which the sample is drawn?	how likely is it that ideas and theories generated in one setting will also apply in other settings?

Table 2 Positivist and Phenomenological Viewpoints - Easterby-Smith, Thorpe and Lowe 1991

The researcher acknowledges the issues of validity, reliability and generalisability in the research design. This is reflected in multiple case



studies with a multi-method approach to data gathering. The data gathering process includes collaborative inquiry. Theory building was based on a within case and across case comparison of empirical findings. This is discussed further in the research methodology section.

### **3.4 THEORY DEVELOPMENT FRAMEWORK**

#### **3.4.1 Introduction**

This section sets out the process of theory development adopted in this thesis. The literature review highlighted many tensions within the strategic management literature. The intention at the outset of this exploratory empirical study, was to address these issues, to produce a theoretical base for understanding cognitive change.

In undertaking this empirical study, a multi-methodology was developed to gather data from a wide range of sources. The approach was designed to (i) support a grounded approach to theoretical development of interventions (ii) seek ways of overcoming researcher bias (iii) overcome the issues of subjectivity in observations and language in empirical studies. The approach required development of a framework to guide (i) data gathering in the field and (ii) theory development. Data gathering is discussed later.

In developing theory the researcher was concerned with the search for novelty, logical coherence in the process, and continual grounding in the data to ensure theoretical rigour and relevance (Eisenhardt, 1989 & 1995). Three existing approaches to grounded theory development were interwoven to develop a macro framework and micro guidance. The theory development framework was based around a synthesis of existing literature, providing (i) an over-arching process to guide theory development throughout data analysis and theory building (Eisenhardt, 1989, 1995), (ii) a method of data analysis related to interventions in organisations (Vennix, 1998), and (iii) an approach

to theory building grounded in data (Glaser & Strauss, 1967; Strauss & Corbin, 1990; Glaser, 1992).

This framework acknowledges the iterative nature of inductive theory building (Eisenhardt, 1989, 1995; Miles and Huberman, 1994) from case studies (Yin, 1990). Figure \* illustrates this framework. This iterative inductive process started from the macro level with case study analysis over time, adopting a longitudinal methodology, searching for processual, comparative, pluralist, historical, and contextual data (Pettigrew, 1990, 1995). This allowed a large amount of unstructured field data to be gathered in each case study company.

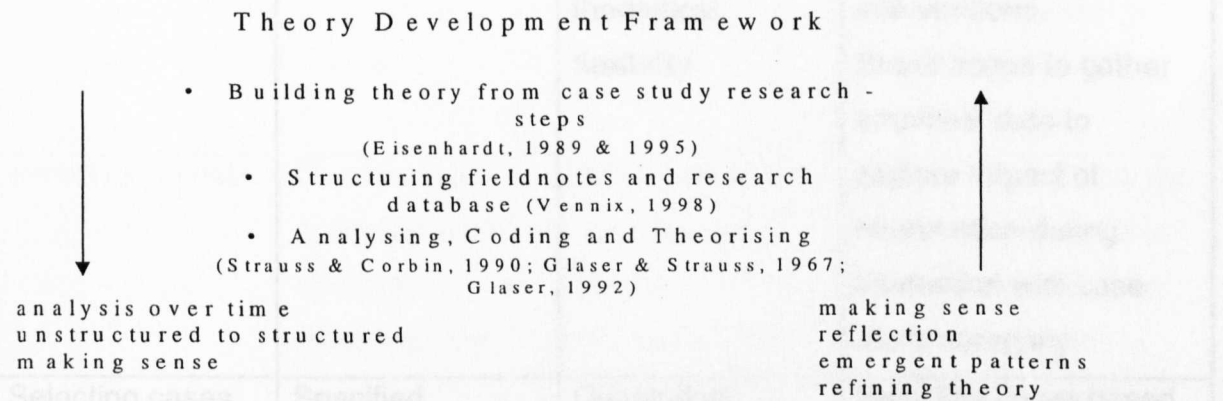


figure \* Theory development framework

### 3.4.2 Steps and Activities in Building Theory

Eisenhardt (1989 & 1995) provides an over-arching process of building theory throughout the empirical study. Eisenhardt suggests that there are eight steps, with supporting activities in theory development empirical studies. These eight steps, activities and practice in this thesis are set out in table \* below

This process provides guidance from initial definition of the research question through to theoretical saturation and closure, with a tightly woven theory that is generalisable.

<b>Step</b>	<b>Activity</b>	<b>Reason</b>	<b>Approach in thesis</b>
Getting started	Definition of research question Possibly a priori constructs Neither theory nor hypothesis	Focuses efforts Provides better grounding of construct measures Retains theoretical flexibility	Literature review highlighting (a) tensions in strategic management literature (b) lack of theoretical underpinning for interventions. Broad scope to gather empirical data to explore impact of intervention during interaction with case study company.
Selecting cases	Specified population Theoretical, not random, sampling	Constrains extraneous variation and sharpens external validity Focuses efforts on theoretically useful cases - those that replicate or extend theory by filling conceptual categories	Selecting cases based on theoretical sampling. (see chapter 4)
Crafting	Multiple data	Strengthens	Multiple approaches to

instruments and protocols	collection methods Qualitative and quantitative data combined Multiple investigators	grounding of theory by triangulation of evidence Synergistic view of evidence Fosters divergent perspectives and strengthens grounding	data gathering around research subjects. Pre and post interviews. Workshop questionnaire. Participant observer during intervention workshops. Regular discussions key informant within each case study company. Longitudinal data collection with each case company.
Entering the field	Overlap data collection and analysis, including field notes Flexible and opportunistic data collection methods	Speeds analysis and reveals helpful adjustments to data collection Allows investigators to take advantage of emergent themes and unique case features	Field notes and memos developed as patterns begin to emerge from data analysis and coding. Collaborative inquiry to (a) develop empirical understanding (b) assist reflection of impact with key informants (c) exploring insights and emergent theory for with key informants.
Analysing data	Within-case analysis Cross-case pattern search using divergent	Gains familiarity with data and preliminary theory generation Forces	Application of Vennix criteria to structure raw field notes. Inquiry of Vennix database based on

	techniques	investigators to look beyond initial impressions and see evidence through multiple lenses	“understanding the essence of learning?” Identification of pattern emerging around systemic impact of intervention.
Shaping hypothesis	Iterative tabulation of evidence for each construct Replication, not sampling, logic across cases Search evidence for “why” behind relationships	Sharpens construct definition, validity, and measurability Confirms, extends, and sharpens theory Builds internal validity	Emergent hypothesis - process of strategic change.
Enfolding literature	Comparison with conflicting literature Comparison with similar literature	Builds internal validity, raises theoretical level, and sharpens construct definitions Sharpens generalisability, improves construct definition, and raises theoretical level	Enfolding literature about Transitional objects based on emergence of “transition in thinking” in data analysis. Develop separate database of evidence to support evidence of transition in thinking incidents.
Reaching closure		Ends process when marginal improvement becomes small	Review of patterns within process of transition in thinking for further theoretical

			development, resulting in over-arching theory describing “process of strategic renewal
--	--	--	--

table \* the process of building theory from case study research (Eisenhardt, 19989, 1995 adopted)

### 3.4.3 Data Structuring

The Vennix (1998) research agenda for interventions provided the categories for developing a structured database. Vennix (1998) is concerned with empirical evaluation of management intervention methods, and has identified important themes in evaluating the effectiveness of interventions. This research agenda has four components:

- identification of learning effects, that is, to what extent has the intervention created content and double loop learning?
- identification of shared problem understanding, that is, to what extent has the intervention changed attitudes and behaviour, and created a platform for shared solutions?
- identification of the impact of outside knowledge introduced during the intervention?
- identification of the intervention activities that have made a particular contribution to the success of the intervention?

The analytic process of looking for patterns in this database produced patterns highlighting the impact of the intervention. Using these emergent patterns and reflection on these patterns, led to further inquiry with key informant research subjects to assist the iterative process of refinement of theory development. This process is discussed in more detail below.

### 3.4.4 Cycle of Theory Development

Following Eisenhardt (1989, 1995) steps 5, 6 and 7 and using the Vennix database an iterative, inductive and reflective process of theory development emerged in this thesis. This is set out at figure \* below:

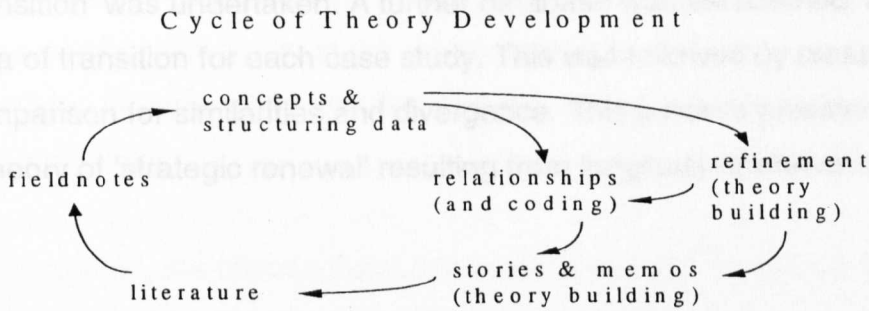


figure \*

Starting with the structuring of the raw field notes using concepts identified by Vennix (1998) – I searched for evidence of content learning, double loop learning, building a platform for shared vision, impact of outside knowledge, and tried to relate these to the elements of intervention activities. The next stage of analysis was based on line-by-line search of each database entry with the question - “what’s the essence of learning occurring?” Issues were identified, recorded individually and clustered by insight and relationship rather than semantic similarity. Clusters were labelled with descriptions explaining the clusters. The next stage was a search for patterns, identifying emergent pattern of strategic change within the case studies. Cross comparison of findings between cases for similarities and divergence revealed stable phenomena.

The next stage of inquiry was based on development of hypothesis around the emergence of “transition in thinking”. I returned to the 3 case studies to

test the hypothesis. Transition in thinking was a key pattern emerging and this generated a focus on the psychoanalytic literature of child development and parental relationships - Transitional Objects (Winnicott, 1971) and Zone of Proximal development (Vygotsky, 1986). This was linked to related literature of learning to understand the psychological basis of learning. This highlighted “identification and motivation” for change (Litowitz, 1993) as key factors. A search of coded field notes and the Vennix databases for evidence of ‘transition’ was undertaken. A further database was established, containing data of transition for each case study. This was followed by cross case comparison for similarities and divergence. This process provided the basis of a theory of ‘strategic renewal’ resulting from longitudinal interventions.

### **3.5 FRAMEWORK FOR RESEARCH DESIGN**

#### **3.5.1 Introduction and Research Design Choices**

Research designs are about organising research activity, including the collection of data in ways that are most likely to achieve the research aims (Easterby-Smith, Thorpe and Lowe 1991). Easterby-Smith, Thorpe & Lowe (1991) set out five choices and issues to assist in the development of appropriate discussion on the ontological, epistemological and methodological assumptions. These issues are to be considered at the outset of any research activity to help shape the research design. The outcomes of these discussions are fundamental to organising the research activity including data collection to achieve the research aims. The five choices of research design and the discussion in respect to this thesis follows below (Easterby-Smith, Thorpe, and Lowe, 1991, p 3):

- |                           |    |                        |
|---------------------------|----|------------------------|
| researcher is independent | v. | researcher is involved |
| large samples             | v. | small numbers          |
| testing theories          | v. | generating theories    |
| experimental design       | v. | fieldwork methods      |



### **3.5.1.1 Involvement**

The first choice - “researcher is independent v. researcher is involved” concerns whether research is conducted by “impartial, detached, value neutral subjects, who seek to uncover clearly discernible objects or phenomena (Mir and Watson, 2000, p 942) or whether research is conducted by researchers as actors in the research setting, gathering data and theorising to understand and describe the phenomena occurring in the research setting.

As discussed, the philosophical approach of social construction suggests that it is necessary for the researcher to be part of the social world under study, to enable the researcher to develop an understanding of how the subject construct their reality.

### **3.5.1.2 Sample Size**

The second choice - “large samples v. small numbers” relates to studying a sample based on a large number of organisations or situations, or study phenomena over time. The need to acknowledge multiple realities and to explore differences to aid theory development over time dictates in-depth studies and therefore a small sample size.

### **3.5.1.3 Theory**

The third choice - “testing theories v. generating theories” addresses ontology and epistemology. The key philosophical issue is whether we are able to start with a hypothesis and gather data to prove or disprove it, or whether to gather data and develop theory about the situation by using a “comparative method” (Glaser and Strauss 1987), where the researcher

compares data across different research settings. In the absence of an initial theoretical framework, this latter approach was adopted in this thesis.

Reflexivity is the process of emergent understanding (a) for the local actors as they study or enact their business environment, and (b) for the researcher as s/he explores the process and patterns of social interaction. The research process results in the development of theory, grounded in the empirical setting. Therefore data is gathered first and theory generation emerges from the analytical process, rather than vice versa. The disadvantage of this process is (a) the lack of (initial) focus in capturing field data and as a consequence of the first point (b) swamping of the researcher through the extent of field data. Development of an initial structuring framework (the Vennix database) overcomes the first problem, and inquiry and questioning of the data, help develop systemic understanding of the patterns in the field data.

#### **3.5.1.4 Nature of Fieldwork**

The fourth choice - “experimental design v. fieldwork methods” is concerned with the issue of experiments and control groups versus phenomenological research that is concerned with studying changes in phenomena over time. Explaining the significance of the phenomena from the perspective of the research subject is key. Managerial behaviour changes and evolves over time, and accordingly, the researcher adopts an insider approach studying management and managerial phenomena from within the organisation, although not from a native ethnographic position.

#### **3.5.1.5 Role of Hypotheses**

The fifth choice - “verification v. falsification” primarily relates to the hypothesis testing as the researcher searches for conclusive proof or otherwise of the hypothesis. It is related to the validity of findings by adopting a methodology that involves the researcher with the situation studied and a

small sample size. Much of the debate about verification and falsification fits within the positivist view because issues of “truth” and “proof” are associated mainly with that paradigm.

However, the object of (this) inquiry is “to find out, from the consideration of what we already know, something else which we do not know” (Pierce 1870). In this instance, it can be concluded that a change in organisational behaviour would provide evidence of validity of the intervention. As suggested by William James a key writer about the pragmatic theory of truth, truth is what works (as was suggested in 2.5 above). In that respect, this process tends towards a search for verification rather than looking explicitly to falsify ideas.

### **3.5.1.6 Research Design Choices Conclusion**

The discussion and conclusions from the ‘five choices’ regarding research methodology supports and justifies an action research approach (Easterby-Smith, Thorpe & Lowe, 1991; Gummesson, 1991; Eden and Huxham, 1996) and collaborative approach to inquiry (Rowan, 1974; Reason and Rowan, 1981). This approach is based on social actors and social scientists as “co-researchers” (Heron, 1981) to inquire into phenomena under study. The nature of the research design results in the development of a multi method approach to enable the researcher to address the issues of validity, generalisability and reliability (Easterby-Smith et al, 1990).

### **3.5.2 Link to Company Selection Process**

Chapter 4 of this thesis discusses the process of sample size determination, selection of organisations to participate in the project, and constructs or characteristics of participants. The company selection process is deemed to be of significance to this thesis, regarding the issue of generalisability. The sample size is small and immediately raises the issue of generalisability. At the outset of the research fieldwork, the researcher set out to select organisations that are sufficiently diverse in their characteristics to maximise

generalisability. Following this I used the rich and complex data (van Maanen, 1988) in the small sample size to allow cross comparison of the case study (Yin, 1994) research findings, assisting with generalisability of the findings.

## **3.6 LONGITUDINAL RESEARCH**

### **3.6.1 Introduction**

Our research approach is concerned with studying patterns or underlying themes in the research setting grounded from the perspective of the social actors. The intervention used was originally designed to have duration of twelve elapsed weeks, but in reality ran over 9 months due to scheduling problems. Any strategic change arising in this time can be studied to determine its origin, and deeper managerial reflection as they make sense of events occurring during the intervention. The project is essentially longitudinal field research. Pettigrew (1990) sets out a framework designed to support such research. He argues that there are five major issues for researchers conducting longitudinal research. These are:

- truth is the daughter of time
- comparative method and the choice of research sites
- observation and verification - issues of data collection and degrees of involvement
- research outputs, audience and presentation
- routes to reality and structured understanding

Each of these issues is discussed in more detail below as part of the argument for case study research.

At the outset of undertaking empirical fieldwork, the researcher had to consider the nature of the intervention and the opportunities that the intervention provided for data gathering. The data gathering opportunity over

time required multiple methods. The data gathering opportunity lasted in each case study for a period of nine months. The researcher was able to use the intervening period between workshops to continue data gathering with the social actors searching for their understanding and reflection of the intervention. This was key for the researcher in understanding the processual nature of the intervention. It made it possible to collect views on the intervention and thus identify overlap and diversity of views with the case study management team. Both differences and overlap allowed an opportunity for further understanding.

### **3.6.2 Time and Patterns**

Pettigrew (1990) states that temporal analysis will assist in studying patterns, providing a link between the intervention, data, empirical insights and the reflection of the social actors. In studying time and change, the researcher gathers primary data arising from observations during the intervention, as well as data on the ongoing management of the business, and insights arising from the intervention from the perspective of the social actors.

This primary data allows for the search for temporal patterns, causal effects, and the process of continuity to change to continuity. In this project this was structured using the Vennix (1998) framework as a primary database and then searching the resultant database for evidence and nature of learning. Once the categories of this learning were made explicit the researcher searched for the underlying causal relationships. This allowed a meta-framework of strategic change to emerge from the cases. This allowed cross case comparison to identify similarities and differences.

Pettigrew (1990) suggests that in searching for patterns and causal effects the researcher should focus on breakpoints, dramas, critical incidents, and discrete events. The Vennix (1998) framework was developed using discrete learning incidents that arose during the intervention. Each learning incident is a unique occurrence, in which the 'who, what and why' were recorded.

Pettigrew (1990) suggests two further issues to be considered – (i) time of change and construction of time, and (ii) different levels of change – context, firm and individual. These issues are interlinked. The context of the case study organisation was specifically addressed during the second intervention workshop. This occurred through the development of scenarios, as participants interacted with their external environment. This caused learning and insights at the individual level. As this process unfolded, the management teams linked this thinking to their understanding of the firm. This provided the platform for the participants to critically reflect on the design of the firm with regard to the likelihood of survival in the future. Learning incidents arising from this activity were recorded as discrete events. Memos were written identifying emergent themes during the ongoing process (Glaser & Strauss, 1967). These memos were discussed with key informants in the case study companies to develop deeper understanding of the issues from the perspective of the key informant. The memos represented theoretical insights, which would eventually form a coherent story of understanding by the researcher.

### **3.6.3 Research and Data**

In selecting the case study companies, the researcher had to balance a pragmatic approach (to gaining access to case study sites) and ensuring diversity between the characteristics of the case study companies (see chapter 4). Pettigrew (1990) suggests that researchers in conducting longitudinal case study research consider empirical data around the following issues - social dramas; diversity or polarity; experience of phenomena; and intensive access. Pettigrew (1990) acknowledges that the dominant form of qualitative research usually starts with a historical account of a firm or firms operating in an industry, and builds up insights from face to face interviews. In this thesis, the researcher had access to a number of intensive workshops in which direct observation of the phenomena under study was possible following by ongoing access to participants.

Pettigrew (1990) advocates multiple methods in gathering data to ensure triangulation in the data analysis process. Multiple methods adopted in this project included face to face interviews, observations, workshop questionnaires, review of documentation, regular company visits and further interviews with key informants. In doing so, the researcher, through the grounded process “revealed the how and why of changes, drawing on variables at different levels of analysis” (Pettigrew, 1990, p 106).

### 3.6.4 Output and Audience

Pettigrew suggests that there are four varieties of research output from longitudinal comparative case study research. These are set out below:

#### V a r i e t i e s o f r e s e a r c h o u t p u t

t <sub>1</sub>	1	the case as analytic chronology
	2	the diagnostic case
	3	the interpretive/theoretical case(s)
t <sub>n</sub>	4	meta-level analysis across cases

In considering these varieties of research outputs, level one is characterised by “temporal presentation” (Pettigrew, 1990, p 109), and features “analytic abstractions for purposes of presenting theory” (Strauss, 1987, p 218). Level two is characterised by an “iterative process of inductive pattern generation and theory building” (Pettigrew, 1990, p 110). Level three is characterised by “interpretive theoretical cases moving beyond analytic chronology, making explicit conceptual and theoretical insights, and extending into other literature domains” (Pettigrew, 1990, p 110). Level four is characterised by “cross case comparison and moving in broad thematic presentation, linking theory and empirical evidence” (Pettigrew, 1990, p110).

In this project the process described by Pettigrew was in fact an iterative process that involves all four levels. Temporal presentation of empirical data

flows over the time or duration of the intervention, as the social dramas reveal themselves and inform previous dramas. This in itself is unlikely to produce rich theoretical insights as initial data structuring does not reveal significant patterns but provides the basis of a first inductive platform to inquire further into empirical patterns. Level two, inductive analysis, produces the first clear systemic relationship between variables. In this project this involves a grounded search of every line in the database, recording the essence of learning observed. Individual insights were then clustered and categorised by theme rather than semantic similarity. These clusters were labelled for grounded understanding and linked systemically for pattern understanding. Analytic memos (Strauss and Corbin, 1990; Miles and Huberman, 1994) were developed summarising emergent theoretical understanding. A similar process was followed for each of the cases, resulting in inductive patterns across the cases that were compared for similarity and dissimilarity.

At this stage an emergent hypothesis was developed, which was used to challenge each of the emergent theoretical patterns and understanding. This provided rich insights into meta level transformation at the individual and group level. A significant literature review was conducted to deepen out this emergent theoretical understanding. The next stage was the refinement of theoretical understanding and the development of a schema to represent the findings. This schema was then presented, discussed and challenged with the key informants in each case study company.

Pettigrew (1990, p 111) suggests “the central problem with the real world is dealing with complexity and then making sense of it”. The first stage involves the researcher inductively developing theoretical understanding of the real world phenomena under study and the second stage involves the social actors making sense of their experience via this theoretical conceptualisation. As one key informant commented on the emergent hypothesis and theory:

“I think that’s exactly what happened to us. I couldn’t have explained it like that, but that’s what we did.



(Robin Gillies, Operations Director CBC, discussing the theoretical process of transition).

## **3.7 METHODOLOGY IN PRACTICE**

### **3.7.1 Introduction**

In this section, the steps and tools adopted to gather data throughout the empirical stages are explained followed by a discussion of the process of data analysis. Prior to this discussion is a description of the intervention process.

#### **3.7.1.1 The Scenario Process**

Scenarios deal with two worlds - the world of facts and the world of perceptions. Scenarios explore for facts but aim at perceptions inside the heads of decision makers. Their purpose is to gather and transform information of strategic significance into fresh perceptions (Wack, 1985b, p 140). Scenario analysis provides a more qualitative and contextual description of how the present will evolve into the future, rather than numerical precision (Schnaars, 1987, p 106).

Scenarios are tools for gaining awareness and understanding of possible future environments in which decisions will be played out. They are neither deterministic predications of what is likely to happen nor stories about the future akin to science fiction. Scenarios are focused on four issues. Firstly, those issues which matter to decision makers; secondly, those elements in the environment which are pre-determined and/or unchanging i.e. what we can count on; thirdly, those elements that are uncertain but whose dynamics can be understood (trend breakers); and finally, potential surprises that would be of major significance (Schoemaker and van der Heijden, 1993, p 165).

Scenario construction is a process of knowledge development in organisations. In studying the impact of scenario interventions in

organisations, the researcher is studying the sociology of knowledge. There are three inter-related aspects to creating or discovering our reality. Firstly, at the individual level, managers develop theories of how the world works, and continually test these theories and adapt their theories in the light of action and reflection (Kelly, 1955). Secondly, reality is constructed rather than given and that this reality is constructed from historical, economic and social conditions in society (Berger and Luckman, 1966). Finally, at the group level as management teams develop a similar, shared understanding of the environment through dialogue and negotiation to establish meaning from conversation (Garfinkel, 1967). Social and personal constructions are intrinsically interwoven, and provide scenario interventions with a 'sense-making' theoretical base.

The scenario intervention approach is to help management teams to socially construct, through stories, pictures and interpretations of external factors that will impact on the business in the future (Eden, 1992). Learning as a social experience is built upon interaction and dialogue with others in a context where people are willing to share their ideas with others. Insights occur when different points of view are integrated into this dialogue. The process is focused on learning from understanding the changes occurring in the external environment, and then adapting beliefs and behaviour to be compatible with those changes (de Geus, 1988). This is the basis of learning from scenarios (Bood and Postma, 1997).

The scenario building process is inductive in nature, taking personal concerns, events, insights, and issues to construct a conceptual or theoretical understanding of the external environment. Once this conceptualisation is completed to the satisfaction of the participants, the participants move into a deductive process. The images and representations of potential futures, allows the participants to draw conclusions from this conceptualisation to the specific of their business. The recipe/mental model/representation of the organisation is compared with the conclusions arising in the scenarios. The insights arising from the process are rationalised into the operations and

activities of the business to determine the impact of these insights. The insights in these conclusions, as argued above, are interpreted as barriers to the organisation achieving its goals, and the responses developed are “negative goals avoidance”. The insights clash with the existing worldviews held by the managers. This clash acts as ‘search for control’ or how can we exploit these insights for the business in the future. A ‘parallel process of consideration’ of short term and long term implications are drawn. The scenario process and insights provides a time advantage for the manager, as the worlds developed in the scenario process have yet to occur. This presents the management team with an opportunity to develop strategic responses. At the individual manager level, this process allows the manager to reflect on his/her own beliefs and assumptions underpinning managerial action in the past, and provide the basis of future action.

“Every manager carries a picture of the organisation in his head. This picture is like a pallet of paints, with many different colours. The scenarios paint also paint a picture, again with many different colours. For me, I look to see the different colours and where there is overlap. Where there is a clash, two things can happen. Change the colours of the organisation to match the colours in the scenarios, or deny that there is a colour clash, and change the colours of the scenarios so that there is no clash.”

Iain Borthwick, Caledonian  
Paper

### **3.7.1.2 Scenario Planning and Change**

The underlying argument in these definitions and uses of scenarios is changing the thinking or mental models of the participants (including individuals not normally included in organisational dialogue) in a scenario exercise. Only an individual manager can determine issues for decision making; secondly, those elements in the environment which are studied

during a scenario exercise, it is only managers who can develop an understanding of those causal relationships to identify pre-determined elements in scenario stories; equally, it is only by studying uncertainties and their interaction with other variables that a manager develops an understanding of structural dynamics; and finally, throughout this scenario construction process, the participants develop insights about stakeholders who can make or break the organisation's strategic future - as Wack stated (1985b) "the purpose of scenarios is to gather and transform information of strategic significance into fresh perceptions. This transformation process is not trivial - more often than not it does not happen. When it works, it is a creative experience that generates a heartfelt 'Aha!' from the managers and leads to strategic insights beyond the mind's previous reach" (p 140).

In practice, the management team create a scenario agenda of issues that they wished to develop a detailed understanding. Agreement was reached amongst the management team that those issues were the key uncertainties faced by the organisation and where insights could be gained would help management of the business.

In the initial stages of the scenario process, the management team are invited to make any comment or observation about any of these uncertainties. These comments or observations are captured (on hexagons) for later discussion. This stage allows for reflective thought based on the experience of the individual managers. No attempt is made at this stage to structure this reflective thinking.

The next stage of the process is a presentation by an outsider(s) who had been invited to respond to the issues in the scenario agenda. This response in the three case studies was based on the introduction of new concepts and case examples of other organisations whose experience could inform the case study organisations of an alternative perspective regarding this agenda. From this presentation, the management team use this as a trigger for further

reflective management thought. Comments are again captured (on hexagons).

The comments are then clustered by common theme. These common themes are then conceptualised with brief labels explaining and highlighting the essence of the cluster. Socially the management team have developed, together, a more detailed understanding of those issues perceived as having an impact on the organisation.

Change in the business environment has now been conceptualised socially by the management team, what is interesting is that the change conceptualised extends existing knowledge by consideration of how events, stakeholders etc. may develop in the future. This conceptualisation allows change to be internalised by individuals in the organisation before its manifests itself as an external, exogenous shock or jolt (Meyer, 1982).

### **3.7.1.3 Gathering Data in the Field**

The approach acknowledged the need to apply multiple methods in the data gathering process. In doing so the researcher acknowledged the need to “triangulate” data and findings. Paton (1987) discusses four types of triangulation:

- data triangulation
- investigator triangulation
- theory triangulation
- methodological triangulation.

In this thesis, it is argued that the second type of triangulation is not possible as this research will lead to an individual thesis rather than team field study. The other three types of triangulation have been recognised and adopted to help overcome claims of bias and subjectivity. Yin (1994, p 92) states “the most important advantage presented by using multiple sources of evidence is

the development of converging lines of inquiry, a process of triangulation".  
"With triangulation, the potential problems of construct validity also can be addressed, because multiple sources of evidence essentially provide multiple measures of the same phenomenon" (p 92).

#### **3.7.1.4 Data and Methodological Triangulation**

In undertaking data gathering in each of the case studies the research tools used were:

- open ended face to face interviews with social actors pre and post intervention;
- causal maps were developed from the interviews and discussed with the participants during their development;
- participant observer, recording observation and institutional talk during workshops;
- identification and recording of critical incidents and discussion with social actors to develop understanding of their significance;
- questionnaires completed by participants before and after each intervention activity or workshop, to identify key issues from their perspective and also allow reflection on the impact of the intervention process;
- ongoing observations, notes and interviews with key informants occurred throughout and beyond the empirical studies;
- and analysis of generated documents to support action by the organisation, including presentations to Boards of Directors.

The approach to collecting qualitative data was guided by the research design and research question. The research design in this thesis is concerned with (a) undertaking intervention in organisations, (b) linking the intervention to action by the organisation (c) searching for understanding of the individual mental models and change arising from the intervention.

The methods were designed to gain access to the participants (historical) understanding about the business and its environment; access the everyday language of the participants; gather evidence of reflection and change in thinking about the business and its environment; and search for evidence linking the intervention to organisational action.

### **3.7.1.5 Theory triangulation**

All of the data gathered in each of the individual case studies was analysed and coded to create a unique database about the intervention using the Vennix (1998) criteria. A grounded process of inquiry was undertaken on this database, to identify patterns within the data. The emergent pattern highlighted the systemic nature of change arising from the intervention. Within this pattern was the issue of transition in thinking, from which an emergent hypothesis was developed.

This process was conducted for two of the case studies prior to cross case comparison of patterns. Once the cross case comparison of patterns was undertaken the third case study was analysed to test out the emergent hypothesis of transition.

Once this process of inquiry was completed, a broader process of theory development was undertaken to develop a theoretical explanation of the change occurring in the case study companies. The basis of this theoretical development was presented to key informants.

## **3.7.2 Open ended in depth interviews**

### **3.7.2.1 Introduction**

As identified above, Parkhe (1993) discusses the dimensions of qualitative research, which allows the researcher to take (i) an “insider” perspective (Bartunek and Louis, 1996) - insights from the intervention from the

perspective of the researcher, (ii) the perspective of the social actor or subject of the research, and joint collaboration exploring these perspectives to highlight similarity and dissimilarity. Undertaking such a process requires the design and application of multi-methods for data gathering.

In depth interviewing is the most frequently used of all qualitative methods (Easterby-Smith, Thorpe and Lowe 1991). Qualitative interviews were used to gather data in this research project. There are two types of interviews adopted in this research project. The first approach involved open ended, face-to-face interviews with each manager participating in the scenario team within the case organisation. To encourage each manager to be as open and frank as possible, none of the interviews were tape-recorded. These interviews normally lasted between one and a half and two hours. No pre-set agenda was established prior to conducting these interviews. The intention was to allow the interviewee to set and define their agenda throughout the interview. The researcher probed continuously to ensure understanding of constructs emerging in the interview.

There is a tentative relationship between the interviewer and the interviewee, all interviews start with a short preamble to provide an explanation of the purpose and use of the interview data. A warm up question is also asked, this is usually “how did you come to fill your current role?”, which provides insights into both the career history and motivation of the interviewee, and also allows an opportunity to say something about their perspective of the organisation.

### **3.7.2.2 Trigger Questions**

A set of standard trigger questions was used with each individual interview. These interviews were conducted pre and post intervention workshops. These trigger questions are designed to enable the researcher to discuss and probe the issues that are raised by the respondent, without any prompting or use of an “agenda” by the researcher. The intention is to trigger a free flowing



conversation, in which the interviewee sets the agenda (van der Heijden 1996).

A set of trigger questions that have been found to be effective is known as the “seven questions”. The core of these was developed by the Institute of the Future (Amara & Lipinsky 1983), and was subsequently developed by the Shell organisation. The questions come in two sets addressing firstly, the business environment and secondly, the internal context of the case study organisation. The questions are designed to encourage the interviewee to explore and articulate the parameters of his/her understanding of an issue. The interviewee is then asked to fill in these parameters. The questions encourage the interviewee to reveal his/her concerns and explain the underlying reasons for this concern.

These “seven questions” are as follows:

- the clairvoyant question - “you meet a clairvoyant who can see into the future. You are allowed to ask the clairvoyant any three questions about the future. What would your three questions be?”

The purpose of this question is to try to get the interviewee to reveal what he or she thinks is important for the organisation in the future, why it is important, and the impact it may have on the organisation.

The clairvoyant response - The interviewee is now placed in the position of clairvoyant and asked to answer the issues. Two follow up responses by the interviewer are:

- the good scenario question - the interviewee is asked to “describe a good scenario for the organisation (within the target timescales) playing out in the answers given to the first question.

- the bad scenario question - the interviewee is asked to describe what the future would look like if everything went wrong for the organisation.

These first three questions form a set, in which the objective is to surface the main uncertainties for the business in its business environment. The next set of questions is focused more on the internal aspects of the organisation. These are:

- the inheritances from the past question - “what pivotal events can you identify in the past of this company, good or bad, that should remain in the memories as important lessons for the future?”

The purpose of this question is to try to surface knowledge and understanding about the organisation’s culture, strengths and weaknesses.

- the important decisions ahead question - “what major decisions with long term implications is the organisation facing at the moment, and what immediate decisions need to be made?”

The purpose of this question is to try to identify the key current concerns, the issues on the mind of the manager at that moment.

- the constraints in the system question - “what are the major constraints you are experiencing inside or outside of your organisation that limit you in what you can achieve in your business situation”.

The purpose of this question is to try to prompt interviewees to surface any inhibitors, limits, obstacles or competency gaps which may be a barrier for the company. It also allows the interviewee to discuss key stakeholders inside and outside the organisation.

- the epitaph question - “if you were to leave the present job or company, what would you like to leave behind for people to remember you?” Imagine that you had a free hand and that there are no constraints to what you can achieve”.

The purpose of this question is to gain an insight into the interviewee’s value system, thus establishing the aims and limitations for the future.

By conducting open ended, face-to-face interviews, it is possible for the researcher/interviewer to surface the manager’s/interviewee’s tacit knowledge and understanding.

### **3.7.2.3 Depth Interviews**

The second approach was based on the notion of “depth interviews” (Jones, 1985) that probe and explore issues emerging from the theory development process. “The more patterns they see in the data, the more they are likely to use this grounded understanding to explore in certain directions rather than others” (Jones, 1985, p 47).

As Psathas (1973, p 12) argues, the key issue for social science research is “whether the results of an enquiry fit, make sense and are true to the understanding of ordinary actors in the everyday world”. Theory which is “grounded” (Glaser and Strauss, 1967) in the concepts and theorising of the people involved will be capable of functioning as the basis for explanation and prediction (Jones, 1985).

A cause for concern for the researcher is what Lofland (1976) calls “undisciplined abstraction”. Undisciplined abstraction involves concepts that bear little relation to the social world that they are supposed to refer to, either because they are not apparently based in any empirical research, or are edifices of theory based on very little empirical research. As Lofland (1976, p 11) argues “an empirical science is constructed out of the interplay of data

and perplexed perception that gives rise to concepts, yet contains and constrains them by a context of concrete empirical materials”.

#### **3.7.2.4 Mapping Interviews**

"A cause map is a map of a person's cognition; that is, what he or she thinks about a particular issue or situation. It takes the form of a diagram i.e. it represents those thoughts by an assembly of lines, words and spaces on paper" (Open University). Thus manager's responses to the scenario intervention questions are captured as a diagram using computer software e.g. Decision Explorer. "Cause mapping is a method of modelling persons' beliefs in diagrammatic form (Jones, 1985, p 59). This map or representation is based on an individual's thoughts and expressed through conversation. Cause maps help reveal the manager's assumptions that have been made about the business. The cause map becomes a model, which is susceptible to analysis in the context of the research project. Cause mapping "represents the way in which a person defines an issue. It is not a general model of someone's thinking, neither is it intended to be a simulation model of decision making" Eden (1989).

According to Eden (1989) "cognitive mapping is the label for the general task of mapping a person's cognition within the field of psychological research on perception...it is a modelling approach which directly derived from Kelly's (1955) substantive theory within cognitive psychology". Eden continues "cognitive mapping as a modelling system is founded on the belief that language is the basic currency of organisational problem solving".

There are three reasons for undertaking this process of cause mapping. Firstly, due to the diagrammatical form of the cause map it is easier to gain an understanding and insight to the manager's thoughts. Secondly, transcribed interviews fail to provide easy access to an individual's assumptions and thinking. Thirdly, by mapping all interviews it is possible to (i) identify areas of similarity and dissimilarity (ii) cross compare any alternative views that may

arise (iii) search for movement in the content and structure of the map and develop an explanation or attribution of change.

### **3.7.3 Observation in the Field**

#### **3.7.3.1 Participant observation**

The empirical process was primarily anchored or grounded in the field., with the researcher “connecting the facts that s/he observes with the specific features of the backdrop against which these facts occur, which are linked to historical and cultural contingencies” (Baszanger and Dodier, 1998, p 10). Being part of the action research process adopted in this thesis, the researcher is concerned with the relationship between words and actions. An integrative approach during the empirical stage of the research allows the researcher to integrate data from multi-methods situations to develop theory.

#### **3.7.3.2 Role of Researcher**

Gold (1958) distinguishes four approaches to observation:

- the complete participant - in which the true identity and purpose of the observer are not known to those being observed;
- the participant as observer - in which the observer and the subjects are aware that their relationship is overtly one of observer as against observed;
- the observer as participant - which represents a situation used in one-off formal observations; and
- the complete observer - in which no social interaction takes place.

In discussing the approach adopted during the empirical data gathering stage of this project, it is easier to discuss what the role did not involve. At the outset of the intervention it was made explicit to the case study companies that data would be gathered during the intervention activities, and be used as

the basis of studying the impact of the intervention. Their agreement to this request was given at the outset. The participants were keen to be part of something arising from their involvement.

The researcher on occasions adopted a supporting role during certain intervention activities, during which empirical data was gathered. This supporting role included short presentations about issues identified by the participants as areas of concern, and help with group model building activities to develop scenarios. There was no explicit concern about this intervention by the research subjects noted at any time during the intervention.

Social interaction took place before, during and after each intervention activity. The researcher took notes during this interaction. During these phases, the participants were reflecting on their experience. This allowed the researcher to gather empirical data on critical issues or key insights, and their implications, as identified by the participants. During this process, the researcher was searching for construct clarity surrounding these critical issues and key insights.

The research subjects generally were supportive of the intervention and research process, and agreed to collaborate with the researcher to assist in the theory development. This included opportunity to meet on a regular basis to conduct interviews; to discuss the critical incidents in more detail with individuals; and to reflect on and critique emergent theory from the intervention.

### **3.7.3.3 Interactionism in the Field**

Throughout this process the researcher followed interactionist principles, by attempting to understand “the creation and change of symbolic orders via social interaction” (Silverman, 1993, p 47). Denzin (1970) suggests that “methodology .... represents the particular ways the researcher acts on his environment” (p 5). For Denzin (1970) methods cannot be neutral instruments

because they define how the topic will be symbolically constituted and how the researcher will adopt a particular definition of self vis a vis the data. The researcher needs to acknowledge that the methods for data gathering are designed to access critical issues from the perspective of the participant, clarify their understanding of the issue, allowing the researcher to make bias explicit and overcome this by moving from utterances to construct clarification to patterns across intervention activities.

Denzin (1970) presents five methodological principles that stem from this perspective:

<b>Principle</b>	<b>Implication</b>	<b>Approach in Thesis</b>
Relating symbols and interaction	Showing how meanings arise in the context of behaviour	The approach adopted in this thesis is to study interaction between the management team of the case study companies to identify (i) tacit knowledge being made explicit, shared and understood (ii) (new) insights emerging from the intervention and the implications of the insights for the case study company (iii) explicit reflection by management on the past as they make sense of past activities (iv) reaction by the participants as they develop symbolic representations of their environment (vi) action by the management team throughout the empirical study.
Taking the actors points of views	Learning everyday conceptions of reality; interpreting them through sociological perspective	The approach adopted in this thesis is to record discussion of issues deemed important by the participants from their perspective, understand the importance of these issues from the perspective of the participant, and understand how these change over time.
Studying the 'situated' character of interaction	Gathering data in naturally occurring situations	The approach and context of this thesis is primarily set in observation of group interaction in a number of intervention workshops. These intervention



		workshops provide opportunities to study management behaviour and interaction.
Studying the process as well as stability	Examining how symbols and behaviour vary over time and setting	In each case study company there was stability at outset of intervention. The intervention produced a 'shock or jolt', that is learning from the external environment about the behaviour over time of stakeholders impacting on the organisation, in each case study company.
Generalising from descriptions to theories	Attempting to establish universal interactive propositions	Throughout the data analysis and coding, the researcher was searching for patterns and systemic linkages in these patterns. The patterns were conceptualised into a model to provide contextual explanation. The patterns emerging from each case study were compared for similarity and dissimilarity. The patterns were discussed with key informants from the case study companies. Key insights were treated as further data as the model was developed and refined. Finally when saturation of understanding of the patterns emerged, the model was developed as strategic renewal.

table \* Interactionism's methodological principles as applied in empirical study (adopted from Denzin, 1970, pp 7 -19)

### 3.7.4 Critical incidents

Critical incidents are defined as “any observable human activity that is sufficiently complete in itself to permit inferences and predictions to be made about the person performing the act” (Flanagan 1954). To be critical “an incident must occur in a situation where the purpose or intent of the act seems fairly clear to the observer and where its consequences are sufficiently definite to have little doubt concerning its effects.

The core of the technique is based on identification of critical incidents, then taking an inductive approach to search for and identify emergent themes. Thus the technique has wide application for researchers undertaking qualitative research. It can be combined with other techniques to develop a multiple research method, which will support triangulation of research findings.

The general aim is to identify any change in individual cognition and/or individual or organisational behaviour as a result of the intervention. Thus established the researcher can undertake a “systematic effort to observe incidents” (Flanagan 1954) during workshops to allow an opportunity to explore the data and look for causal processes.

Being a participant observer in all of the workshops with the companies selected in this research project, it was important for the researcher to determine an approach that enabled the study of behaviour in the research setting. This required providing participants prior to the beginning of each workshop with a clear understanding of the different role of facilitator and researcher. By taking this approach the intent was to be open with participants, whilst conveying clarity of the purpose of the researcher. The participants accepted this position and continued with the action learning interventions to help them develop their organisation.

### **3.7.5 Data Analysis and Coding**

### **3.7.5.1 Introduction**

This section discusses the approach adopted to process raw field notes and structuring them in such a way that they could be considered as data. This then became the basis for investigation of the impact of the action learning intervention. The steps involved are set out below.

### **3.7.5.2 Researching Effectiveness of Interventions - Data Analysis and Coding**

The purpose or “primary objective of strategic decision making is frequently not to find a robust policy, but rather to encourage team learning, to foster consensus and to create commitment to the resulting decision” (Vennix et al, 1995, pp 39-57). Team learning can occur in a number of modes, ranging from ongoing daily conversations internally to interventions by parties external to the organisation. These interventions can be “non directive, inquiry oriented to directive and telling” (Argyris, 1982, 1982, p 50). The focus of this study is to research the effectiveness of scenario planning as a non-directive, inquiry oriented intervention process.

There is little empirical evidence to support group model building interventions (Anderson et al, 1997, p 187). Vennix (1998) argues “it is clearly of great importance to evaluate the worth of intervention methods scientifically by means of empirical research”.

### **3.7.5.3 Defining Effectiveness of Interventions**

Vennix (1998) suggests that there are four important research themes to consider intervention effectiveness. The Vennix research themes can be summarised as follows:

- to what extent has the intervention created learning effects, both in terms of content and relating to process?

- to what extent has the intervention led to shared problem definitions?  
what was the effect of the intervention on attitudes and behaviour in relation to the problem faced?
- to what extent did the introduction of external knowledge lead to a qualitatively better or faster problem solution? and
- which components of the intervention were particularly important to make the intervention effective?

These points are discussed in more detail below.

Firstly, has the intervention created learning within the participants? The learning can occur at two levels - something new about the business, and thinking differently about the business (Argyris & Schon, 1978).

Secondly, has the intervention led to shared problem vision and shared meaning, which provides a platform for solution implementation or buy-in for change in behaviour?

Thirdly, if introduced, how effective was the introduction of outside knowledge? If effective, a number of questions should be addressed - (i) how could this be done most effectively? (ii) under what circumstances is this useful? (iii) did the introduction of external knowledge lead to a qualitatively better or faster problem solution?

Finally, interventions consist of a myriad of activities, which of these activities or components has made a particular contribution to the success of the intervention? For example, is visualisation or presentation of examples important? Is capturing insights or summaries in schemas important? Is dissent and divergent opinions important? Is the facilitator important? By decomposing the myriad of activities the researcher can explore the impact of these activities in achieving team learning, the importance of the activities to a particular intervention and the development of science rather than art to enhance intervention effectiveness.

#### 3.7.5.4 Emergent Theorising

The inductive process has five stages. These stages are - conceptualisation, categorisation, axial coding, selective coding and theory development (Strauss and Corbin, 1990).

The Vennix criteria were used to filter all the incidents/events in the raw unstructured data in the research field books. For each observation noted a unique record was created indicating the associated phenomena described in the Vennix criteria:

- identification of learning effects
- identification of shared problem understanding,
- identification of the impact of outside knowledge
- identification of the complex intervention activities that have made a particular contribution.

The observations were then recorded to form a database of learning incidents for each case study organisation. Processing the raw field data to create the 'Vennix Intervention Learning Incidents' database completed this part of the process. Structuring the field data permitted further inquiry.

The conceptualisation stage was developed by deconstructing observations including observations recorded during workshops; researcher notes on the observations; and explanations by workshop participants into discrete events or incidents. For each of these incidents, the researcher developed a unique understanding of the nature and impact of the incident; compared events or incidents; and developed consistent language to help search for similar phenomenon during this conceptualisation stage.

Eisenhardt (1989, 1995) suggests searching for understanding within case analysis and by using a cross case pattern search, to enable case data

familiarity. From this case data familiarity, the next stage is preliminary theory building.

The database was reviewed record by record by asking the question - "what is the essence of the learning that has occurred? A unique note summarising the learning was recorded for each (learning) incident or event. These discrete incidents or events were categorised or grouped by theme. After a review process of these categories, to ensure categorisation or grouping integrity, a conceptual label for each category or grouping was articulated. This conceptual label described the essence of the properties in each category. This process was followed for each of the three cases.

For example, some clusters observed included:

pre-intervention

- lack of understanding concerning strategic identity
- inward (operational) focus by management
- management bounded by the industry and industry big events
- lack of understanding about the business environment
- lack of understanding about the customer

post-intervention

- systemic understanding of strategic identity
- multiple perspectives of the external environment
- articulation of the purpose for case study organisation

The next step was to search for any patterns in these clusters. A systemic process was identified which highlighted transition in thinking occurring in the participants of the case studies. An analytic memo, a written record of analysis related to theory formulation (Strauss and Corbin, 1990; Miles and Huberman, 1994) was developed setting out this systemic process.

The next stage of the process follows Eisenhardt's (1989, 1995) approach of within case analysis to "gain familiarity with the data and preliminary theory generation", followed by a cross case pattern search "to look beyond initial impressions and see evidence through multiple lenses" (p 533).

This process highlighted a number of themes across the three case studies, for example - a clear basis of management understanding or dominant managerial logic (Bettis and Prahalad, 1986) or managerial recipe (Grinyer and Spender, 1979) that is bounded (Simon and March, 1958) was identified. During the process, this management understanding was challenged, resulting in a re-definition of the firm during this transitional process. This resulted in a number of questions:

- what is the significance of the dominant management logic?
- why does the industry dominate thinking?
- what triggered re-framing of the dominant management logic?
- what was the impact of re-framing of the dominant management logic?

### **3.7.5.5 Focusing the Inquiry**

Transition in thinking was a key feature from a review of the emergent analysis. The next step was to explore the Vennix database to develop an understanding of this issue in more detail. From a search of these data sources three patterns emerged - recipe articulation, recipe challenge and recipe re-definition. The hypothesis was then developed and the next stage was to search the sources of data to support or falsify this hypothesis. This involved further conceptualisation stage was then undertaken by using the Vennix database for the three case study organisations. This time the conceptualisation process was undertaken by record-by-record inquiry, searching for evidence of "recipe articulation, recipe challenge and recipe re-definition".

The incidents of such phenomena were first annotated on paper copy. Once this process had been completed, the incidents were transferred onto post-it notes and clustered. These details were then recorded to create a 'Transition in Thinking' database.

Further analytic memos were written as the basis of developing understanding of the empirical findings. These memos were the basis of constructing a theoretical model describing the process of "recipe articulation, recipe challenge and recipe re-definition", including the triggers and managerial response. These are discussed in detail in Chapter 5 – Empirical Findings, and Chapter 6 – Discussion.



## **Chapter 4**

### **Case Selection**

#### **Repertory Grid as a method of selecting Small Medium Sized Enterprises (SMEs) to participate in a Scenario planning research project**

##### ***4.1 Introduction***

The purpose of this chapter is to discuss the theoretical basis of the case selection for this empirical study, and also discuss the population of which the sample are members. The chapter discusses the methodological justification of Repertory Grid as the selection approach. Finally this chapter sets out the practical experience of using Repertory Grid to select case study companies. In the chapter, I discuss the practical difficulties in gaining access to case study companies, and the subsequent steps taken to over come this problem.

“Repertory grid focuses on the construction of meaning by individual participants in some context of interest (Gammock and Stephens, 1994, p 73). It is a way of eliciting constructions of knowledge from individuals. The repertory grid technique is derived from Kelly’s (1955) Personal Construct Theory. Repertory Grid “aims to identify the personally meaningful distinctions with which a view of the world is constructed” (Gammock and Stephens, 1994, p 74). Bannister and Fransella (1971) state “for each individual, constructs do not form a chaotic jumble but are related into an integrated system” (p48). This makes it possible to elicit an individual’s construct system to understand the characteristics of the potential case study organisations. Repertory grid analysis allows the researcher to establish similarity and dissimilarity across in selection sample.

Although established in the field of psychology (Beail, 1985), repertory grid has been used extensively in a business and management context (Stewart

and Stewart, 1981). Group repertory grid have been used in market research, training-course evaluation, and the evaluation of architecture (Wilcox, 1972; Easterby-Smith (1980); Glanville (1977); and Adams-Weber (1979).

The approach discussed in this chapter involves bringing together a mix of people to enable them to define characteristics of the companies forming the case selection sample. Using repertory grid in a group context is discussed below.

## **4.2 Research Context**

The research questions are concerned with change and adaptation in organisations. An action learning intervention is planned to study such phenomena. The action learning intervention is designed around an intervention, using scenario planning as the intervention approach. The broad intention is to research the impact of the intervention on the management of the host organisations.

Scenario planning is predominantly seen as a tool of large organisations, such as Shell (Grayson 1987) (Schoemaker & van der Heijden 1993), British Airways (Moyer 1996), Statoil (Stokke et al 1990). Several attempts have been made to describe a simplified scenario process that is suitable for organisations without large institutional resources to support such a process (Foster 1993; Mercer 1995). There is, however, little empirical evidence of the impact of scenario interventions.

We aimed for small/medium-sized enterprises (SME) for the following reasons:

- working with SMEs would result in direct access to decision makers
- working with SMEs would result in access to the decision making process, thus enabling research data to be gathered on the impact of the intervention

- working with SME managers would present opportunities to discuss and reflect on the intervention as it was likely that they would view the intervention as both a business and managerial development opportunity
- gaining access to an SME rather than a larger organisation would be less difficult due to fewer layers of management to gain agreement for the intervention and research project.

### **4.3 Gaining Access**

A challenge for many researchers is to gain access to situations or organisations that provide opportunities to gather empirical data. At the outset of the research project the researcher set out to gain support from Scottish Enterprise, the organisation with responsibility for supporting economic development in Scotland. Scottish Enterprise (SEN) has a network of support organisations throughout Scotland called Local Enterprise Companies (LECs). The LECs are tasked with local implementation of SEN policy initiatives. Scottish Enterprise was interested in applying a scenario approach to develop understanding of its usefulness and relevance, or not, for smaller sized companies. With this backdrop, the intention was to work collaboratively with Scottish Enterprise to (i) identify potential companies for the study (ii) approach these companies with a view to gain access to apply the scenario approach (iii) gather data and report to Scottish Enterprise findings regarding appropriateness or otherwise of the approach, and (iv) gather empirical data for research purposes.

#### **4.3.1 Scope of the Project**

The scope of the research population is limited to a sample of companies selected by the representatives of Scottish Enterprise National (SEN) and several Local Enterprise Companies (LECs) who have worked with these companies previously, for two reasons. First, to gain access to the database of companies developed by SEN and the LECs. Second, to gain access to these companies with the support of SEN and the LECs. This 'initial door

opening' assistance was a deliberate consideration in the design of this empirical study.

Most, if not all, SMEs based in Scotland have a relationship with SEN and the LECs and therefore they would have first hand and up to date knowledge about these companies. It is recognised that the SEN and the LEC representatives could have had bias towards one/several of the sample companies. This potential bias is overcome via the selection method. Given the economic development role of SEN and the LECs and the breadth of their relationship with SMEs based in Scotland, it was deemed worthwhile to pursue this approach. It is also recognised that other methods could have been used to determine the research population. The practicalities of access out-weighed other considerations.

By collaborating with the representatives of SEN and the LECs, the intention was to exploit the existing pre-determined level of knowledge. SEN and the LEC representatives have qualitative data, such as, manufacturing/service industry, age (number of years in existence), size (number of employees), exports, R&D, management style (entrepreneur, authoritarian, collaborative), and geography, which could be used in the selection process.

The selection process is discussed in more detail below.

#### ***4.4 Company Selection - Theoretical Basis***

##### **4.4.1 Framework**

As we saw earlier, Eisenhardt (1989) set out an eight-step framework as a "process of building theory from case study research" (p 533). These eight steps are as follows:

1. getting started
2. selecting cases
3. crafting instruments
4. entering the field

5. analysing data
6. shaping hypotheses
7. enfolding literature
8. reaching closure.

The discussion in this chapter concerns the first two steps of this process.

The theory building process needs to be “transparently observable” (Eisenhardt, 1989, p 537). To do so requires recognition of four inter-related issues: (i) theoretical basis of selecting companies (ii) multiple data gathering methods (iii) triangulation across methods and cases, and (iv) replicability in theory development. The research design, as discussed in chapter 3, sets out the overall approach. Issue (i) is discussed here in detail.

#### **4.4.2 Getting Started**

Eisenhardt (1989) proposes “an initial definition of the research question in at least broad terms is important in building theory from case studies” (p 536). Mintzberg (1979) notes that “no matter how small our sample or what our interest, we have always tried to go into organisations with a well defined focus - to collect specific kinds of data systematically “ (p 585).

The broad question raised by the literature review concerns “change in mental models” (Wack, 1985). This is interpreted as change in thinking and understanding, both individual and collective, which leads to re-framing of a problematic situation. This re-framing in turns leads to shared understanding and agreement on appropriate response. This response brings about new organisational action as the basis of future survival and success. The cyclical process is shown in figure \*\*.

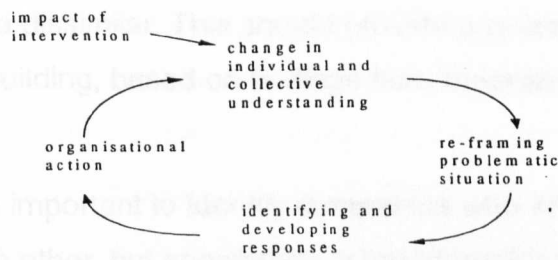


figure \* Impact of intervention (Burt 2001)

This sets out a preliminary boundary for this research project, on the basis of which we can move to the next step.

#### 4.4.3 Selecting Cases

The second step in the process concerns the theoretical basis of “selecting cases” (Eisenhardt, 1989, p 536). The first decision concerns the population from which the cases will be selected. The “concept of population is crucial, because the population defines the set of entities from which the research sample is drawn. Also, selection of an appropriate population controls extraneous variation and helps to define the limits for generalising the findings” (Eisenhardt, 1989, p 537).

Eisenhardt (1989) argues that “statistical sampling of cases from the chosen population is unusual when theory building from case studies. Such research relies on theoretical sampling, i.e. cases chosen for theoretical, not statistical, reasons (Glaser and Strauss, 1967). The cases may be chosen to replicate previous cases or extend emergent theory, or they may be chosen to fill theoretical categories and provide examples of polar types” (p 537).

#### 4.4.4 Identifying Case Characteristics

The approach taken in this thesis is neither statistical nor theoretical. For reasons of practicality the sample had to be decided in advance of the research. The only option left was to identify companies with uniquely differing characteristics, to provide opportunity to study and discuss findings

that are similar and dissimilar. This should provide a process of iterative emergent theory building, based on findings from theoretically divergent companies.

As 'n' is small, it is important to identify companies who are theoretically different from each other, but encompass a broad territory of company characteristics to aid the generalisation process. This is an attempt to (i) overcome bias of application of the scenario intervention with participating companies and (ii) support generalisation of findings to a wider population.

By using repertory grid in case selection, the intention is embrace multiple perspectives about the representatives understanding of the case selection sample. By using repertory grid in case selection, the intention is embrace multiple perspectives about the case selection sample.

This will be discussed in more detail below

#### ***4.5 Developing the Selection Approach***

##### **4.5.1 Theory of Personal Constructs**

Eden (1988) states that Kelly's (1955) Theory of Personal Constructs "seemed to provide a way of understanding personal and organisational problem solving" (p1), and also a way of "understanding of how people understand and manage their world" (Easterby-Smith, Thorpe and Lowe, 1991, p 84). The essence of Kelly's theory argues that man is continually striving to make sense of his world. In doing this, individuals develop cognitive maps for all significant aspects of their experience - which then define, and limit, their potential repertoires of behaviour. Stewart and Stewart (1981) suggest that Personal Construct Theory identifies whether and how we modify our constructs when faced with contradictory information. Our construct systems reflect our efforts to make sense of our world, just as scientists make sense of their subject matter: we observe, we draw conclusions about patterns of cause and effect, and we behave according to those conclusions.

It was our intention to select cases within the SME category of companies that were as different as possible. However, when the selection had to be made (prior to the research), the constructs on the basis of which dissimilarity would be decided were not defined. This dilemma was resolved by making use of the constructs of SMEs already existing in the mental models of the representatives of SEN and the LECs.

In order for this to work we had to make this experience explicit in terms of specific characteristics of companies, then identifying companies with dissimilar characteristics. This required SEN/LEC representatives to define the constructs of a “small and medium sized enterprise” as part of the company selection process.

#### **4.5.2 Repertory Grid**

The repertory grid method is devised to help elicit the system of *constructs* that a person uses to make sense of a repertoire of *elements* in a situation. In this context, repertory grids are the perceptions individuals' use to understand, make sense and manage their world (Easterby-Smith et al 1991).

The application of the repertory grid technique can take two forms. Firstly, repertory grid can be a simple matrix that can be completed manually. Secondly, repertory grid can be undertaken with the aid of computer software when the number of constructs under consideration becomes less easy to manage. A repertory grid contains the following features:

- *elements* - or objects of thought. These objects of thought are usually the other entities in the world about us, in this case, the SMEs which form the population to draw from to participate in the research project
- *constructs* - these are the qualities that the individual or the SEN/LEC representatives use to describe and differentiate between the elements. These include, for example, autonomous decision making rather than remote decision-making.



Easterby-Smith et al (1991) set out a standard procedure for generating a repertory grid. Firstly, decide on the *focus* of the grid. This should be quite specific, in this case, the characteristics and selection of companies to participate in the research project. Secondly, select with the interviewees a group of elements (see company listing below) which are relevant to the chosen focus, and which are likely to provide a good range. Thirdly, constructs are elicited, usually by asking respondents to compare and contrast elements in groups of three, known as triads. Elements are selected at random, and the participants are asked to state which of the elements differs from the other two elements. The participants are then asked to provide a word or phrase that describes the pair, and a contrasting word or phrase to describe the remaining element. Fourthly, each of the elements needs to be linked to, or rated against, each of the constructs. This was done by deciding which of the two “poles” of the construct provided the best description of the element. Then determine the position of the element on a rating scale, in this case 1 to 7 constructed between the poles of each construct. Each construct of all elements was then rated against these “poles” using this scale.

#### 4.5.2.1 *Advantages*

Stewart and Stewart (1981) set out advantages and disadvantages of using repertory Grid. The main advantages are summarised as follows:

- repertory grid results in verbalising constructs which otherwise would remain hidden;
- repertory grid are based on an individual's framework, in this case, the representatives of SEN/LECs framework, not that of the researcher, which is an attempt to prevent bias in the company selection process ensuring theoretical sensitivity;
- repertory grid provides insights for both the researcher and researched about their construct system, understanding experience built up over time, but not easily or readily made explicit.

#### 4.5.2.2 *Disadvantages*

The main disadvantages are:

- applying and analysing repertory grid is problematic and time-consuming to complete;
- applying repertory grid requires a degree of skill from the interviewer if the interviewee's constructs framework is to be fully explored;
- repertory grid may be difficult to analyse and interpret.

Each of these disadvantages has been considered in the context of this research project.

Firstly, to overcome the problem of grid construction and time necessary to complete the Repertory Grid selection exercise, a half-day workshop was designed with representatives of SEN and LECs. This workshop was designed to gather elements (or potential case study companies), differentiate these companies, group the companies by the basis of differentiation, and use the relationship with the SEN and LEC representatives to gain initial access to the potential case study companies.

Secondly, a "dummy run" exercise was undertaken to develop skill and competence in interviewing individuals prior to the workshop with the representatives of SEN and LECs. This is discussed in more detail below.

Finally, software was used to aid and simplify the analysis process. Again this is discussed in more detail below.

#### 4.5.2.3 *Selection Dry Run*

The room in which the workshop would be run was set up in accordance with the layout for the workshop. This layout would involve positioning the participants in a horseshoe, with myself at the front of the room with the computer and software to run the repertory grid exercise (PC Grid).

The output of this dry run (using "dummy" information) was then evaluated to ascertain several key research concerns. First, the appropriateness of the approach to conduct the company selection workshop. Second, to help my

understanding of the results, so that these could be evaluated in the context of the research objective. These were discussed with a more experienced researcher who was familiar with PC Grid and confirmed the evaluation of the dummy run.

#### 4.5.2.4 *Using Repertory Grid with Groups or Teams*

Using repertory grid with groups has a long history. Eden and Jones (1984) identify a number of applications, including “repertory grid is often useful for getting a feel for how relatively large groups see particular issues (Armstrong and Eden, 1979; Eden et al (1983). Repertory grid technique “can support different interpretations, and therefore, ambiguity, which we suggest is practically resolved dialogically through constructive interaction” (Gammock and Stephens, 1994, p 80).

Eden and Jones (1984) argue that “if some broad agreement can be reached about which elements are to be considered, then the elicitation of constructs with each member of the group or team is likely to quickly and efficiently develop a picture of cross-subjectivity (differences in problem construction) and inter-subjectivity (similar dimensions of construction).

Constructive interaction (Miyake, 1986) describes situations in which groups produce a collective performance. The group dialogue results in a deeper construct articulation. Deeper construct articulation occurs through “mutual evaluations and criticism of one another’s perspectives. A new (shared) perspective can emerge enhanced by input from all parties. When different specialities are involved, a mutual learning and appreciation of others’ assumptions can occur, increasing knowledge and identifying a common language in which various parties can find their understanding reflected “Gammock and Stephens, 1994, p 76).

Therefore issues of cross-subjectivity and inter-subjectivity are harnessed during the workshop to help make explicit theoretical (to the SEN and LEC representatives) similarities and dissimilarities between the sample of companies or elements. By asking the group to signify how the elicited constructs would be used with respect to each element, the participants are

providing data which can be statistically analysed to identify the system of constructs and elements used by them to describe the situation (Eden 1988), in this case, the characteristics of the case study companies.

The software -PCGRID - randomly generates triads of companies and inter-subjectivity is the basis for construct articulation of the elements within the triad, enabling the SEN and LEC representatives to make explicit their construction of the companies in the triad. After presentation of each triad the following questions are asked - which element (or company) is different? how is the element (or company) different? what are the polar constructs of the elements (or companies)? This provides the basis for comparison of all elements (or companies) within the selection database.

## ***4.6 Selection Process***

### **4.6.1 Purpose of selection workshop**

The purpose of this workshop was threefold. Firstly, to involve the representatives of SEN and LECs to (a) gain access to the database of companies built up by these organisations over many years as they support the development of these companies, (b) overcome limitations of geography, for example a Glasgow-centric study, by ensuring geographical spread of the LECs and therefore potentially including companies from any part of Scotland, (c) provide an opportunity for initial door opening into the selected case study companies.

Secondly, in developing a theoretical sample, a number of key issues had to be recognised and acknowledged. These included over-coming any bias towards a company deemed more suitable than another with regard to the application of scenario interventions. This issue was never discussed with the representatives of SEN and the LECs to ensure no issue of bias or subjectivity arose from or during the selection process. Selection of potential case study companies was not the subjective decision of researcher but

developed in conjunction with SEN/LECs to ensure no undue influence by any participant.

Finally, in determining the characteristics of the case study companies, repertory grid enabled the determination of company characteristics by consideration of soft issues rather than being limited to the more obvious financial or numerical attributes to the exclusion of other attributes. Analysis and comparison of these characteristics produced a tree diagram or dendrogram. This tree diagram shows how the elements are similar and dissimilar from each other (Easterby-Smith, Thorpe and Lowe, 1991). By mapping the constructs of all companies in the population it is possible to allow for and maximise the difference between the case study companies. This is possible by careful construct categorisation in the selection of case study companies. By considering a number of companies across the spectrum of similarity and dissimilarity from the repertory grid output, it is possible to address the questions of validity, reliability and generalisation (Easterby-Smith, Thorpe and Lowe, 1991, p 40).

#### **4.6.2 Selection workshop**

As discussed above, there were several reasons for working collaboratively with SEN and LECs - gain access to SEN and LEC database of companies, and assistance in gaining access to selected companies. Representatives of the SEN and LECs included Scottish Enterprise National and their Biotechnology division, together with Glasgow Development Agency, Lanarkshire Development Agency, and Renfrewshire Enterprise (Forth Valley Enterprise were also scheduled to participate, however, their representative was ill on the day of the workshop).

After the initial introductions, the purpose and objectives of the day were explained to the SEN/LEC participants. These included - research into the impact of scenario planning on SMEs, the establishment of a database of companies who are sufficiently different and could be assessed for suitability to participate in the empirical study. The next issue was to explain and discuss the company selection approach and methodology - the application of

repertory grid to establish the characteristics of the companies. Finally, answering any questions to clarify issues or concerns of the participants regarding the selection process.

#### 4.6.3 Establishing Selection Database

The initial step or objective was to conduct a round robin of the SEN/LEC participants to establish the database of companies, or in repertory grid terms - elements, which may be considered to participate in the research project.

These companies are listed as follows:

	Company (or Element)	SEN or LEC
1.	ELM	Glasgow Development Agency
2.	Sunvic	Lanarkshire Development Agency
3.	PPL Therapeutics	SEN Bio-Technology
4.	SSK	Glasgow Development Agency
5.	Gas Measuring Instruments (GMI)	Glasgow Development Agency
6.	Deveron	Renfrewshire Enterprise
7.	Bioscot	SEN Bio-Technology
8.	Albion Components	Glasgow Development Agency
9.	Paton's	Renfrewshire Enterprise
10.	Oakwood Foods	Lanarkshire Development Agency
11.	Shield Diagnostics	Renfrewshire Enterprise
12.	McLay Ferguson	Glasgow Development Agency
13.	Arcol	Glasgow Development Agency
14.	Peter Tilling Plastics (Glenhead) Limited	Lanarkshire Development Agency

	(Scotland) Limited	Agency
15.	Micro Biology associates (MBA)	SEN Bio-Technology
16.	Cruchem chemicals	Renfrewshire Enterprise
17.	Watson & Grange	Renfrewshire Enterprise
18.	TFC	Lanarkshire Development Agency
19.	Life Technologies	SEN Bio-Technology
20.	Frank Sammeroff	Glasgow Development Agency
21.	Smith & McLaurin	Glasgow Development Agency
22.	Terex	Lanarkshire Development Agency
23.	Frontline Consultants	SEN
24.	Sigma	SEN Bio-Technology
25.	Clyde Bonding Company	Glasgow Development Agency
26.	Bridge of Weir Leather	Renfrewshire Enterprise
27.	Westberger	Renfrewshire Enterprise
28.	Inveresk Research	SEN Bio-Technology
29.	McGrigor Donald	SEN
30.	Cegelec Bauteil	Glasgow Development Agency

The diversity of these companies in the database ranged from service companies i.e. a firm of lawyers to whisky blending and bottling company; manufacturing companies from food manufacture to plastic injection moulding manufacture to furniture manufacture; high technology companies from biotechnology to electronics. The range of companies covered a wide range of organisational sizes, activities, management styles, and locations.

#### 4.6.4 Establishing Case Characteristics

The second step or objective was to establish the characteristics of those companies forming the database. The triad method was used to overcome bias of the SEN or LEC representatives towards a particular company.

PC Grid randomly produced triads of companies from the database. These triads were then used as the basis of establishing the constructs of the database of companies. The third step in the process was to differentiate one of the companies in the triad from the other two companies. The question to differentiate the companies in a triad was - "which company is the odd one out, and why?" The next challenge was to establish polarity in the constructs. Each triad and related analysis is set out in the table below.

Triad	Companies	Similar companies	Odd one out	Poles
1	ELM Inveresk Research Bridge of Weir Leather	ELM Bridge of Weir Leather	Inveresk (foreign owned)	foreign owned - Scottish owned
2	Smith & Maclaurin Albion Bridge of Weir Leather	Smith & Maclaurin Bridge of Weir Leather	Albion (large company - number of employees)	large number of employees - small number of employees
3	Peter Tilling Cegelec Bauteil Cruchem	Peter Tilling Cruchem	Cegelec Bauteil (specialist knowledge and processes)	hi-tech (using or exploiting specialist knowledge) - low-tech



			processes)	
4	Peter Tilling McGrigor Donald Cruchem	Peter Tilling Cruchem	McGrigor Donald (law firm - service company)	service company - manufacturing company
5	Smith & Maclaurin Albion Bridge of Weir Leather	Smith & Maclaurin Bridge of Weir Leather	Albion (no exports)	low exporter - high exporter
6	Peter Tilling McGrigor Donald Cruchem	McGrigor Donald Cruchem	Peter Tilling (large turnover)	small turnover - large turnover
7	Peter Tilling Cegelec Bauteil Cruchem	Peter Tilling Cruchem	Cegelec Bauteil (part of international group, with remote decision making)	autonomous (decision making power) - remote (decision making power)
8	Arcol Albion Life Technologies	Albion Life Technologies	Arcol (owner makes all decisions)	autocratic (decision making style) - consensus (decision making style)
9	Albion	Albion	PPL	young market -

	Oakwood Foods PPL	Oakwood Foods	(new market from R&D)	mature market
10	Albion Oakwood Foods PPL	Oakwood Foods PPL	Albion (company trying to radically change business)	closed management style - open management style (being amenable to change)
11	TFC CBC Bridge of Weir Leather	TFC Bridge of Weir Leather	CBC (narrow business)	niche product - portfolio of products
12	McGrigor Donald Cruchem PPL	Cruchem PPL	McGrigor Donald (business in decline)	declining market - growing market
13	TFC GMI Westberger	TFC Westberger	GMI (lack of awareness about KSF, competition, or market research)	strategically aware - strategically blind
14	SSK ELM PPL	ELM PPL	SSK (no IIP, training etc)	people oriented (invested in training and development) -

				not people oriented
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This process was repeated over a number of iterations to exhaust the articulation of company constructs.

#### 4.6.5 Summary of Constructs/Characteristics

These constructs were as follows:

1. foreign owned - Scottish owned (in this case locally owned, locally managed and inherently Scottish management)
2. large number of employees - small number of employees (desire to assist growth of small companies who have limited access to business development approaches)
3. hi-tech (using or exploiting specialist knowledge) - low-tech
4. service company - manufacturing company
5. low exporter - high exporter
6. small turnover - large turnover
7. autonomous (decision making power) - remote (decision making power)
8. autocratic (decision making style) - consensus (decision making style)
9. young market - mature market (in terms of product development)
10. closed management style - open management style (being amenable to change)
11. niche product - portfolio of products
12. declining market - growing market
13. strategically aware - strategically blind (did not undertake any business planning)
14. people oriented (invested in training and development) - not people oriented

#### 4.6.6 Scoring Elements or Potential Case Study Companies

Following the establishment of these constructs, the fourth step or objective was to rank all companies in the database individually. The challenge was to assess each company with regard the constructs to identify their relative position in respect to the polarity. Each company was scored along a range of 1 to 7 covering extremes of polarity. By adopting this approach it is possible to overcome issues of subjectivity of the researcher and the SEN/LEC participants.

The following table is a record of the scoring by the participants during the workshop:

							Co	str	uc					
Co	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	7	6	3	4	4	3	1	3	2	5	3	6	2	3
2.	4	2	5	6	4	4	2	6	6	6	3	3	2	3
3.	7	6	1	2	7	1	1	3	1	4	1	7	2	2
4.	7	7	6	1	1	1	1	5	2	4	3	6	3	6
5.	7	5	4	5	3	2	1	5	2	5	3	5	2	2
6.	7	2	3	2	1	2	1	2	1	4	2	7	3	2
7.	1	7	1	7	6	2	6	5	3	5	3	5	3	3
8.	7	1	4	5	2	7	1	3	7	6	4	5	2	3
9.	1	5	4	7	4	3	3	3	6	6	2	3	2	4
10.	7	7	4	7	1	3	1	2	5	3	3	5	3	3
11.	7	6	4	7	6	1	1	3	3	5	4	5	2	3

12.	7	6	7	6	1	3	1	2	6	4	4	5	3	4
13.	4	4	5	6	1	3	3	2	5	5	3	2	2	2
14.	4	6	4	7	1	5	3	3	3	6	3	4	2	2
15.	1	7	2	1	6	1	6	5	1	6	3	7	2	2
16.	7	6	3	4	7	2	1	1	3	2	1	5	4	5
17.	4	6	5	6	5	3	3	4	6	4	3	4	3	4
18.	7	2	5	7	1	3	1	1	3	2	3	3	4	4
19.	1	4	2	7	6	7	6	3	4	5	6	5	2	3
20.	7	1	7	7	2	2	1	3	6	3	3	3	3	3
21.	1	4	4	6	3	3	4	4	4	5	4	5	2	3
22.	1	1	4	6	7	7	2	4	7	1	2	2	5	5
23.	7	7	4	1	1	2	1	6	5	7	7	4	1	1
24.	1	7	3	7	5	1	7	2	4	5	3	5	2	2
25.	7	1	6	1	7	4	1	6	3	5	1	1	2	2
26.	7	5	4	7	6	4	1	3	6	4	3	5	3	3
27.	1	7	3	7	5	2	3	4	6	3	2	3	3	3
28.	1	1	3	1	6	6	5	6	3	5	6	6	3	3
29.	7	6	2	1	2	2	1	2	7	3	6	2	5	5
30.	1	6	6	7	2	3	3	2	6	3	3	6	3	3

At this stage the participants could not add any further elements or constructs and PC Grid analysis was performed.

#### 4.6.7 Analysis of Scoring

Eden (1988) states that the list of constructs generated should say something about the way in which the participants think about SMEs. The elements and

constructs can then be evaluated against one another by noting the extent to which each element is described by either one pole or the other of each construct. The outcome of the exercise can be analysed in a variety of ways that are designed to suggest which constructs have similar meanings and which elements are evaluated as similar or different.

Small repertory grid can be analysed manually, or by eye, by looking for patterns of relationships and differences between constructs and elements. However, with larger repertory grid (say 5 x 5 or upwards), in this case 30 x 14, it is more common to use computer analysis packages (Easterby-Smith et al 1991).

There are two main families of software packages, based on either principal component analysis or on cluster analysis. The former provides a map that plots the elements within dimensions, with axes defined by the constructs. The latter produces a tree diagram or dendrogram that shows how the elements link to each other and how the constructs link to each other. The dendrogram is read from right to left and splits between similarities and differences in the elements.

#### *4.6.7.1 Clustering Case study companies*

The analysis of this assessment from PCGRID software is discussed below, and the results per PCGRID is located as appendices \*/1, \*/2 and \*/3. As discussed above the analysis was performed around a dendrogram that identifies how the elements link to each other and how the constructs link to each other and the elements.

In this case, the dendrogram was split into four sections. Two sections from the top and bottom of the dendrogram indicated those companies that are most dissimilar. The other two sections were from the middle quartiles. The aim of this procedure was to identify cases with as wide a range of characteristics, as characterised by the SEN/LEC participants.

Within each of these four sections a cluster of three or four companies was distinguished as possible candidates to enable the researcher to have several options when discussing possible participation. This initial discussion

explained the research project and sought the (potential) case study company management team's agreement to participate. Should the first company in the cluster not wish to participate then another company with similar characteristics could be selected. The research fieldwork is undertaken with companies selected by this process.

From the workshop, the repertory grid analysis highlighted four groups of companies clustered by similarity and dissimilarity. The four clusters of groups included:

<b>Cluster from Dendrogram</b>	<b>Construct analysis</b>	<b>Initial target for participating in empirical study</b>
Oakwood Foods McLay Ferguson ELM GMI	Strategically aware People oriented Open to change Growth in markets Small turnover Specialised knowledge	Oakwood Foods
Peter Tilling Watson & Grange Bridge of Weir Leather Bioscot	Hi-tec	Peter Tilling
Sunvic PPL Cegelec Bauteil	Foreign owned	Cegelec Bauteil
Clyde Bonding Company	Declining market Consensus	Clyde Bonding Company

McGrigor Donald	management	
Terex	Niche	
	High exports	
	Large - employees	
	Manufacturing	
	Remote decision making	

#### ***4.7 Company Selection - Access and Subsequent Steps***

With the agreement of the SEN and LEC representatives, an initial approach was made to the four companies, informing the management of these companies about the initiative and asking for their support by participating. The next stage involved the researcher approaching the management to discuss their involvement in more detail.

The first companies approached were - Oakwood Foods, Peter Tilling and Clyde Bonding Company. After many meetings over a nine-month period Oakwood Foods declined to participate due to uncertainty about the scenario methodology; Peter Tilling initially agreed to participate then rescinded that decision due to an impending take-over by a major customer. Clyde Bonding Company agreed to scenario intervention, to work with the researcher to provide access to empirical data. The results of the Clyde Bonding Company empirical study are considered further in chapter 5 – Empirical Findings and chapter 6 – Discussion of Findings.

#### ***4.8 Identifying Alternative Companies***

Due to the problems discussed above concerning access to companies from the initial company selection process, the challenge for the researcher was to identify other companies who would fit one of the other three quartiles of the dendrogram analysis from the repertory grid exercise. Two companies



eventually were identified - Caledonian Paper plc and Campbell Lee Computer Services.

#### 4.8.1 Caledonian Paper

The key informant for Caledonian Paper was the production manager Iain Borthwick. An assessment exercise was conducted with Iain Borthwick to assess the company with regard to the constructs established in the Selection workshop. The outcome of this exercise was:

Construct	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Score	1	3	5	7	4	1	3	4	6	6	3	2	2	2

This placed Caledonian Paper in the top quartile. For this reason the company was a valid replacement for Oakwood Foods.

The results are set out as appendix \*2

#### 4.8.2 Campbell Lee Computer Services

The key informant for Campbell Lee Computer Services was the quality manager Alastair Arthur. An assessment exercise was conducted with Alastair Arthur to assess the company with regard to the constructs established in the Selection workshop. The outcome of this exercise was:

Construct	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Score	7	6	1	1	3	2	1	6	5	7	7	4	3	1

This placed Campbell Lee in the second quartile 3 (second bottom quartile).

This made Campbell Lee Computer Systems a valid replacement for Cegelec Bauteil. The results are set out as appendix \*3.

#### **4.9 Overview of Case Study Companies**

The case companies were:

##### **Clyde Bonding Company**

Clyde Bonding Company is part of the Edrington Group, a privately owned company operating in the drinks industry. The main Edrington's product is scotch whisky. Edrington's primary role is the marketing and branding of the groups whisky and related drinks products. The group has cross shareholdings with Matthew Gloag & Sons, the owner of Famous Grouse one of the top 2 selling blended scotch whiskies; Robertson & Baxters who buy and sell whisky casks; Berry Brothers & Rudd who own the Cutty Sark brand. The group are located in premises in Glasgow city centre. Clyde Bonding Company is located seven miles west of the city centre. Blending and bottling operations are conducted at this location. Bonded whisky is also stored at this location. Clyde Bonding Company also act as a bottling sub-contractor for other Scotch whisky companies such as Chivas Brothers and Grant's who own Glenfiddoch.

Clyde Bonding Company's principal activities are the blending, bottling and storage of wines and spirits. At the time of the intervention the Mission of the company was - "to provide a quality service in the blending, bottling and storage of Scotch whisky and other spirits; to co-operate with our customers in assisting them to develop their brands; and to provide a realistic return on the company's assets". (source - Clyde Bonding Company Annual Report and Accounts 1994)

The company's philosophy was centred on three inter-related issues.

"Customer satisfaction - everyone acts to satisfy the agreed requirements of the customers; Continuous Improvement - by a process of active involvement and personal development; Contribution - everyone contributes positively to the success of the business. We will support each other in doing this and treat each other with consideration". (source - Clyde Bonding Company Annual Report and Accounts 1994)

The main drinks brands owned by the company included – Famous Grouse, Cutty Sark, Highland Park, Glog's Gin and Brilliant Vodka. There were other drinks brands in the portfolio.

The company's turnover was £13 million, and the number of employees was 346. (source - Clyde Bonding Company Annual Report and Accounts 1994)

### **Caledonian Paper**

Caledonian paper was founded to serve the UK and international markets for high quality papers, used in the production of magazines, catalogues and a wide range of advertising materials. Wholly owned by the Kymmene Corporation, one of the world's largest paper making groups, Caledonian paper began operations in 1987 with the construction of the UK's most modern paper mill, on a 50-hectare greenfield site at Irvine in southwest Scotland. Initial investment at Irvine exceeded \$320 million, £215 million.

The Irvine mill produces lightweight coated (LWC) paper. To mark the company's location on the estuary of the river Clyde, Caledonian Paper uses the prefix Clyde in its product names. Its LWC is called Clydecote.

Caledonian Paper produced its first reel of Clydecote in April 1989, and since then the company has become established as a leading supplier of LWC to publishers and printers throughout the world. Annual output is over 200,000 tonnes - more than half of which is sold in the UK.

### **Campbell Lee Computer Services**

Campbell Lee Computer Services has been in existence 20 years as an IBM Business Partner. For a computer services company, formed during the explosion of IT related business initiatives in the 1970s and 1980s, it has done well. It is still in existence for a start! It has survived a recession. Thus history shows that the organisation has the capability for survival.

The company was formed on high business ethic principles. Misleading or lying to a customer is a serious offence. The company is open to a surprising extent, and everyone is on first name terms. This is synonymous with small, organic software companies, but is often lost as the organisation grows.

Campbell Lee Computer Services have guarded this informality jealously and actively. It is a people company and has always realised it. It treats its people well. Rules and regulations are kept to the absolute minimum and there is a high element of trust in the company. Practised teamwork has always been a feature of Campbell Lee, albeit not always recognised or fully understood.

The company is an IBM business partner that means that many of the software packages it sells has an IBM connotation. This gives the company a healthy business, and notwithstanding the limitations imposed on the company it managed a turnover of £6 million in 1998.

#### **4.10 Conclusions**

The company selection process was designed to (a) establish objective criteria for the characteristics of each company (b) highlight theoretical differences in companies (c) conduct empirical study with one company from each quartile to assist generalisability of findings. The next step was to gain access and gather empirical evidence. The empirical findings are discussed in chapter 5 of this thesis.

Eisenhardt (1989) set out a process for building theory from case study research. Step two of this process concerned "selecting cases". Eisenhardt (1989) argues that in case study research cases should be selected by theoretical sampling. Theoretical not statistical reasons should be the basis of selection. In the context of this thesis, strict theoretical sampling could not be adhered to. Instead we attempted to identify (potential) case study companies who were significantly different from each other. Repertory grid was the methodology chosen to differentiate companies.

The company selection process identified the characteristics or constructs of the case study companies, analysed the database of companies based on ranking against the constructs. PC Grid produced further analysis of the database companies, identifying the similarities and dissimilarities between

these companies. The companies were placed in four quartiles, and an approach was made to a representative company in each quartile.

## **Chapter 5**

### **Empirical Findings**

#### **5.1 INTRODUCTION**

Chapter 5 is structured to discuss (i) the findings from the three case studies, arising from the scenario planning intervention; (ii) to explain the process adopted by the researcher in generating these findings; and (iii) provide a link from the findings to the discussion in the next chapter.

The intervention was a scenario exploration project carried out by the management team with professional facilitation. The process unfolds typically as follows:

- Stage 1
  - Agreement with the management team to initiate the intervention
- Stage 2
  - Conduct individual interviews with members of the management team
  - Workshop to provide feedback of the individual interviews
  - Development of the organisation's Business Idea, its systemic success formula
  - Development of the scenario agenda
- Stage 3

- Search for outsiders, 'Remarkable People' with knowledge of the concerns identified in the scenario agenda to participate in workshop 2
- Workshop to build scenarios
- Stage 4
- Workshop to consider strategic implications of scenarios
  - Strategic option surfacing
  - Project and action planning
- Stage 5
  - Review of intervention and final presentation.

Throughout the process data was collected in multiple ways.

The initial stage of the intervention was concerned with developing an understanding of the management frame, and what are the limits to this management frame? This approach makes it possible to identify the management focus (and their blinkers) and knowledge gaps.

In stage 2 the management team consider the purpose or objective of the organisation, their perception of the key success factors and develop a systemic understanding of the relationships between the key success factors. This enables the management team to reflect and consider future business drivers and the area they wish to consider in more depth. The management team then works with outsiders who stimulate learning through introduction of new concepts, a process of questioning and inquiry. This generates a challenge to the managerial mindset or recipe.

By developing a broader conceptualisation of the outside world, managerial understanding is stretched beyond the day to day and out of operational thinking. This further challenges the managerial mindset. The scenarios highlight deeper structural understanding, which highlights insights and knowledge gaps within the management team. Deeper structural understanding produces new threats to the organisation, especially if there is

a lack of current response. (see CBC; ND and Invaders) This in turn produces questioning of alternative futures (scenarios) for areas of potential control. Learning amongst the management team is reinforced through storytelling and building up the logic of the path for change.

This new understanding enables the management team to raise structural questions. This helps in understanding the changing rules of the game. This produces a number of observations. Firstly, the challenge and threat to status quo and fear of lack of control produces counter intuitive thinking (see ND comments later). Secondly, the managerial conversation generates tension around new dilemmas. (see CP dilemmas) Finally, by understanding the new rules of the game as described in the scenarios, the participants identify a number of concerns that become the basis of a future research agenda. The research agenda is intended to help the organisation to overcome knowledge gaps that it identified.

The management team develop and refine their thinking around the purpose of the organisation. This in turn produces a champion for change to drive forward with strategic thrusts. Whilst the management team are articulating this approach, a new level of dilemmas appears in the conversation.

The intervention workshop dates were:

	<b>CBC</b>	<b>CP/IPC</b>	<b>CLCS</b>
Workshop 1	9/2/96	28/8/96	18/4/98
Workshop 2	15/3/96	22/10/96	22/5/98
Workshop 3	29/7/96	7/1/97	4/6/98
Workshop 4	16/8/96	19/3/97	19/6/98

### 5.1.1 Structuring Data

To explore and understand the observed phenomena the approach adopted is structured to discuss the outcome of the within case analysis and cross case pattern search and analysis (Eisenhardt 1989, 1995) using a grounded



approach (Glaser & Strauss 1967; Strauss & Corbin 1990). The researcher started the research process with no clearly defined hypothesis, but with the broad intention of exploring the use of scenario planning for creating change in SMEs. By having no clearly defined hypothesis, the intent was to reduce the possibility of bias towards one particular theoretical aspect or another during the data gathering phases.

In generating the research findings, the researcher adopted three steps in taking raw field data and structuring it to allow inquiry and interpretation of the phenomena under investigation. Firstly, structuring the raw field data involved applying the categories set out by Vennix (1998). Secondly, question 'Vennix database' line by line to understand and conceptualise the learning arising from the intervention. Thirdly, analyse the database to identify patterns. These patterns emerged around the identification of the boundary of management thinking, the challenge to the management thinking, and the transition and reinterpretation in thinking.

The next stage of the research inquiry process was to undertake within case analysis and across case comparison. By undertaking the within case analysis and cross case pattern search and analysis process, the researcher can adopt an inductive approach to building theory from the case studies (Eisenhardt 1989, 1995). The approach is iterative and tightly linked to the empirical data, and allows for the generation of insights and convincing argument, grounded in the evidence. It is the intimate connection with empirical reality that permits the development of a testable, relevant and valid theory (Glaser and Strauss 1967).

### **5.1.2 Research Design and Multi-methods of data collection**

The research project provided an opportunity to work closely with each of the three case study organisations over a long period of time. This allowed for a research design based on a multi-method approach. By adapting a multi method approach (gathering data from numerous sources) the researcher:

- (i) recognised the problems of undertaking action research (refer this chapter, section \*);

- (ii) recognised the complexity of gathering and interpreting field data (refer this chapter, section \*);
- (iii) addressed the concerns of validity and replicability; and
- (iv) acknowledged and reflected the multiplicity of interaction between researcher and social actors occurring throughout the intervention.

The methods incorporated in the multi method approach included interviews, field observations, critical incidents occurring during the intervention episodes, and collaborative inquiry with social actors. This section discusses each approach in more detail, together with their interplay in the field.

#### *5.1.2.1 Initial Interviews*

At the outset of the intervention the researcher conducted face-to-face, open-ended interviews with each participant. These interviews were based on using the questions discussed in section 2.7.2 - Open ended in depth interviews of chapter 2. These interviews were recorded as cause maps during the interview. The cause maps were regularly discussed with the interviewee to confirm words and their meaning, emergent structure of the cause map, together with the internal logic of this structure. Each interview lasted between 1.1/2 and 2 hours. These interviews were later captured in Graphics Cope/Decision Explorer software.

#### *5.1.2.2 Participant Observer and Critical Incident Technique*

Prior to intervention the researcher had discussed and agreed his role in the intervention with the management/participants of all three case study companies. There was no attempt to hide the role of the researcher. There was no attempt to hide the objectives of either the intervention or the objectives of the research project. Management of the case study companies indicated at the outset of the intervention that they had no reservations about these objectives.

The researcher had input into the design of the intervention stages prior to the intervention episodes. During the intervention episodes the researcher acted as an observer of the social interaction. During the intervention

episodes the researcher physically took a position where it was possible to watch and listen to all participants whilst being unobtrusive.

Throughout the intervention episodes the researcher as observer took detailed notes of conversations and debates, noting who participated in these conversations and debates, time of these discussions and debates. The researcher also noted the tone and level of energy of the conversations and their outcomes and conclusions.

During observations the researcher focused on critical incidents noting:

- (i) the incident in detail;
- (ii) the actors involved in the incident;
- (iii) the behaviour of the other actors not involved in the incident;
- (iv) an initial interpretation of what was occurring and
- (v) the significance of the critical incident for the social actors.

Throughout the intervention episodes, the researcher used opportunities such as coffee breaks, lunch and dinner to inquire and probe further with the key actors about incidents. This provided the opportunity to gather data beyond the researchers initial observations and interpretations.

This approach allowed development of “thick description” (Geertz, 1973) of actors’ interpretive procedures, beyond “reporting of an act (thin description) to describe the intentions, motive, meaning, context, situation and circumstance of actions” (Denzin, 1978, p 39).

The following note is an example of a critical incident that occurred during Clyde Bonding Company workshop 2 (at 6.16 p.m.), together with the process of inquiry that followed.

After the ‘remarkable person’ presentation of the concept of ‘value and value creation’, Andrew Gillespie (CBC Managing Director) commented: “I am depressed, we are being stuffed by our customers. We are locked into the risk of our customers”. Robin Gillies (Operations Director) replied: “CBC give

value, create value for others. CBC take a worthless product and create value in the process”.

The follow up inquiry revealed Andrew Gillespie’s and Robin Gillies’ emergent understanding of the significance of group structure in terms of CBC. This understanding highlighted the pressures for production efficiency and cost reduction from the parent company. Robin Gillies’ explained that the parent company approach had “resulted in our thinking being impaired”. The key for CBC was to “take control of the production and scheduling process”.

Robin Gillies’ interpretation of the critical incident revealed that Andrew Gillespie was seeking managerial support to move customer risk from CBC back to the brand owners. No specific approach was indicated to achieve this goal. The solution adopted by CBC would also provide CBC with closer proximity to demand dynamics.

#### *5.1.2.3 Triangulation in the Field*

Denzin (1978) suggests triangulation of data sources and field methods as an approach to increase objectivity in phenomenological research. Triangulation occurred at two levels within this research project. First, at the critical incidents level. Second, at the emergent themes level.

For critical incident triangulation, the researcher triangulated:

- (i) field observations, notes and interpretations,
- (ii) actors interpretations of critical incidents, and
- (iii) patterns that occurred during the intervention about these incidents.

For emergent theme triangulation, the researcher triangulated:

- (i) emergent events and themes,
- (ii) actors unravelling of emergent themes during collaborative inquiry, and
- (iii) post intervention interviews with actors.

#### 5.1.2.4 *Post Intervention Interviews*

The researcher had prior agreement with the case study companies to conduct 'exit' interviews with all participants. The exit interviews were designed to use the same set of interview questions applied in the initial interviews. This would enable the researcher to gather data in search of evidence of change in thinking.

Cause maps were developed to reveal thinking, structure, goals and reasoning of the interviewee post intervention. This approach enabled the researcher to explore interviewee's thinking.

The themes in exit interviews were compared with the themes in the initial interviews. These were discussed with interviewees in an attempt to understand the changes as well as the reasons for change.

The interviews became an internal validation mechanism for the researcher as part of methodological triangulation. The cause maps were not analysed beyond this stage. The interview data was incorporated, after coding, with other field data in the Vennix database that was used as the basis of subsequent during the data analysis and coding process that produced the Vennix database.

Like the pre-interviews the maps were discussed with the interviewees to obtain their validation. The content was then included in the Vennix database.

The steps of the database construction and inquiry is set out and discussed further.

#### **5.1.3 Step 1 – Learning Effects Framework**

Vennix (1998) discusses the question of how the effectiveness of intervention methods can be researched empirically. He suggests that four themes need to be addressed:

- To what extent did the intervention create learning effects
  - At the level of content in relation to a recognised problem?

- At the level of the learning process (double loop learning (Argyris and Schon, 1978)?
- To what extent has the intervention led to shared problem definition and meaning?
- What is the effect of the intervention on attitudes and behaviours?
- Which component of the intervention process was particularly important in making the intervention effective?

The researcher decided to use these themes as categories along which the emergent data could be structured, as a first step in the theory building process. The categories were defined as follows:

- Evidence of learning effects and shared vision development in the organisation, considering these at two levels. First level, content learning or learning something new about the business; second level, process learning or thinking differently about the business (learning to learn or double loop learning).
- Evidence that the interventions lead to shared problem visions and shared meaning, to identify a platform for solution, implementation or buy in for change in behaviour
- Evidence of the effectiveness of outside knowledge, by considering three aspects. Firstly, how can this be done most effectively? Secondly, under what circumstances is this useful? Finally, was the introduction of outside knowledge effective? Did the outside knowledge lead to a qualitatively better or faster problem solution?
- Decomposition of the method. Which component has made a particular contribution to the success of the intervention? Visualisation of issues? Schemas for understanding? A combination of these two components to generate learning? Role of the facilitator? The setting to allow communication and consensus?

Each of these categories was applied to the raw field data from the three case studies.

#### **5.1.4 Step 2 – Searching Database**

On completion of this stage the researcher had to determine which of the four perspectives to study in more depth in this thesis. The approach adopted by the researcher in questioning the findings was to take the output from the 'Vennix database', and systematically question the database line by line to understand and conceptualise the learning arising from the intervention. Two possibilities arose for the researcher from a review of the database:

- Firstly, further analysis and coding of the database by the researcher for content and process learning, or
- Secondly, further questioning of the database by the researcher for patterns to identify what if any systemic relationships were emerging from the data analysis and coding.

The second option was chosen as this presented the researcher with the opportunity to study the unfolding impact of the interventions on the individual participants and the case study organisations. Where to start? The researcher decided to analyse the database from the perspective of these questions:

- Firstly, search for any intuitive patterns emerging from the data analysis
- Secondly, search for any systemic relationships in these patterns
- Thirdly, search for any contradictory relationships emerging in the patterns

The next step of the analytic or inductive process required the researcher to review the database created using the Vennix (1998) categories (see appendix \*) for themes or patterns. A grounded approach was taken to analyse line by line the content of the database, from which a second database was developed. Questioning line by line in the database, the researcher explored the dynamic of the learning occurring from the intervention. Specifically in this thesis, the question posed was - "what is the essence of learning occurring?" across each line or learning incident. The

output or issue identified from this questioning was captured on post-it notes, with the key features noted, and cross referenced to the original Vennix data-point. For example, in Caledonian Paper, line 'CP 519' - process of inquiry into structure, identified knowledge gaps and research questions around "invaders - what is the make up of the invaders?" (WS 4, p 32, 19/3/97, dialogue between PB and IB).

The next step was to conceptualise the emergent issues in the database, group concepts pertaining to the same category and name emergent themes or clusters. From these themes it was possible for the researcher to construct a systemic understanding of the impact of the intervention on management thinking. Further interpretation allowed inferences to be drawn from the second database across the 3 case study organisations.

Emerging patterns centred on (i) the boundary and challenge to the boundary of management thinking; (ii) the jolts (Meyer, 1982; Meyer et al, 1990; Murmann and Tushman 1995) or revelations that challenged the management thinking; and (iii) the resultant impact on the management thinking and acting of these jolts or revelations. There was clear evidence of a systemic relationship within these emergent patterns. The researcher set out to explore and understand this phenomenon in more detail.

## **5.2 IDENTIFYING PATTERNS IN EMPIRICAL DATA**

This section discusses the emergent patterns arising from the question "what is the essence of learning occurring?" This question was posed line by line on the Vennix database.

### **5.2.1 Emergent Patterns**

From the summary of the emergent findings, five observations can be made:

1. Initial Understanding of the Boundary or Extent of Management Thinking.
2. Challenge to Management Thinking.



3. Managerial inquiry and reflection.
4. Developing broader conceptualisation of the contextual environment.
5. Re-perceiving the organisation.

Each of these is discussed in more detail below.

### **5.2.2 First observation: Initial Understanding of the Boundary or Extent of Management Thinking**

It can be observed across the three case studies that each management team holds beliefs or recipes, built up over time from experience, about their organisation, its products and interaction with customers. These beliefs or recipes reflect and guide management's understanding of the company's position vis a vis the industry.

It can also be observed that these beliefs or recipes lock the management team into behaving in particular ways, which prevent them from (i) understanding the power of the recipe (ii) understanding structural change in their contextual environment (iii) understanding the inadequacies of their understanding. The first workshop is based around feedback of one to one interviews, and the format enables the management team to reflect together on these issues, in a way not previously experienced. This was highlighted as:

“We never articulated these things, never looked at Campbell Lee like this, all tacit, never agreed” [Alistair Arthur in workshop 1, during the interview feedback and development of the Business Idea]

“The weight of the data in the interview feedback is interesting, vulnerabilities are less than expected” (EB), “does that tell you anything?” (RG), “healthy? (AG), “or complacency?” (RG) [Ernest Bernard, Robin Gillies, and Andrew Gillespie, of Clyde Bonding, considering the content of the interviews at the outset of workshop 1]

“There is a lot of food for thought in the interview data” (PB); “it is good timing for a review” (ND). [Peter Barbour and Norman Davenport at the

end of workshop 1 for Caledonian Paper, reflecting on understanding the level of diversity in thinking that exists amongst the Alliance team, and breadth of issues to be tackled by the Alliance.]

“I have had time to read the (interview) report after the event, I am concerned about the divergence in views and sensitive commercial information, this should not be circulated to a wider audience” (PB). [Peter Barbour reflecting on the opposing and conflicting views in the interview report, the morning after the interview presentation.]

### **5.2.3 Second observation: Challenge to Management Thinking**

The introduction of an informed outsider during the intervention (to participate in the second workshop), introduces new concepts and examples from case studies that act as an initial stimulus to challenge the management beliefs. This allows the management to debate their operations, experience and compare this with the new concepts. Examples of challenge include:

“What business are we in? Paper? Communication is much wider? (ND) [Norman Davenport during workshop two for Caledonian Paper, commenting after two presentations from external participants - first about the Internet and electronic communication, the second regarding customer value, IT, customer knowledge and how IT and invaders will reconfigure relationships with customers.]

“The consumer is the creator of value, no such thing as an end user; how do we create value for the customer and the customer’s customer? The customer is a constellation of actors, how do you use IT to invent and re-invent customers?; AT&T and MCI invented family and friends where you can call twelve main people at a discount, convince them to use the telephone and also tell their friends who take up the offer - now the client is a network of callers” (RR)

“The interviews suggest that all CBC activities are considered as one entity, how can these be unbundled and create a re-allocation of activities and risks?” (RR)

“I am depressed, we are being stuffed by our customers, we are locked into the risk of customers” (AG), “CBC give value, create value for others, why? CBC take a worthless product and create value in the process, for little reward” (RG) [Andrew Gillespie and Robin Gillies reflecting on their experience and considering the lack of scope CBC has to plan production due to short term requests from customers, following from a presentation from one external participant who was discussing value creation and the offering provided by Clyde Bonding]

“I am still struggling with our service, we have no cohesive service concept, and therefore we cannot embrace it!!” (EY)...

...“CL viewed as biased because we sell IBM (Lotus v. NT), logic starts with what you have rather than what is needed”...

... “Is it important for the customer to be receptive? All they want is relieving” (AR) ...

... “CL culture is a culture customer need, not customer as value creating entity, where are the invaders?” (JL) ...

... “Do we have real customer contact to understand customer’s business?” (EY)

“Who are the customers we learn from” (JL) ...

... “Rules of the game constrain our thinking, maybe we need to offend customers” (AR), “not offend but inform customers, inform customers about choices, for example, did the customer understand the value of the system?” (JL). [Eddy Yacoubian, Alun Rees and Jaap Leemhuis discussing CL approach to business - relieving or enabling to create value for CL customers]

#### **5.2.4 Third observation: Managerial Inquiry and Reflection**

The challenge discussed above acts as trigger to managerial reflection on past experience. This reflection is about past decisions made by management; inquiry into evolution of the industry and evolution of the key

success factors for the industry; and recognising potential skills inadequacies of the organisation. The managerial inquiry and reflection allows the participants to surface their assumptions and taken for granted, which, when taken with the next stage of the intervention process (scenario building), helps open up the management thinking to new perspectives.

“Can we increase the margin on a case? In the short term? In the long term?” (CW)

“Two variables - price and cost” (KvdH)

“We can adopt a JIT approach, no price increase, price pressure on packaging, we can use technology for efficiency (go quicker with fewer people) or flexibility (for filling changeovers)” (AG)

“Could you see the plant where cases filled with no people? With quick changeovers? (Kvdh)

“Robotics in technology would lower costs” (AMcl)

“Past investments in plant may not allow us to do that” (RG) [Colin Wheeler (external participant), the facilitator and Andrew Gillespie, Alistair McIntosh and Robin Gillies reflecting on past investment in packaging plant during workshop 2 and coming to the conclusion that there had been an under-investment by CBC in the past]

“The industry is retracting into niches” (IB)

“The industry is re-configuring around content, channels and function” (AN)

“Magazines are increasingly supplementary to other media” (LW)

“New media is allowing new understanding and dramatic improvement in productivity of advertising” (DM)

“New role for advertising agencies as they integrate with new media” (LW)

“Will the publisher be the provider or will another agency be the provider?” (IB)

“Who has the best database? Who can conduct dialogue?” (ND) [Here Iain Borthwick, Arne Nurmio (external participant), Liz Watkinson, David Mackie, Norman Davenport discussing the impact of IT on the industry and linking this with progress in database marketing/customer relationships and drawing inferences for their organisation]

“We cannot stop, we have to change or everything will dry up for CL, we need to continue with expertise, but invest to develop new skills, we need to invest in Microsoft; the new JBA product, will have an Oracle database, we need to investigate and understand Oracle” (IG)

[Iain Good commenting after the three scenario presentations in workshop 2, and reflecting on structural insights from studying the interaction between Internet and Microsoft, Microsoft and the business software market, and JBA. Structural insights highlighting potential serious competitive threats for JBA, CL’s main software product. This point is further reinforced when the MD indicated that he had held talks with JBA about product development, and was concerned about their lack of foresight.]

The process of inquiry allows the management teams to question each other and the external participant for further insights about the new concepts they introduce, and to consider the implications of new insights and how these relate to the organisation and its future.

“relieving logic - we understand your problem, we will solve it for you, this is a strategy consultant approach, listening is not a high priority for CL. Do you develop scenarios and make business environment observations with your customers? This would mean changing competencies for CL” (JL)

“For CL the transaction length needs to be forever, how to maintain that level? Providing added value?” (EY)

“That is still relieving mode” (KvdH)

“The relationship is forever” (EY)

“We are product, rather than we are service” (JS)

“When we are asked in we take the initiative” (RH)

“It depends on the customer” (AA)

“It’s about customer perception and expectation” (EY)

“We are primarily relieving, we take ownership of the problem” (SL)

“Relieving is a culture of customer need, not customer as value creating entity” (JL) [Eddy Yacoubian, Ray Henderson, Alistair Arthur, Stuart Lees and Jaap Leemhuis discussing the customer’s customer, enabling logic and relieving logic concepts in the context of CL’s approach.]

“The outsider injects a new way of thinking, we do the very best for the customer, we look after the customer, and are conditioned by the technology, the boundaries of the possible, yet our customer service/satisfaction levels are decreasing, we are doing the wrong things well” (AA) [Alistair Arthur reflecting on customer value, IT and re-configuring and relating these concepts to the current CL approach.]

“Thinking about the larger system, move the boundaries out and focus on creating new things ‘value’, create more from less; evolution of key success factors in business over time - raw materials, production capacity, product market areas, customer bases, value creating systems, customers are scarce resources” (AN)

“IPC only has five customers, WH Smith, Menzies, three wholesalers, we have no access to consumers” (PB)

“We are one end of the scale, raw materials - are we kidding ourselves?” (IB)

“What is the business concept? What is our customer orientation? How do we create value? (AN)

“What is the offering of a magazine?” (IB)

“The Alliance is thinking horizontally, the focus is on operational productivity, we need to think vertically” (ND) [Peter Barbour, Iain Borthwick, Norman Davenport and Arne Nurmio discussing the offering and the impact of distance from the consumer]

“The consumer is the creator of value, no such thing as an end user; how do we create value for the customer? You need to think in terms of you, the customer and the customer’s customer; consider Benetton - what business are they in? Textiles? Fashion? Fashion for the young woman market, what do they value to be attractive? How does Benetton create value and help them to be fashionable? Their shops capture sales information and this is part of the production process, so that Benetton captures trends in colours early and design products accordingly” (RR)

“This is a challenge to my thinking, its not needs, but creating value, this has blown away my 10 years of previous experience” (DK) [David King the CBC marketing manager reflecting on the new concepts - customer value, customer’s customer].

The process of inquiry and reflection, and challenge to management understanding results in counter-intuitive thinking as the participants question their assumptions and beliefs about how the business and industry will develop.

“It’s 2002 and ‘MS Rules’ and the degree of success of the Internet is not via Microsoft; there is a coming together of Internet, PC, hardware, open systems, access and processing speed gets better, the Internet is not just about information, but business to business” (AR) [CL is an IBM and JBA product driven organisation, providing integrity through product support, scenario presentation challenges management beliefs about Microsoft and opens up the Internet to CL as Internet was previously viewed as exclusively Microsoft.]

“Paper companies need a broader base, do we need to invest £400 million in a new machine? Should we be protecting the business by

buying a database company? In paper making we need to reduce cost, our approach is bigger and faster, yet this reduces flexibility, which will increase our costs when we are needing to reduce cost” (ND) [Norman Davenport reflecting on the implications for CP in ‘New Constellations’ scenario.]

“The underlying logic of the scenarios is upstream alliances, the customer team concept came from TQM, if we experienced a 50% throughput increase from one of our customers, which division would we put that customer in? 1, 2, 3? Does this create an elitist team internally, when we are striving for flexibility? (AMcI) [Alistair McIntosh reflecting on the conflict between existing production structure, the thrust for flexibility and link to customers for planning.]

Throughout the process of managerial inquiry and reflection surfacing managerial dilemmas is a key stage of problem surfacing and resolution. Dilemmas surface around the problem arena, and it is by addressing these dilemmas that management understanding is further developed. Management have the context to question why the dilemma has surfaced and as they consider the future direction of the organisation.

CBC - efficiency v. flexibility

CBC - customer teams and dedicated lines v. quick response

CLCS - product support v. customer specific solutions

CLCS - WWW as relationship v. WWW as sales tool

CP - cost v. service

CP - standardisation v. flexibility

CP - cost v. market development



### **5.2.5 Fourth Observation: Developing Broader Conceptualisation of the Contextual Environment**

The intervention process allowed the management teams to identify and consider the key driving forces that are agreed as having a potential impact on the organisation. By studying these driving forces, the process allows management/participants to explore how these may play out over time. By studying driving forces, structural patterns begin to emerge as management/participants link previously ignored factors. That is, factors not considered within the business domain, or developments by other organisations not previously recognised. From the management team's perspective these factors are currently impacting the organisation.

“Microsoft is in the top right hand quadrant, which is “Strategies for Growth” arena, and this highlights a worry for us, Microsoft gets stronger and we have no plan for it” (AA) [Archie Aiton linking the scenario structuring matrix to earlier presentations and drawing inferences from this conceptualisation.]

“If we see the starting conditions, its happened already, we are further down the line than we think” (AA) [Alistair Arthur commenting on the ‘Tough Choices’ scenario mid way through his presentation of this scenario story.]

“With static demand, the distributor is all powerful, the distributor owns the consumer, the whisky industry has accelerated this situation, other drivers in the whole industry are creating a positive feedback loop of control for the distributor, this will lead to one EU distributor, we are beginning to see a trend emerge, for example, Intermarche taking over Thomson in France, the distributor is creating a monopoly situation” (GR) [Robin Gillies presenting the logic behind the ‘Distributor’ scenario and drawing inferences for CBC}

“In the ‘New Constellations’ IPC has inadequate infrastructure, inadequate technology especially given communication on a global basis, we are not accessing Reed Elsevier databases or multi-media

expertise” (LW) [reflecting on the consequences of the New Constellations from a publishers perspective]

“I read the newspapers at the weekend in a different way, for example, Cable & Wireless and its infrastructure investment in the Internet and content venture, I see ghosts where I was not previously seeing them” (ND) [Norman Davenport reflecting on the implications of the scenarios and linking the activities of other organisations to suggest further structural developments which will impact on the Alliance in the future.]

By developing a broader conceptualisation of the contextual environment, management are presented with an opportunity for structural questioning and knowledge development. Managerial inquiry arises from the perceived recognition of threats to the organisation. These threats act as a stimulus to the management team to search for structural insights to allow the organisation an element of control.

“We have been manoeuvred by our customers, we need to respond to that, and also think about the relationship between CBC, customers and suppliers to enable us to manage customers” (RG) [Robin Gillies linking knowledge about the business, insights from the scenarios and past customer behaviour as CBC consider responses to re-design the organisation in the future.]

“New constellations and Invaders are worrying for us, in the world of Global Integrated Communicators do we need the facility of a hard product? Paper product is not so important; where do we fit an integrated manufacturing business? We need to build up a transition period; we need to understand databases, what are the critical variables? We need to develop our understanding of consumers” (ND) [Norman Davenport responding to the threat of electronics to the paper industry.]

“There are concerns about the South East Asia economic problems, and there is a worry about this spilling over into the (UK) economy, the Internet presents a major uncertainty for us, Microsoft intentions are

becoming clearer, however, plug and play solutions are not important, but the consequences of plug and play are important for CLCS and customers” (AR) [Alun Rees linking insights from scenarios, previous rejection of Microsoft, and drawing structural inferences about the way people will work in the future.]

### **5.2.6 Fifth Observation: Re-Perceiving the Organisation**

The challenge to management beliefs and assumptions presented by the development of structural understanding, in the form of scenario story maps, help the management team to identify new threats to the organisation. How the management respond to these threats will be discussed below.

The structural understanding presented the context in which to consider the purpose and objectives of the organisation. In each of the three case study organisations, the management team responded by using their new understanding to search for ‘control’ in their context. The management teams reviewed the structure, processes and operations of the business, and how these could be adopted in their search for control.

The scenarios highlighted a state of flux in the contextual environment that would impact on the ability of the organisation to survive in the future. A workshop was included in the intervention process to provide the management team with an opportunity to consider and discuss the implications the insights and threats identified in the scenarios. The management team could draw out inferences and develop appropriate responses to ensure survival. For example:

“From our doomsday scenario, if we tackle this today we can ensure our future success” (EY)

“We have identified the key issues and want to discuss them further. We have had internal meetings, and discussed AS 400, Internet, NT, it’s really difficult, it gets hard, we had a meeting about ‘firewalls’ in the Microsoft world and it is horrendously complex. We all want to stay in the world that is comfortable” (AR). [Alun Rees of CLCS providing an

update at the start of the workshop. AR later explained that the lack of information internally about Microsoft, how important Microsoft is to the future of CL, was a major factor in developing an appropriate response.]

Each of the management teams brought with them their pre-intervention understanding of the organisation, the pre-intervention intent of the organisation, the scenarios, and were provided with an opportunity to jointly consider and develop a response or responses -

“We have ‘Strategies for growth’, the three scenarios, and now we need to consider all the alternatives” (SL). [Stuart Lees of CLCS commenting on the three scenarios at the outset of the workshop.]

The workshop format provided an opportunity (time and space) for each participant to consider the issues, brainstorm and suggest possible responses. Each scenario and its implications were considered. The scenarios were considered from the organisation’s perspective, their customers’ perspective, their suppliers’ perspective, and any other key stakeholders. All ideas generated were captured in the workshop. The ideas were considered for their underlying logic, and then were clustered by linking ideas that logically fitted together as a coherent strategy.

The management team of CBC interpreted and drew inferences from the broader contextual environment, considered their operations and systems and how these could be adopted to allow control over aspects of the supply chain.

The management team of CLCS interpreted and drew inferences from the broader contextual environment, and recognised that they needed to provide ‘transaction/MIS solutions and business-to-business (enabling) solutions.

The management team of CP interpreted and drew inferences from the broader contextual environment, and recognised that they needed to develop activities to acquire knowledge of consumers and how consumers will communicate and therefore demand paper in the future.

### **Summary of Emergent Patterns**

A summary of the emergent patterns arising during the 3 case studies is included in table \*\* below.

	<b>Clyde Bonding Company</b>	<b>Caledonian Paper</b>	<b>Campbell Lee Computer Systems</b>
Initial Understanding of the Boundary or Extent of Management Thinking	identifying boundary of management thinking	identifying dominant management thinking	boundary of the self (understanding self)
	superficial knowledge of self	identifying and establishing purpose - stability	management style driving behaviour
	cryptic strategic identity	managerial mindset bounded by the industry	managerial mindset
	history (emergent strategy)	narrow system view	managerial denial (& recipe)
	aspirations and intent		locked into the past
	inadequacies		inadequacies, vulnerability, blind spot
	fragmentation		diversity in management thinking
Challenge to Management Thinking	knowledge gaps	identifying knowledge gaps	challenge to mindset

Thinking		(knowing what we don't know)	
	process of self challenge	stretching mindset with new concepts	
		challenge to mindset	
Managerial Inquiry and Reflection	questioning understanding of past	questioning industry evolution	lack of managerial inquiry
	questioning assumptions (reflection)	understanding systems view	questioning assumptions
	process of inquiry	questioning for control	bounded by the industry
		process of inquiry	managerial concerns
	learning process (TO)	Process of learning (TO)	process of inquiry
Developing Broader Conceptualisation of the Contextual Environment	bridging old and new	visualising and schemas (for inquiry)	unfolding (new) industry logic
	process of change	scenario story telling	re-perceiving industry logic
		insights from scenarios	knowledge gaps

		recognising boundary of current thinking (inadequacies)	seeing patterns for structural understanding
		using insights for knowledge development	recognising break though in thinking
		structural questioning	learning process (TO)
		challenging assumptions	
Re-perceiving the Organisation	champion emerging	new dawning	lack of control
	new organisational purpose	new problem definition	champion for change
		champion emerging	new organisational purpose
		new organisational purpose	

table \*\*

### **5.3 Shaping Hypothesis from Findings**

This section follows step 6 of the process of building theory from case study research (Eisenhardt, 1989, 1995) as discussed in chapter 3 of this thesis.

### 5.3.1 Discussion

A clear pattern can be observed from the emergent themes across the three case studies regarding the impact of the intervention upon management thinking. This pattern can be detected firstly, from gaining an initial understanding of the boundary of management thinking; secondly, by studying and analysing jolts to the organisation in the form of introduction of new concepts, examples and developing structural knowledge; thirdly, a re-perceiving of the organisation and its external context; and finally the management team widening its framework within which it determines future direction of the organisation. A systemic pattern of initial framing of problems, challenge to assumptions, stretching thinking and understanding and re-framing managerial recipes is occurring. This allows managerial content of knowledge to be differentiated from the process of knowledge building.

Throughout the grounded analysis of the Vennix database, 'transition in thinking' was emanating from the findings as an over-arching theme. The within case analysis is set out in table \* above. By undertaking a cross case comparison, a pattern emerged around dominant managerial thinking being articulated, challenged, questioned, stretched, and a transition occurring in thinking for new understanding.

From this a hypothesis was developed:

- **the learning incidents are manifestations of the individual managerial recipe**
- **the learning incidents are expressed either as articulation of or challenge to aspects of the managerial recipe**
- **the managerial recipe is the transitional object.**

Recipes are defined as "those rules of thumb that are generally accepted by competent managers as the common-sense way of doing business. Such rules cover marketing, pricing, customer relations, product support, product quality, production methods, industrial relations, training, financial controls and so forth" (Grinyer and Spender, 1979, p 196).



The researcher undertook a further iterative analysis of the database, systematically searching for (a) recipe articulation (b) recipe challenge and (c) recipe re-definition.

The database provides clear evidence supporting the hypothesis. This evidence relates:

- a) that a recipe is in the minds of the participants
- b) that the recipe is interpreted in a bounded area (for example, CLCS - double turnover as an IBM and JBA shop; CBC - produce 10 million bottles per annum; CP - increase size for economies of scale)
- c) that it is possible to move the boundary of the thinking by intervention process (for example, CLCS - its not just about IBM and Lotus Notes, and Microsoft does not equate to Internet; CBC - not about filling bottles but different basis of interaction for efficiency in a wider context; CP - its not just volumes, but consumers and who holds consumer knowledge)
- d) that if it is possible to move the boundary, the recipe is re-interpreted in a new context
- e) that re-interpretation of the recipe leads to new action by the participants
- f) that if the recipe is formulated in a new environment, this re-defined recipe acts as the transitional object for the participants.

Some clarification of 'transitional object' is required here. The term transitional object (Winnicott, 1970) is at first a little tricky, as Winnicott is primarily not concerned with objects, but with transitional states (Poirier, 1993). Winnicott was concerned about the subjective and creative process of transition. Winnicott's work concentrated on the relationship between mother and child, with the child relating to the mother as past of the self. How the child had a sense of attachment to the mother, and how the child differentiated and separated itself from the mother, without threatening any loss of self (Rose,

1978). Rose (1978) states “the construction of reality, arising from the ego core, and the maintenance of identity, resting on primary identity, both constantly relate and reconcile continuity and change (p 351). The transitional object serves as a bridge between the familiar and the disturbingly unfamiliar, thus facilitating the acceptance of the new (Rose, 1978).

### **5.3.2 Observations on Recipe Articulation, Challenge, and Re-definition**

The next iteration of the process involved a further search of the Vennix database for evidence of the recipe articulation, challenge and re-definition. Searching the database for these patterns allowed the conceptualisation of the theory that “managerial recipes are transitional objects”.

The process of articulation, challenge and reinterpretation of the managerial or company recipe occurs in three stages - articulation or mapping out the recipe, challenge to the recipe, and transition in thinking - problem definition and recipe re-definition.

The first stage of the ‘recipe articulation’ occurs during presentation and discussion within the management team of the pre intervention interviews. From the interview data, the management team considers the basis of the organisation’s success formula. That is the routines, patterns, experience and expertise developed over time in the organisation (Simon 1991). This consists of two elements, activities we undertake, and a comparison between us and other industry incumbents or competitors. This process allows the management team to surface their individual assumptions, beliefs, taken for granted and tacit knowledge.

Prior to the second workshop the management team established an agenda of issues they wished to explore and understand in more detail. Vygotsky (1986) argues that the process of concept formation is called the zone of proximal development (ZOPED). The ZOPED is the area where the “empirically rich but disorganised spontaneous concepts” meet wider knowledge structures through dialogue in a social setting. This agenda can be seen as the manifestation of concerns held by the management where they

wish to develop insights for understanding. They are an indication of management's ZOPED.

The second stage of 'recipe re-definition' starts with a challenge to the managerial recipe. This occurs when outsiders are introduced to the management team, in an attempt to develop the issues identified in the concern agenda. The outsiders bring with them ideas, experience, and concepts from other industries, which are presented, to the management team. These act as a stimulus to management thinking. Tanner and Swets (1954) developed a theory of signal detection that argues that people, in this case the management team/participants, will respond to such stimuli or signals. The stimulus the outsider brings through the ideas, experience, and concepts from other industries acts as a challenge to the existing understanding in the management team/participants and a feeling of loss of control.

The final stage of 'recipe re-definition' occurs from management 'searching for control'. The management team explore a wide range of possible responses to the threat presented to their existing recipe in the previous stage. During this stage, re-framing and re-interpretation of problems leads to a new problem definition for the management team, which allows them to search for control. This is the culmination of the 'thinking in transition' occurring as a consequence to the recipe challenge.

#### ***5.4 EXPLORING STAGES OF RECIPE ARTICULATION, CHALLENGE, AND RE-DEFINITION***

##### **5.4.1 Overview**

This section sets out each stage of the change process. Within each stage, key aspects of the recipe are captured from management comments. These comments were recorded during various episodes during the action learning intervention.

#### **5.4.2 Case study 1 - Clyde Bonding Company**

Clyde Bonding Company is part of the Edrington Group, a privately owned company operating in the drinks industry. The main product is scotch whisky. Edrington's primary role is the marketing and branding of the groups whisky and related drinks products. The group has cross shareholdings with Matthew Gloag & Sons, the owner of Famous Grouse one of the top 2 selling blended scotch whiskies; Robertson & Baxters who buy and sell whisky casks; Berry Brothers & Rudd who own the Cutty Sark brand. The group are located in premises in Glasgow city centre. Clyde Bonding Company is located seven miles west of the city centre. Blending and bottling operations are conducted at this location. Bonded whisky is also stored at this location. Clyde Bonding Company also act as a bottling sub-contractor for other scotch whisky companies such as Chivas Brothers and Grant's who own Glenfiddoch.

Clyde Bonding Company principle activities are the blending, bottling and storage of wines and spirits. At the time of the intervention the Mission of the company was - "to provide a quality service in the blending, bottling and storage of Scotch Whisky and other spirits; to co-operate with our customers in assisting them to develop their brands; and to provide a realistic return on the company's assets". (Source - Clyde Bonding Company Annual Report and Accounts 1994)

The company's Philosophy was centred on three inter-related issues.

"Customer satisfaction - everyone acts to satisfy the agreed requirements of the customers; Continuous Improvement - by a process of active involvement and personal development; Contribution - everyone contributes positively to the success of the business. We will support each other in doing this and treat each other with consideration". (Source - Clyde Bonding Company Annual Report and Accounts 1994)

The main drinks brands owned by the company included – Famous Grouse, Cutty Sark, Highland Park, Gloag's Gin and Brilliant Vodka. There were other drinks brands in the portfolio.

The company's turnover was £13 million, and the number of employees was 346. (Source - Clyde Bonding Company Annual Report and Accounts 1994)

Management involved in the intervention were:

- Andrew Gillespie, Managing Director of CBC
- Robin Gillies, Operations Director
- Ernest Bernard, HR Manager
- Mike Rose, Operations Manager
- Stan Matthews, Customer and Quality Manager
- Alan Frizzell, Finance Manager

#### *5.4.2.1 Articulation of Recipe*

The comments listed below are examples of how the management defined key aspects of their recipe at the outset of the intervention.

##### ***5.4.2.1.1 Competitive position of CBC in terms of the industry***

Clyde Bonding Company compared with other industry rivals - "big players have brands (not us), we (CBC) are bottling"; the industry value chain is defined at three levels - raw materials, bottling, and brands, CBC operate in the first two levels; and to emphasise CBC's basis of differentiation "CBC as niche - efficiency and cost" (in bottling).

##### ***5.4.2.1.2 The importance of People to the business***

CBC management prided themselves in the company's 'family' image "we develop people internally as the industry is not attractive (for careers) and therefore need to invest in people"; this is reinforced through the importance of internal relationships "we are committed to our people, staff loyalty is important, other whisky companies manage by fear".

##### ***5.4.2.1.3 Competitive advantage of CBC***

CBC's approach is based on "production and efficiency from best practice" and "efficiency rather than a flexibility bottling niche". For business

development purposes CBC's "unique selling point is based on being an independent problem solver who is flexible". CBC differentiate CBC by being a "niche based on quick response".

#### **5.4.2.1.4 CBC and Group relationship**

CBC articulate clear demarcation lines or boundaries for the different group activities, "the group focus for blending and bottling is within CBC", and "production throughput in long runs, with standard bottles sizes responsiveness to short notice orders", which results in a "no customer service or value consideration in CBC activities, efficiency is paramount" approach.

#### **5.4.2.1.5 Flexibility for Opportunistic behaviour**

Other constraints are identified in the CBC language that highlights the company's narrow focus, "we have a functional view of processes e.g. bottling" (not a total system, either company or group) view; the narrow focus is highlighted in explicit aspirations, "we want to achieve 10m cases pa (bounded context) – how do we achieve it?" (These aspirations are stated as a problem.) This is repeated, "we are looking to develop or exploit opportunities for additional throughput" (highlighting their narrow focus - not considering customers and their needs).

Comments listed below are examples of the challenge to the recipe arising from the intervention and response by management.

#### **5.4.2.2 Challenge to Recipe and Management Response**

The following note identifies the threats and management response arising from the intervention.

##### **5.4.2.2.1 Threats highlighted during intervention**

During the intervention CBC concluded that the current configuration of operational activities resulted CBC absorbing suppliers and customers risk. Supplier risk arose from CBC holding large stocks of empty bottles, labels, packages and bottle caps. CBC made payment for these stocks before they

had been used in production. Customers were requesting orders at short notice. To accommodate these short notice orders CBC had to amend production schedules. Scheduling resulted in production line amendments, which increased costs for CBC. From this understanding CBC developed a new conceptualisation about supplier and customer interaction and risk. The industry structure had moved from three tiers - raw materials, blending and bottling, and brand management to two tiers - production and customer relationships. CBC identified that they had no involvement with external customers and therefore no intelligence about market demand. No involvement resulted in little internal understanding of the relationship between the brand and customers, and CBC's role in the relationship. Production planning and scheduling would continue to be problematic for CBC in these circumstances. Customer orders at short notice would lead to an increase internal production complexity. Flexibility, previously deemed to be CBC's competitive advantage, now appeared to be a major weakness.

#### ***5.4.2.2 Search for Response***

The dual threat of supplier and customer risk, and the lack of market intelligence required CBC to identify and develop responses. "What do we need for success?" and "how to exploit It at the customer level?" were questions CBC management raised. The responses focussed on the application of IT for supply chain control. IT for stock replenishment control. IT to gain controls over scheduling and production of whisky portfolio. IT to facilitate communication with customers.

"CBC is about spotting opportunities not selling" arising from the dominant production and recipe. This recipe helped CBC identify the change in industry value chain, from three tiers to two tiers (production and brand management). "What do we need for success?" and "how to exploit IT at the customer level?" and "How do we exploit IT to re-configure industry logics?" The industry logics were identified at two levels – (i) production v. consumers and (ii) delivery v. relationships. This required a change from a production and delivery recipe to a consumers and consumer relationship recipe.

#### **5.4.2.3 Transition in Thinking - Problem Definition and Recipe Re-definition**

The comments listed below are examples of the process of change in the recipe arising from the intervention.

##### **5.4.2.3.1 Initial Questioning**

CBC management responded to these insights from the intervention by questioning and reflection on past experience. A number of questions were raised that identify their concerns. “How to exploit IT taking a group perspective? Evidence of CBC management thinking beyond the company boundary and considering broader group related activities connected to this concern. This was followed up by “how to exploit IT for future success in our own shop?” and “how to use IT for planning and production to co-ordinate “precious scotch?” and “how to exploit IT in export trade?”

This led to a more fundamental question “what is the offering?” which moved CBC management from a production and efficiency mindset to a customer frame for problem solution. This is evident from their search for an appropriate approach for the future.

##### **5.4.2.3.2 Searching for an Approach for Control**

CBC management developed a problem definition around customer risk and production complexity. “How do we define customer activity?” and “how do we encircle customer and how can we involve suppliers?” were evidence of shared problem definition. CBC response was based on “value chain re-configuring around IT and information flow”. This problem definition raised two questions – “what do we do?” and “what can we do?”

These questions were the basis of establishing a platform for solution and buy-in for change.

##### **5.4.2.3.3 Approach emerging**

The response emerged at two levels – customer value and customer relationships, and supply chain control. Example of the first response was – “IT for customer service through order visibility (value)” and “IT provide on



line, real time enquiry for customers (new routines for relationships and market intelligence)". This would require the group to concentrate supply responsibility with CBC. Example of the second response was "redefining operational activities for supply chain control and enhanced customer service" and "developing EDI/IT systems for order to delivery processes".

Clyde Bonding case study is further developed in chapter 6 Discussion of Findings.

### **5.4.3 Case study 2 - Caledonian Paper**

Caledonian paper was founded to serve the UK and international markets for high quality papers, used in the production of magazines, catalogues and a wide range of advertising materials. Wholly owned by the Kymmene Corporation, one of the world's largest papermaking groups, Caledonian paper began operations in 1987 with the construction of the UK's most modern paper mill, on a 50-hectare greenfield site at Irvine in southwest Scotland. Initial investment at Irvine exceeded \$320 million, £215 million.

The Irvine mill produces lightweight coated (LWC) paper. To mark the company's location on the estuary of the river Clyde, Caledonian Paper uses the prefix Clyde in its product names. Its LWC is called Clydecote.

Caledonian Paper produced its first reel of Clydecote in April 1989, and since then the company has become established as a leading supplier of LWC to publishers and printers throughout the world. Annual output is over 200,000 tonnes - more than half of which is sold in the UK.

As the international publishing and printing industries grow in size and diversity, so demand for the high quality publication papers increases. The marketplace is highly competitive, however, and Caledonian Paper's rapid growth has been achieved through excellent products, clear vision and sound corporate strategy.

This strategy is based around a number of values - developing skills, products and services for the benefit of our customers and our company; a modern

paper mill with new technology and expert papermakers; modern printing processes.

Caledonian Paper turnover was approximately £250 million. They employed 345 people in 1996.

(From: Caledonian Paper internal document, 1995)

Caledonian Paper articulated a change in strategy in October 1995. The initial strategy was based on two components. First component was selling a good product. Second component was an acceptable level of service. The glut of paper on the market led to poor paper prices which required a focus on productivity and costs, sometimes at the expense of satisfied customers. In seeking a new strategic direction we have to realise that customers have a choice of suppliers and will be looking for more than just a good product and good prices. A number of flagship projects were identified to help with this change in strategic direction. The flagship projects were:

- Flagship 1    partnership customers
- Flagship 2    sales & marketing effectiveness
- Flagship 3    customer service 'one team'
- Flagship 4    leading service
- Flagship 5    realise people potential
- Flagship 6    innovation in action
- Flagship 7    building a shared vision

(From Caledonian Paper, strategy update October 1995)

Iain Borthwick managed Flagship 1. As part of that responsibility he managed Caledonian Paper's largest UK customer – IPC magazines. Both companies were interested in developing closer working links to strengthen their existing relationship. Iain Borthwick proposed to explore the possibility of using the scenario intervention to develop this relationship. A virtual Alliance was established to between the two companies to take the project forward. Both

companies had strived for efficiency gains in the past and we now looking from a joint strategic project.

Caledonian Paper is based in Irvine, Scotland. The paper production facility is located at Irvine. IPC Magazines is based in central London. Magazine editorial and production is located in central London.

Management involved in the intervention were:

- David Gray, Managing Director of Caledonian Paper
- Bengt Sjoblom, Vice President Marketing, Kymmene Corporation
- David Mackie, Production Director, Caledonian Paper
- David Telford, Marketing Manager, Caledonian Paper
- Iain Borthwick, Production Manager, Caledonian Paper
- Norman Davenport, Sales Director, Kymmene UK
- Peter Barbour, Production Director, IPC Magazines
- Peter Miller, Production Manager, IPC Magazines
- Liz Watkinson, Editor Chat Magazine, IPC Magazines

#### *5.4.3.1 Articulation of Recipe*

The comments listed below are examples of how the management defined key aspects of their recipe at the outset of the intervention.

##### **5.4.3.1.1 Initial Problem Definition**

Management in both companies recognised that fluctuations in the price of paper did not benefit either company. Paper production required long stable runs. Magazine publishers needed consistency in product to eliminate the need to constantly review and change the cover price of the magazine. The challenge was to find drivers of price instability and reduce or eliminate their impact. There were many examples of this problem in the participants conversations:

“The industry is facing peaks and troughs in price of paper (tonnage)”  
and

“One to one (deals) selling to try to smooth out peaks and troughs”

“Cost dilemma around cost and price - stability (customer relationship or best price)”

“Bring stability in paper price and smooth out cycle”

“Continuity of supply of paper and prices (no consumer focus with paper industry pushing paper)”

“Purchasing in the spot market or agreeing special deals to improve stability?” (no questioning of structural behaviour)

“The cost of paper, is all about deals and arguments between the two companies”

#### **5.4.3.1.2 Competitive Advantage of the Alliance**

Both companies brought capabilities from their business as key ingredients into the Alliance. For Caledonian Paper this was based on a low cost production strategy. For IPC this was based on editorial expertise and low cost magazine production. Each company's contribution is identified in comments from participants and is noted below:

##### **Caledonian Paper**

“Bigger and faster machines, paper industry moving towards commodity”

“Investment in plant and machinery for capacity, economies of scale, elasticity of demand”,

“Minimising wastage and maximising quality (no breakages) moving towards service (for standardisation in production) working towards cost reduction”

##### **IPC**

“Standardisation in paper width and weight”

“No paper breakages to enable standardisation in paper production and minimise magazine publishing losses”

#### **5.4.3.1.3 Alliance Purpose**

The purpose of the Alliance is “synergy between production and distribution, to extract efficiencies in transport and develop an integrated approach”. The Alliance is searching for “quick fixes - eliminating hygiene problems” and searching for “annual efficiency gains in production”.

#### **5.4.3.1.4 Industry Definition**

“The industry value chain has three levels - pulp and paper, publishing, advertising (customer contact), and the drive for the Alliance is to get closer on first two levels”. Do we think of the Alliance as “two independent companies or is it interdependent systems?” The Alliance will take up and shortfall and stockholding of paper in the peaks and troughs”.

#### **5.4.3.1.5 Relationship with the Market/Industry**

The “market is based on geography (e.g. UK, Germany), too much fragmentation in the industry. We need the Alliance for stability”.

### **5.4.3.2 Challenge to Recipe**

#### **5.4.3.2.1 Challenge to Industry View**

“The system dynamics modelling highlighted interconnectedness of the two businesses”. It also highlighted “each other’s behaviour impacting on the system and each other” (participants recognising structural conditions rather than blaming each other for peaks and troughs). The “system dynamics modelling highlights each other behaviour affected by each other”. “We are interconnected and mutually related, compared with stand alone companies”.

#### **5.4.3.2.2 Narrowness of Approach**

For the participants, the realisation of the interconnectedness and their myopia, led to questioning “what is the ‘offering’”? “We have a narrow definition of relationships with customers, we think in terms of CP and IPC

only. We have a lack of relationship strategy downstream to consumers". Evidence of participants questioning their beliefs about the industry. Evidence of participants understanding the significance of how they have bounded view of the industry.

#### **5.4.3.2.3 Questioning Approach**

Participants reflected that the dominant view they held was based on "industry pushing product rather than consumer pulling demand for paper". "Our approach is based on publishing volumes".

In this phase of challenge and re-framing, the participants began to search for a wider understanding of their context, and asked, "what is the role of paper?" "Is there a common goal for the two companies?" "What should be our focus - customer focus (publishing) or consumer lifestyle?"

The participants began to draw conclusions from the scenarios, "IT will reconfigure industry by moving thinking and activities from physical, plant, pulp, paper and publishing to content, distribution and the emergence of niches". Here we see evidence of the participants revealing their understanding of the unfolding industry evolution. The participants are discussing the structural impact of electronics and changes in social needs, both of which will have an impact on magazines. This resulted in the participants questioning role of paper.

#### **5.4.3.2.4 Threats and New Challenges Emerging**

The section highlights the insights from the intervention about threats to the two companies. Questioning by the participants for structural understanding "leads to counter intuitive thinking - non industry players will drive demand for paper" and "our thinking is flawed, we know little about consumers and communication".

From these insights, the participants re-define the industry value chain "moving from pulp, paper and publishing to content, channels, function and distribution", then one stage further "from pulp, paper and publishing to content provider, service provider and infrastructure".

This re-definition raises new set of questions for the participants, “what is important for advertisers, is it physical aspects of the product or the mode of communication?” “We are thinking vertically about the offering, by putting the customer in the centre - who can reconfigure the industry value chain?” “We have identified what we don’t know, it is other industries and their impact on demand for paper e.g. printers, electronic newspapers that will determine our future”.

“IT and the Internet are a threat to customer relationship, the threat through wider choice”. “We have a narrow offering”. “The future is about communication, what is the role of paper? It is about customer dialogue and relationship” (compared to the old recipe paper cycle - now consumers and relationships).

#### **5.4.4 Transition in Thinking - Problem definition and Recipe Re-definition**

This section develops the transition in participants’ recipe that occurred from the intervention. The process of change continues with further managerial questioning as they search for responses to help them re-gain control over their situation. The section concludes with evidence of the re-defined recipe.

##### *5.4.4.1 Initial Questioning*

“The industry value chain moving from pulp, paper and publishing to content provider, service provider and infrastructure, it’s a new game” (where to get control?). If the future is about communication and personal choice, it’s about relationships. We have a lack of knowledge about consumer behaviour”.

##### *5.4.4.2 Searching for Position/Response*

“The future for paper and publishing is around consumer knowledge”.

Evidence of participants opening up their thinking boundary from counter intuitive questioning, “bigger and faster machines reduces flexibility. The industry logics will be around niches and smaller flexible machines”.

“Who drives the future?” “The key impact on consumer behaviour in the future will come from global integrated communicators (GICs).” “What will be the

role of electronics and databases on consumer demand patterns?” Here we see evidence of the participants identifying knowledge gaps. Knowledge gaps around infrastructure, media, content, demand for paper.

#### *5.4.4.3 New Approach Emerging*

A new approach emerged from “re-conceptualising traditional structure: moving from pulp, paper and publishing to content provider, service provider and infrastructure around invaders, and new constellations.” “Who will be the architect of the future?” “Content is a strength of IPC, we need to exploit this strength”. “We need to undertake joint initiatives for market development. The two businesses are related and the enemy is no longer price but stimulating demand”.

#### **5.4.5 Case study 3 - Campbell Lee Computer Systems**

Campbell Lee has been in existence 20 years as an IBM Business Partner. For a computer services company, formed during the explosion of IT related business initiatives in the 1970s and 1980s, it has done well. It is still in existence for a start! It has survived a recession. Thus history shows that the organisation has the capability for survival.

The company was formed on high business ethic principles. Misleading or lying to a customer is a serious offence. The company is open to a surprising extent, and everyone is on first name terms. This is synonymous with small, organic software companies, but is often lost as the organisation grows. Campbell Lee has guarded this informality jealously and actively. It is a people company and has always realised it. It treats its people well. Rules and regulations are kept to the absolute minimum and there is a high element of trust in the company. Practised teamwork has always been a feature of Campbell Lee, albeit not always recognised or fully understood.

All these characteristics derived from the past are still visible today.

People inside the company own all the company shares. Some years ago, the company helped another ailing IBM agent with some success, and this company (now Byford) is part of Campbell Lee Holdings, created to manage



what was effectively emerging as a part of small companies with distinctive characteristics. This was recognised two years ago, and clear divisions were created in the group of companies, now under Campbell Lee plc.

(From Alistair Arthur of Campbell Lee, note dated 17/3/98)

Customer Service - it is important to set our customers expectations correctly. Work has started in the area of pre-sales which is an ideal place to set these expectations with our prospects who will become our customers. We deliver many things to our customers - training, product, programming etc. It is therefore important to ensure that BOTH what we deliver is done in a way that is consistent and excellent.

We would like the company to grow to revenues of £12 million by 2002 and aiming for 17% profitability. The next stage is to break down the above into definable projects and prioritise. We must define our products and put business cases forward as to whether or not opportunities exist with these in our defined markets.

It is important to acknowledge that we are looking for major change in the way we work. This change will stretch us all for a period of months while we go through an agreed transition.

(From Campbell Lee 'Strategies for Growth' 1997)

Campbell Lee is based in Falkirk, a town mid way between Glasgow and Edinburgh. There are sister organisations in Paisley outside Glasgow, and Manchester. These sister organisations specialise in the supply and support of software for the manufacturing industry.

Campbell Lee Computer Services has 50 staff.

Management involved in the intervention were:

- Eddy Yacoubian, Managing Director
- Iain Gibb, Technical Director
- Archie Aiton, Financial Director
- Bill Kelly, Senior Consultant

- Alun Rees, Senior Consultant
- Alistair Arthur, Quality Manager
- Craig Bruce, Consultant
- Charles Quinn, Sales Manager
- Les Gaw, Consultant
- Stuart Lees, Consultant
- Aileen Wylie, Consultant
- Rob Lambie, Consultant
- Ray Henderson, Consultant
- Ian Strachan, Consultant

#### **5.4.5.1 *Articulation of Recipe***

This section identifies the recipe of CLCS. It also identifies how CLCS frame themselves and their approach to business. This is evident from the comments of the participants.

##### **5.4.5.1.1 *Competitive Position of CLCS in terms of the Industry***

The initial statements highlight how the CLCS participants differentiate the company from its competitors. “We are a niche player in comparison to the big 6 accountancy based consultants” (cost and market segment). “We are a niche player, not blue chip like the big 6”. “We are a niche player with a product orientation rather than implementation teams like the big 6”. “We are a one stop shop rather than a specialist shop providing SAP.

“Our reputation as a barrier, that is, we are a one stop shop, with strong alignment to our business partners. We work with Scottish SMEs, but this makes us reactive”.

“People and relationships are our key”. “Integrity and trust leads to professional knowledge”.

“Our behaviour is driven by the industry moment, for example, the Y2K situation” (CL as followers).

#### **5.4.5.1.2 *Competitive Advantage***

The company articulated its competitive advantage, being different from the competition, based on its people and the approach they take to conducting business. “We are independent of product or software in comparison to IBM consultants”. “Our philosophy is based on word of mouth for business development”. “Our philosophy is similar to the Trojan Horse approach to business development. This approach helps us to develop customer/management relationships”. “Our people philosophy is based on recruitment of like minded people”.

#### **5.4.5.1.3 *Determinants of Approach***

Their perspective of the industry structure and their position in the industry bound CLCS. “The industry is defined at two levels, premier and everything below premier”.

CLCS are also bounded by their supplier partnerships, hardware and software. “This is a boundary to what management consider possible”. “Our philosophy is selling and product for hardware, providing a technical solution”. “Partnerships with suppliers results in a lack of innovation internally, we sell solutions” (the follower approach). “Our approach results in product focus and technical solution rather than people” (the customer).

“Our approach is reactive. We adopt a problem solving, relieving approach which hinders relations with customers and prevents us from developing broader customer knowledge.” “We focus on revenue generating (utilisation) rather than relationship frame”.

#### **5.4.5.2 *Challenge to Recipe***

##### **5.4.5.2.1 *Questioning Approach***

This section highlights the participants' first response to the insights from the scenario workshop. "I now understand our internal rules as a constraint. We never challenge the customer, we never offer an alternative".

The challenge to their assumptions emerged from a new conceptualisation about customer's customer, compared with technical solution mindset. The participants' statements highlight reflection on their approach to date. "We see the product as a solution - who sells products?" "Lotus Notes is a solution, nobody sells Lotus Notes". (EY)

This challenges has enabled the participants to question their assumptions. "We have identified a dilemma for CLCS, new products from suppliers or innovation internally". "We view the product as a solution, what about customer needs?" "We need to become business systems consultants compared with a technocrat".

The scenarios highlighted change to the industry structure. "We need to re-define the industry structure, we have not paid attention to the investment in infrastructure to support Internet". The participants becoming aware of other industry incumbents behaviour and the potential dominant force in the industry in the future.

#### ***5.4.5.2.2 Threat and New Challenges Emerging***

By re-defining the industry structure, the participants identify issues and threats that they had not considered previously. In doing so the participants also identify the boundary of their understanding. The insights from scenarios highlighted "what we don't know, JBA's plans for product in the future and the extent of Internet. "What is Internet? The Internet does not equate to Microsoft" (Internet not considered previously as it was seen as a Microsoft product and this clashed with the CLCS IBM loyalty frame.) "What value added services will be demanded from the Internet in the future?"

Prior to the intervention CLCS identified themselves as IT consultants based primarily supporting the Scottish SME market. "In the past geography as a barrier, now IT knows no boundary". (Realising that there may be threats from

IT suppliers in other countries. The Internet could support out-sourcing of IT and be supported from low cost, high quality sites.)

The scenarios also highlighted that one of CLCS suppliers would be a serious threat. "JBA our major supplier fails in scenarios, this is a challenge to product driven approach".

This results in management questioning approach of IBM. There was no previous questioning of IBM strategy or intent. There is evidence of participants accommodating old approach of transactions and MIS, and new approaches of Internet, JAVA, and customer relationships.

### *5.4.5.3 Transition in Thinking - Problem definition and Recipe Re-definition*

#### **5.4.5.3.1 Understanding Mindset**

In this section, we identify CLCS becoming aware of their approach and the significance of their mindset. This is a step towards problem re-framing. "I realise that day to day and revenue frame blocks unfolding structure". "Y2K and the industry moment is all consuming for company".

Evidence that the scenarios have produced insights for the participants, structural change is about business to business. Participants are questioning development and role of Internet for structural knowledge. "We need to move from problem solving and relieving to enabling, relationships and facilitating".

#### **5.4.5.3.2 Approach Emerging**

The participants have realised the impact of others, IBM, Microsoft etc. on CLCS, and are moving from product (IBM, JBA) to relationships. This raises questions for the participants. "What will customers want in the future?"

This leads to further questioning and new challenges. "We need to segment customers for markets, relieving and transaction processing, and business to business". This assists the participants to identify business and people requirements. "We need new skills for the Internet. Plug and play not

important but the consequences are”. “We need new skills for business to business”.

## **5.5 CROSS CASE COMPARISON**

### **5.5.1 Introduction**

The discussion in section 4 above identified the process and stages of change that occurred in the three case studies. The process and stages of change were developed for each case study organisation. From this an emergent hypothesis was established. The hypothesis established was:

- the learning incidents are manifestations of the individual managerial recipe
  - the learning incidents are expressed either as articulation of or challenge to aspects of the managerial recipe
- the managerial recipe is the transitional object.

The within case analysis demonstrated the hypothesis in action. Eisenhardt (1989; 1995) suggests that the next step is cross case pattern search and analysis. One tactic that can be employed is “selecting categories and then look for within group similarities coupled with inter-group differences” (p 77). By following this approach, this provided assurance that the pattern in one case study was corroborated by evidence from another making the findings stronger and better grounded.

### **5.5.2 Cross Case Comparison of Evidence**

The three tables below provide a summary of the discussion in section 4 above. These tables also provide a summary of cross case comparison. The cross case comparison presented below, takes each stage of the process of change – Recipe Articulation, Recipe Challenge and Recipe Re-definition, and compares the three case studies at each stage.

The evidence presented here highlights pattern similarity occurring across the three case studies. The underlying logic for this step is 'replication' to enhance the validity of relationships (Eisenhardt, 1989, 1995, p 79).

#### **5.5.2.1.1 Step 1 in Process of Change – Recipe Articulation**

<b>Step in Process of Change</b>	<b>CBC Recipe Components</b>	<b>CP Recipe Components</b>	<b>CLCS Recipe Components</b>
Articulation of Recipe (by participants)	Niche from bottling	Plant & machinery for economies of scale	one stop shop, not specialists (eg SAP)
	Efficiency in production	Standardisation & efficiency	Scottish SMEs defined as target market
	Internal people development	Minimise wastage	Niche player compared to big 6
	Quick response	Cost reduction	Product orientation
	Group blending & bottling	Synergy in production and distribution	Word of mouth & Trojan Horse approach
	Production throughput and long runs	Continuity of supply	Driven by industry moment - Y2K
	No focus on the customer	Cost and price stability	Technical solution expertise
	Flexible problem solver	Markets based on geographic supply	Revenue generation and selling
	Industry value	Industry value	Industry value

	chain at 3 levels – raw materials, blending & bottling, and brand management	chain at 3 levels – pulp & paper, publishing and advertising	chain at 2 levels – blue chip and others
	Bounded problem context – 10m cases pa	Bounded problem context – smooth out peaks and troughs; spot market or deals	Bounded problem context – hardware & software support; transaction processing and relieving

Table \*

This presentation highlights the participants articulating components of their recipe. The presentation also highlights two other key components of the recipe. These two components are:

- the definition of the industry value chain and the company's position therein, and
- the bounded nature of the problem context existing at the outset of the intervention.

These components are the basis of managerial action and problem definition. These phenomena arose from the intervention.

#### **5.5.2.1.2 Step 2 in Process of Change – Recipe Challenge**

The next stage in the process of change was the challenge to the recipe. The challenge arose from two sources – (i) the introduction of outside knowledge during the intervention and (ii) the development of alternative futures, the



scenarios. The challenge resulted in three distinct effects for the participants.

These effects were:

- questioning of assumptions by the participants
- recognising new challenges and threats not previously considered, and
- searching for a response when confronted with such challenges and threats by the participants.

This is highlighted in the table \* below.

<b>Step in Process of Change</b>	<b>CBC insights, challenge &amp; response</b>	<b>CP insights, challenge &amp; response</b>	<b>CLCS insights, challenge &amp; response</b>
Challenge to Recipe	Interaction with suppliers & customers resulted in risk inside CBC	Understanding systemic interconnectedness	Participants questioning own approach – “who sells products?”
	Fragmented behaviour of industry incumbents resulting in control by others	Recognising own behaviour “push paper” is part of the problem	Product driven organisation highlights lack of customer approach
	Supply chain control by 3 <sup>rd</sup> parties exploiting IT	Narrow definition of the product – paper (c/f communication)	Recognising technical solution mindset as a constraint
	Industry value chain redefined	Industry value chain redefined at 2 levels	Industry value chain redefined

	chain redefined at 2 levels – production & customer relationships	redefined at 3 levels – content, service provision and infrastructure	chain redefined at 2 levels – transaction processing and business to business
	“How to encircle customers and suppliers using IT?”	Realising impact of lack of downstream intelligence about consumers	Software supplier JBA fails in scenarios, participants understand loyalty as a constraint
	IT for control of order input, production, scheduling & fulfilment process	Threat from electronics, new media and Internet, questioning role of paper	Recognising Microsoft is not Internet (IBM loyalty constraint)
		Counter intuitive thinking challenges assumptions e.g. bigger and faster reduces flexibility	Counter intuitive thinking challenges assumptions eg not plug and play important but consequences important
		Participants thinking from perspective of	

		others eg consumers and advertisers	
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Table \*

From the discussion in section 4, and the summary presented in table above, the following conclusions can be drawn about the challenge occurring from the intervention and impact of the challenge on participants:

- the introduction of new concepts and new language e.g. customer value, the offering, business logics, scenarios and scenario titles, and customer's customer, results in challenge to assumptions, inquiry about past experience and conceptualisation of problem at higher level
- the participants develop broad structural understanding from scenarios; this enables participants to consider who has structural power and how are they exploiting it
- the participants reflection on emergent understanding of past experience, the process of inquiry, and counter intuitive thinking that occurs from this reflection
- the development of scenarios produces insights about underlying structural context which leads to re-definition of the industry value chain; this re-definition of the industry value chain helps participants to re-frame the recipe in an alternative context
- the participants identify that that the current business structure is not sustainable – “what do we need for success?”, and the response is a search for a position to re-gain control
- the participants recognise the limits of their current understanding and identify knowledge gaps.

### ***5.5.2.1.3 Step 3 in Process of Change – Recipe Re-definition***

The next stage in the process of change was the re-definition of the recipe. A clear insight from this analysis for the process of change is the ability to link or couple new insights with the existing recipe. Without this 'coupling' the participants would be unable to move from the old world to the new world. This coupling and final step in the process of change is highlighted in the table \* below.

<b>Step in Process of Change</b>	<b>CBC process of transition</b>	<b>CP process of transition</b>	<b>CLCS process of transition</b>
Recipe Re-definition	Taking a group perspective to problem and solution exploiting IT (problem broader than CBC)	Original problem definition – smooth out peaks & troughs in paper price Broader problem definition - communication	Understanding current thinking is a blockage eg IBM, JBA, revenue generation, Y2K
	Re-defined value chain as the basis of managerial inquiry and search for control	Re-defined value chain as the basis of managerial inquiry and search for control	Re-defined value chain as the basis of managerial inquiry and search for control
	What is the offering? Previously production now production and customer service	Insight about need for consumer knowledge	Identification of new skills and capabilities for the future – business to business as the way forward
	Approach emerging on re-configuring supply chain through IT, “what do we do?” and “what can we	Problem definition now “how to stimulate paper demand”	Approach emerging by taking a customer perspective – what do they want?

	do?"		want? "what do we do?" and "what can we do?"
	Earlier intervention insights part of problem solution eg supplier and customer risk	Counter intuitive thinking results in boundary re-definition to consumer knowledge	Approach emerging from linking old approach – relieving to new approach – enabling with existing customers
	Re-defining business requires shift in organisational boundary	Approach emerging from application of IT for customer knowledge, "what do we do?" and "what can we do?"	
	Application of new concepts and new language for problem solution e.g. 'value creation and encircling'	Application of new concepts and new language for problem solution e.g. 'GICs, service provider and constellations'	Application of new concepts and new language for problem solution e.g. 'enabling and customer's customer'

Table \*

From this table we see similar patterns of change occurring across the three case studies. From these patterns the following conclusions can be drawn about the transition occurring from the intervention:

- The wider problem context that occurs from the intervention allows re-framing and transition in thinking
- The participants adopt the new concepts and new language from the intervention as part of their everyday language
- Insights from earlier intervention episodes are brought forward as part of a wider problem definition that stimulates further managerial inquiry, and
- The re-defined value chain is part of a wider problem definition and solution.

Sections 2, 3, 4 and 5 have presented empirical evidence that supports the process of change based on recipe articulation, recipe challenge and recipe re-definition.

## **5.6 CONCLUSION**

The findings established in this chapter demonstrate a clear pattern of Recipe Articulation, Challenge, and Re-invention. Section 2 of this chapter identifies the initial emergent patterns in the empirical data. From these emergent patterns, five

five observations can be made about the process of change – (i) initial understanding of the boundary or extent of management thinking; challenge to management thinking; managerial inquiry and reflection; developing broader conceptualisation of the contextual environment; and re-perceiving the organisation.

Management had articulated the basis of organisational purpose and competitive advantage, not necessarily appreciating the significance of this

articulation. The comments noted in section are examples of their assumptions, that is their world taken for granted, which guides thinking and acting.

These assumptions are based on past experience of interaction within the organisation, interaction with customers, and the organisation's position in the industry. These are challenged through the intervention involving multiple futures that question this understanding. This understanding is situated in the business as usual world (BAU). The BAU is non-threatening, and more of the same in the future without challenge. There is no felt incentive for change.

Further analysis of these patterns was undertaken to develop and refine the constructs within the process of change. Iterations between the empirical data and theory helped with the construct development. This led to new constructs – recipe articulation, recipe challenge and recipe re-definition.

From these findings the researcher shaped the hypothesis emerging from the findings. The emergent hypothesis set out in section 3 is:

- the learning incidents are manifestations of the individual managerial recipe
  - the learning incidents are expressed either as articulation of or challenge to aspects of the managerial recipe
- the managerial recipe is the transitional object.

Section 4 discusses the within case pattern of the process of change for each of the three case studies. Section 5 compares the individual case study patterns and established a pattern across the three case study organisations to support the hypothesis.

From these patterns, we can conclude that the challenge from the intervention results in management questioning their assumptions and the basis of their continued validity. Management enact their environment through the development of multiple futures. In the three case studies enactment produces a jolt to challenge their assumptions. In the three case studies we



see management responding to this jolt by searching for a response to enable them to re-gain control of their situation.

The next stage of the research project involved a detailed examination of the literature to “tie in the emergent theory to existing literature to enhance internal validity, generalisability, and theoretical level of theory building from the case studies” (Eisenhardt, 1989, 1995, p 82). This discussed in more detail in the next chapter.

## Chapter 6

### Discussion of Findings

#### **6.1 INTRODUCTION AND PURPOSE**

This is the first empirical study on the impact of an (outside-in) intervention, applying scenario planning as the intervention approach. The literature of scenario planning is primarily based on practitioner reflection, claiming that scenario planning brings about “change in mental models” (Wack, 1985) and “organisational learning” (Galer and van der Heijden, 1992). There is no empirical evidence to date to substantiate these claims. This empirical study explains a process of strategic change, both individual and organisational, based on managerial recipe or paradigm change through upframing and re-definition of the managerial recipe. This chapter discusses the empirical findings in more depth.

As explained in Chapter 5 a large amount of data was collected in three case studies and structured using the Vennix (1998) categories. Working through this database patterns were discovered which led to the initial hypothesis of “Recipe Articulation, Recipe Challenge and Transition in Thinking, expressed as Recipe Redefinition”. The next step in the process was to try to understand better why this pattern would occur across such disparate cases. To explain this in more detail, a number of questions are posed to help develop understanding of this phenomenon. The questions include:

- what is the basis of managerial thinking?
- what activates managerial thinking in a scenario context?
- what role does beliefs and experience play in a scenario intervention?
- what is transition in thinking?

- what is the generator of this transition?
- what is the managerial significance of the transition?
- what is the organisational significance of this transition?

The intention in this chapter is to discuss these questions and their impact for interventions and strategic management in organisations. The process followed was one of theory development by iterating between the literature and the data collected. This chapter reports on the results of this “learning journey”. It is structured in three parts, 1) learnings from the literature, 2) emerging theory, 3) evidence from the data.

The chapter will discuss a theoretical model of strategic renewal using interventions. This model is the result of considering the patterns emerging from the data as described in Chapter 5 from various perspectives offered in the literature. At the beginning of this Chapter we anticipate on the outcome of the literature review in order to be able to use the resulting theory as the framework within which to present the literature findings. The historical process of theory development was more complex, even convoluted, with a multitude of iterations between theory, data and the literature.

The resulting theory, grounded in the empirical data, is about ‘managerial recipes, recipe challenge and transition in thinking as the consequence of a scenario intervention, as discussed in Chapter 5. It explains the processual nature of the impact of the intervention. The processual impact of the intervention originates with articulating an initial understanding of the managerial recipe. The recipe is based on beliefs and experience from past success. During the intervention, outsiders using alternative perspectives, new concepts and case studies of other organisations that had successfully adopted the new concepts challenged the case study organisation managers’ beliefs and experience.

The opportunity for challenge continues with the development of several scenarios describing alternate, plausible views of the organisation’s context. The scenarios act as an external jolt to the recipe, the jolt brings about a re-conceptualisation of the industry. The recipe at this stage is in a state of flux

and eventually results in transition. This transition is based on the (managerial) search for a position of control in the industry re-conceptualisation. This results in a re-interpretation of the recipe, which leads to development of clear organisational purpose, possible courses of action and stability in the recipe.

The management in each of these organisations did not perceive any major specific structural or contextual threat or concern at the outset of the intervention. The empirical findings indicate clearly that the contextual environment triggered the responses of each of these organisations. The empirical findings in each of the case studies highlighted a managerial response to new structural insights, which the management team's had not previously considered. The management team's response to these structural insights raised interesting issues for the researcher in developing a theoretical understanding of the phenomenon - persevere with their existing approach and ignore structural insights, or as the empirical findings identify, re-consider and re-define the organisation in a broader context to ensure survival in the future.

By developing an understanding of these findings, the researcher has developed a theoretical model that explains the impact of the scenario intervention in the three case study organisations. This is set out in seven steps and underpins the process of Recipe Articulation, Recipe Challenge and Recipe Re-definition, as established in the previous chapter. It also identifies the components responsible for this process at each stage. The seven steps are:

- Firstly, managerial experience over time is internalised as assumptions, beliefs and values and manifests as a managerial recipe. This managerial recipe is the basis of navigating managerial decision-making.
- Secondly, strategic change is socially constructed, as the result of considering multiple realities of plausible futures, which act as a "jolt" to existing understanding to bring "new" managerial action.

- Thirdly, the basis of the motivation to change, and the resulting strategic intent, is “negative goal avoidance” rather than managerial aspirations. The managerial response to learning from scenarios is about a search to regain control (within the emerging structure).
- Fourthly, the manager realises that change is possible only against a background of permanence. A fundamental condition for change is the recognition of a perspective in the recipe that stays the same during the transition. We have called this element the managerial Transitional Object.
- Fifthly, learning from scenarios is based on developing structural understanding of driving forces. This structural understanding highlights a “critical mass of intent” in the industry. From this “critical mass of intent” it is possible to understand opportunities and threats as a continuum.
- Sixthly, learning from scenarios highlights knowledge gaps, which is the basis of the development of further understanding of managerial and organisational knowledge.
- Finally, as the case study organisations had time to think, time to think individually and time to think together using a structured process, dissonance (Festinger, 1957) is resolved and the team moves to action.

Learning is the objective from scenarios (van der Heijden, 1996; Fahey and Randall, 1998; van der Heijden and Nurmio, 1992; Marsh, 1998; Galer and van der Heijden, 1992; Emery and Trist, 1965; Schoemaker and van der Heijden, 1992; Schoemaker, 1992). Learning occurs during the process of challenging mental models (Wack, 1985; Senge, 1990), challenging managerial assumptions, rather than accepting forecasts or single most likely futures (Fahey and Randall, 1998).

Kolb (1984) offers a theoretical model to explain this learning phenomenon. The learning process has been conceptualised as a process composed of four stages in which experience leads to reflection and theory building.

Theory provides the basis for action by a process in which action is mediated and guided by hypotheses based upon the implications of theory. During the learning process, action and reflection form part of an iterative process that leads to insights and new possibilities of action.

What is unclear is how this learning occurs. This chapter aims to make a contribution to such understanding. As noted in the previous chapter, the empirical data in this project is extremely rich in highlighting:

- (i) the impact of scenario interventions upon the three case study organisations
- (ii) the processual aspect of the intervention, including the steps to re-interpretation and re-invention
  - (a) initial understanding of the boundary or extent of management thinking;
  - (b) challenge to management thinking;
  - (c) managerial inquiry and reflection;
  - (d) developing a broader conceptualisation of the contextual environment; and
  - (e) re-perceiving the organisation

Following further discussion of the theory, this rich data will be used to ground the result. The findings from the case studies are insightful for generalisability given the care in the initial research design for company selection. The cases were selected for their diversity in organisational and managerial characteristics (see chapter 4). The empirical findings revealed that regardless of the diversity in organisational and managerial characteristics, an intervention using a scenario perspective brings about a similar pattern of change in thinking and acting in (the three case studies) organisations. However the limitations of the sample have to be recognised (SME's, Scottish) and further extrapolation needs to be carefully considered.

## **6.2 Literature review**

### **6.2.1 Recipes and dominant management logic**

#### *6.2.1.1 Social construction*

“How do I know what I think until I hear what I say” (Weick 1979). Weick asks the questions about the relationships between internal thinking, knowledge and reality. Berger and Luckman (1966, p1) state “reality is socially constructed and the sociology of knowledge must analyse the processes in which this occurs”, “reality appertains to phenomena that we recognise as being independent of our own volition”, and “knowledge is the certainty that phenomena are real and that they possess specific characteristics”. To understand this knowledge, the task is to observe those processes by which individuals construct their reality. They only know their knowledge once they articulate it. They are the judges as to what constitutes this knowledge. Socially constructed reality occurs from the relationships between human thought and social context, Vygotsky (1978, p 29 - 30) states that “the mechanism of social behaviour and mechanism of consciousness are the same...We are aware of ourselves, for we are of others, and in the same way as we know others; and this is as it is because in relation to ourselves we are in the same position as others are to us”.

Berger and Luckman (1966) provide a systematic argument to the effect that the worlds in which we all live are not just there, not just natural objective phenomena, but are constructed by a whole range of different social arrangements and practices (Potter, 1996). This suggests that reality construction or learning in organisations is a combination of social learning theory (Bandura, 1977; Rosenthal & Zimmerman, 1978; Schwenk, 1988) and cognitive development based around cause and effect event relationship, rather than behaviourism or stimulus/response theory (Pavlov, 1927; Thorndike, 1898; Watson, 1916; and Skinner, 1938).

The researcher is concerned to understand the process of managerial reality construction, occurring during the intervention. Each of the case study

organisations had their own history prior to the scenario intervention. Within each of the case studies, the management team (the participants in the scenario process) had developed an approach to managing their business. Surfacing this approach is part of the initial stage of the intervention. The initial stages of the intervention help the management team to reflect on past experience to identify the basis of past success. Beyer argues that organisational ideologies exist “that can be defined as a relatively coherent set of beliefs that bind some people together and that explain their worlds in terms of cause and effect relations (Beyer, 1981, p 166). The usefulness of this stage of the process was not apparent at the time, but as is argued in this chapter is one of the keys to successful strategic renewal.

### *6.2.1.2 Recipes*

History, experience and day-to-day routines are the basis of managerial judgment and decisions. Over a period of time the development of objectives, firm relationships with the environment, and managerial perceptions culminate in a “recipe” (Grinyer and Spender, 1979). The managerial recipe is a core set of beliefs and values that acts as a filter for incoming information and insights. The recipe acts as a filter - which is at once a help and a hindrance, as the recipe helps managers perceive their firm’s situation, its possibilities and dangers. It is the dominant managerial logic underpinning managerial thinking and acting. The managerial recipe can act as a barrier or as a conduit for learning and knowledge development. This bounds the domain of managerial decision-making. But it also provides an area of the managerial recipe where issue identification collides with existing knowledge for new insights and learning - the zone of proximal development or ZOPED (Vygotsky, 1986, see below).

The argument developed from the empirical data is that there is a dominant management logic (Prahalad and Bettis, 1986) or managerial recipe (Grinyer and Spender, 1979) built up over time from history, past experience, and routines that guides managerial thinking and acting. As a consequence of this managerial recipe, individuals are bounded in their ability to identify issues that may impact upon the organisation (Simon, 1957, 1959). This



boundedness limits the ability of the individual manager to recognise and respond to changes, and over time the organisation experiences “strategic drift” (Johnson, 1987).

Managerial recipes develop over time and have the power to impact on management thinking and acting. Managerial recipes define what and how management interpret (i) signals from the environment; (ii) the organisational configuration; and (iii) relate the signals from the external environment to the organisational configuration for relevance and meaning. Managerial recipes are the boundaries or limitations on management thinking. Grinyer and Spender (1979) argue for an actual or perceived crisis to challenge managerial recipes. The change process generated by the scenario intervention causes the firm's recipe to be challenged by alternate visions of the contextual environment, which triggers a search for a mechanism for control in this context.

## **6.2.2 Recipe challenge**

### *6.2.2.1 Intervention Challenges*

By studying the change process, we observe how the ‘managerial recipe’, that is, the experience, beliefs, and values developed over time, is used to help management/participants make sense of the unfolding understanding of the relationship between the organisation and the external environment. Firstly, management/participants consider and develop an understanding of the implications of the scenarios. Secondly, management/participants project or extrapolate these insights or inferences into the future for further consideration. Thirdly, management/participants develop new insights through a search for and promotion of new stability of the recipe.

This process of recipe re-interpretation is supported by Bartunek (1984) who studied change in a religious order and found that “second order change in interpretative systems occurs through a dialectical process in which old and new interpretative systems interact resulting in synthesis” (Bartunek, 1984, p 356).

The introduction of outsiders and the development of alternative views of the future in the form of scenarios, acts as a challenge to the managerial recipe. The challenge takes the form of outsiders introducing new concepts, providing case study examples of the new concepts, explaining how the new concepts were adopted by these organisations, linking the new concepts to the concerns of the host organisation to allow greater understanding and relevance of the new concepts by the management team.

These alternative views are then used to stimulate thinking, to stretch the management team's perception of events and make these relevant for the host organisation. This 'novelty' allows the management team to consider several interpretations of business drivers. Inferences are deduced about how these business drivers may impact the organisation. This creates (the impression of) a jolt (Meyer, 1982), which potentially threatens the future survival of the organisation. The recipe moves into a state of flux and transition before stability re-occurs.

The jolt is experienced as loss of control and acts as a catalyst for change. The next stage of the process of strategic renewal is the search for a mechanism or position to regain control of the situation to allow stability. When a position of stability is determined, the recipe stabilises in a new context, which leads to (new) managerial and organisational action.

#### *6.2.2.2 Managerial Responses to Intervention*

This section sets out to explore the impact of jolts arising from the action learning intervention in bringing about learning and change. The ability to learn at the individual level and at the organisational level is the basis of the capability to adapt to changing circumstances lies at the root of effective strategy (Starkey, 1996).

Scenarios deliberately set out to challenge managerial bounded rationality. The process challenges managerial assumptions about the relationship between the organisation and the environment, at least for the duration of the scenario development process or workshop. The inquiry process discussed above enables the participants to understand the underlying environmental

dynamics and identify appropriate responses for the organisation. These responses are based on a search for a sustainable position in the future.

The concerns articulated and agreed as the scenario agenda indicate a framework to review the appropriateness of the recipe. The concerns articulated and agreed as the scenario agenda indicate the boundedness of the recipe, the area at the periphery of the recipe where learning can occur.

The boundedness of the recipe restricts or limits management's ability to engage in critical reflection of the past. There is a belief that doing what we do is the approach. However, the intervention process allows for managerial inquiry.

Structural or competitive domain insights from the scenario building process highlight opportunities and threats for the organisation. These opportunities and threats should not be seen as a dichotomy but as a continuum where the organisation has choice regarding products, services and organisational design. The response by the management team/participants to these opportunities and threats is to search for a structural position that allows them an element of control. The search for control comes from adapting the recipe.

By considering the scenarios and the multiple unfolding environments, the participants evolve a greater self-awareness in dialogue (Sprengnether 1993) and a deeper understanding of the organisation and the environment, and the interplay between the two.

The scenarios allow the management team to temporarily step outside of the recipe, as described by Rudnytsky (1993) as 'willing suspension of disbelief', and reflect on the recipe, customers, the competition and drivers for change. This process allows re-framing or re-definition of the recipe. By using this framework and new context, it is possible for management to continue with the recipe adapting it to the new insights.

The scenario intervention acts as a jolt (Meyer, 1982), although constructed before any external negative event occurs, which acts as the basis of questioning the relevance of beliefs by the manager. This questioning resulted in a re-interpretation of the recipe, as a response to the jolt. The re-

interpretation of the recipe occurs from the underlying insights from the scenarios, or jolts, which identify threats to the organisation. If these threats were to materialise, they would have a catastrophic impact on the organisation. Management developed a response that was designed to prevent the catastrophic event from occurring.

### **6.2.3 Learning**

#### *6.2.3.1 Mental models*

Changing mental models, an individual's internally constructed basis of reality, is the focus of scenario building (Wack, 1985a;1985b) through conversation (van der Heijden (1998). In this context strategic management is a social process (Eden, 1992). The language articulated by the participants/ management team is the first stage of studying learning and knowledge development.

Johnson (1987, p 45) states that we "need to understand change processes at the individual and organisational level to understand a shift in ideology". The significance of the statement is understood when we consider that recipes (Grinyer and Spender, 1979), cohesion (Janis, 1982) and power (Pettigrew, 1973a, 1973b), all act as organisational mechanisms to reject information which challenges the existing managerial paradigm (Johnson, 1987).

#### *6.2.3.2 Learning and Dominant Managerial Logic*

"Learning involves developing new understanding" (Fiol, 1994, 1996 p 175). Cognitive and behavioural sciences research on individual learning describes this process as involving the acquisition and interpretation of knowledge (Lindsay and Norman 1977). The process need not be conscious or intentional (Bower and Hilgard 1981), nor need it necessarily increase the learner's effectiveness or visibly change the learner's behaviours (Friedlander 1983). Learning is the process of modifying one's "cognitive maps or understandings" (Friedlander 1983, p 194; Wack, 1985a), thereby changing the range of one's potential behaviours (Huber 1991).

Learning thus may have more to do with a change in one's interpretation of events and actions than with the events or actions themselves. Daft and Weick (1984) defined interpretation as the process through which people give meaning to information. A person learns through developing different interpretations of new or existing information, that is, through developing (consciously or unconsciously) a new understanding of surrounding events.

Change becomes possible when the managerial recipe is extended to include the ZOPED (Vygotsky, 1986) or the domain where information and insights are waiting to be 'scaffolded' (Vygotsky, 1986) with existing knowledge to produce new, more relevant or insightful knowledge to aid managerial decision making. The area of the managerial recipe where learning occurs, the ZOPED, helps the individual to conceptualise, navigate and negotiate with the external world, moving from the familiar to the new, unfamiliar world (Winnicott, 1970; Rose, 1978).

### *6.2.3.3 The Zone of Proximal Development (ZOPED)*

Vygotsky distinguishes two basic forms of experience, which gives rise to two different, albeit interrelated, groups of concepts: the 'scientific' and the spontaneous". Scientific concepts originate in the highly structured and specialised activity of social discourse and impose logically defined concepts; spontaneous concepts emerge from own reflections on everyday experience.

The Zone of Proximal Development (ZOPED) is the area of knowledge where a person's empirically rich but disorganised spontaneous concepts "meet" the logic of (adult) systematic reasoning. As a result of such a "meeting", the weaknesses of spontaneous reasoning are compensated by becoming incorporated in the person's "scientific logic".

Scientific concepts far from being assimilated in a ready-made form, actually undergo substantial development, which essentially depends on the existing level of the person's general ability to comprehend concepts. This level of comprehension, in its turn, is connected with the development of spontaneous concepts. Spontaneous concepts, in working their way "upward", towards greater abstractness, clear a path for scientific concepts in

their “downward” development toward greater concreteness. The social environment corrects reasoning to help the person’s development.

An experienced manager has experienced learning throughout his/her life. The manager will have well developed reasoning skills that have led to a recipe for behaviour in new, unusual situations. The scientific structure in an adult is their recipe. Vygotsky identifies the key to learning – the meeting of scientific and spontaneous structures. The spontaneous concepts are those insights that bring about new understanding. However, this new understanding is yet insufficient to explain change to a recipe. Other issues need also to be considered.

## **6.2.4 Negative goal avoidance**

### *6.2.4.1 Introduction*

The management in each of the three case study organisations had clearly espoused aspirations (CLCS - Strategies for Growth; CP - pulp/paper cycle stability; CBC - increase throughput turnover). Understanding how these aspirations could be achieved was a motivator for the organisations to participate in the action learning intervention. A combination of opportunities and threats arising from the intervention generated change in the participants. This section explores the threats, and the resulting negative goals avoidance behaviour in more detail.

### *6.2.4.2 NGA Defined*

Eden and Ackermann (1998) state that one key to emergent strategising is to understand “negative goals” which are “aspirations to avoid”. Negative goals are disastrous outcomes that drive action. Negative goals are important aspects of emergent strategising, for they more often drive a managers thinking and behaviour than do positive goals. Negative goals avoidance arises from the identification of strategic issues for the organisation as the participants develop insights from and understanding of the business drivers (from the scenario logics).

The scenario structuring process used creates four plausible, alternative futures for managerial consideration. For each of these three case study organisations, one of the four plausible, alternative futures was deemed to be "Business As Usual" (BAU). For CBC, the BAU future was developed around industry logic and customer distribution systems/service as is. For CP, the BAU future was developed around slow development of technology and media and industry instability from incumbent players acting independently and in their own interests. For CLCS, the BAU future was developed around JBA product continuing, uncertainty around the impact of the Internet and Microsoft as important for the desktop only.

The BAU factor allows the management teams firstly to conceptualise and understand the current business environment dynamics; secondly, it facilitates the acceptance of the drivers and dynamics of the other scenarios; and finally, it allows the management team to consider the robustness of their (individual) recipe in each of the other alternative plausible futures.

This structuring of environmental drivers, allows questioning of the dynamics or forces creating these futures and linking this to the current managerial recipe. The current recipe and the assumptions and experience the current recipe is based on is challenged by the three alternative, plausible futures.

Within this process of questioning, the management team identify a number of competitive drivers as threats. The insights identify threats not previously considered by the three case study organisations. If these structural insights are conceptualised as a continuum rather than as a dichotomy, it is possible to understand the managerial response as a search for positional control in this (socially constructed) future.

### **6.2.5 Resistance to Change**

Changes in the business environment can be conceptualised at three levels. Firstly, change is portrayed both as a continuous organisational process (March, 1981) and as a brief episode interspersed between long periods of stability and inertia (Miller and Friesen, 1984). Secondly, change is also seen as a volitional managerial action (Andrews, 1971), while finally, change is

conceived as a result of unforeseen exogenous shocks (Meyer, 1982). As discussed above, structural change if defined as a continuum, provides an opportunity for the organisation as it searches for a position to gain advantage. But change is not guaranteed. There are formidable barriers to change.

Dutton and Freedman (1985, p 41) state “strategy theory fails to recognise the implications of bounded rationality as developed by de Groot (1946), Simon (1947, 1955, 1956) and Thrall, Coombs and Davis (1954), Downey, Hellreigel and Slocum (1975), Tosi, Aldag and Storey (1973) and (March, 1978). These studies clearly find that managers perceptions are weakly related to objective measures of their corporate environments.”

Johnson (1987) identifies the possibility of “identification and internalisation” of threats to the recipe, which results in no significant alteration of the recipe. Libowitz (1993) links the concepts of “identification and resistance” (or motivation) as the keys for any change to occur.

During the process of internalisation of new insights an individual may experience and be confused by contradictions. This may result in resistance. As Bakhtin (1981, p 341) noted “the ideological becoming of a human being .... is the process of selectively assimilating the words of others”. To understand why resistance of the issues and insights identified during the scenario intervention does not occur, can be explained by the motivation to maintain the survival of the organisation by searching for a position of control in a new context (Janis and Mann, 1977). Identification occurs in the ZOPED (Vygotsky, 1986) as existing understanding and knowledge is extended by insights emerging during the process.

#### *6.2.5.1 Transition and Managerial Recipes*

Some clarification of ‘transitional object’ (Winnicott, 1970) is required at this point. The term transitional object is at first a little tricky, as Winnicott is primarily not concerned with (tangible) objects, but with transitional states (Poirier, 1993). Winnicott was concerned about the subjective and creative process of transition. Winnicott’s work concentrated on the relationship



between the mother and the child and child development. Winnicott identified how initially the child conceived the mother as the self, then over time, how the child 'separated' and developed the self – the process of transition. Winnicott was interested in how the child had a sense of attachment to the mother, and how the mother provided the environment for self-development (the 'good enough mother'). This process of transition occurred without any threat to or loss of identity of the self (Rose, 1978). Rose (1978) states "the construction of reality, arising from the ego core, and the maintenance of identity, resting on primary identity, both constantly relate and reconcile continuity and change (p 351). The transitional object serves as a bridge between the familiar and the disturbingly unfamiliar, thus facilitating acceptance of the new (Rose, 1978).

From the empirical findings, we can observe this process occurring in the intervention. The individual's understanding of the external world is constructed in the scenario stories of plausible, alternative futures. These alternative futures indicated major structural threats to the organisation. These threats had not been considered in the past by the management team/participants. To interpret the scenarios and understand the implications of the scenarios for the organisation, the individual values, beliefs, and experience is triggered in the form of the recipe. The bringing together of the representation of the external world (in the form of the scenarios) and the internal world (in the form of the managerial recipe) creates a clash in the "potential space" (Winnicott, 1970). The clash is the transitional process, which is the key to re-interpretation of the organisation, and the determination of a new recipe in the future.

Winnicott (1970) states that the transitional object is 'me/not me' as the relationship between the mother and child, or rather breast and child develops. This produces the 'individuation/separation' (Winnicott, 1970) problem for the child as it moves towards a position of 'world sensemaking for itself'. The transitional object is seen as the 'space of illusion' (Kahn, 1978) in which the inner self creates its own reality or understanding of external reality based on experience. This allows the navigation with the external world.

Similarly, the individual to navigate through day-to-day operations, business processes and routines creates a managerial recipe. Unless shown otherwise there is no reason for the managerial recipe to change. Stability of the managerial recipe is the basis of past experience and learning. Until new, more relevant information is processed for new learning, the managerial recipe will not change. Change produces uncertainty of action for the individual. The managerial recipe is the basis of safety from state A (old world) to state B (new world).

The managerial recipe interprets signals from the external environment and through a process of deduction, draws conclusions about the implications and impact on the recipe. Whilst the recipe is in a state of flux in the 'potential space', finding an appropriate response is the outcome of the creative process occurring during the process. The outcome will be an intellectual construct, which when verbalised, results in the generation of optional responses. These optional responses are conceptualised into a framework for change. The managerial recipe allows transition to occur.

### **6.2.6 Identification and Motivation for Change**

Winnicott (1971) advocates playing (p 41) as the approach for interaction in the "potential space", this is the moment of developmental progression. The "potential space" can be compared with the "zone of proximal development or ZOPED (Vygotsky 1986; Addison Stone, 1993) where learning occurs. Litowitz (1993) argues that there are two aspects to this developmental process - identification and resistance.

"Identification is a complex term that has many uses. Identification is most usually defined as the psychological process whereby the subject assimilates an aspect, property or attribute of the other and is transformed, wholly or partially, after the model the other provides" (Litowitz 1993, p 188). Through our inner speech we internalise content and more importantly, "we create new processes and forms of thinking and, indeed, of all higher mental functioning (of perception and memory) (Litowitz 1993, p 189). From this it is argued that participants will only respond to issues or insights if they identify (and

understand) these issues, and agree that they have relevance for the organisation.

The intervention process allows the participants to relate to these issues by visualising strategic change and linking it to the organisation's success formula. This provides the platform to link the old world with the new world.

But why not avoid the signals for change? Nisbet and Ross (1980) suggest that when knowledge is embodied with strongly held values, people will attempt to discredit uncongenial evidence. In schema theory, this is known as the 'perseverance effect' that suggests resistance to change even in the face of contradictory evidence (Fiske and Taylor, 1984). Janis and Mann (1977) put forward a conflict theory model showing basic patterns of emergency decision making evolved by warnings of impending danger. Given the perceived threats to the management team, how and why do they respond?

Why does the approach not create disagreement and uncoupling? The participants have together socially constructed meaning and symbolism through the scenarios (Pfeffer, 1981). The enemy is external to the organisation, rather than internal. This allows the team to construct a virtual "Transitional Object" that facilitates the transition to be made.

## **6.2.7 Transitional Objects and Transitional Phenomena**

### *6.2.7.1 Introduction*

Winnicott (1970) developed the notion of a transitional object in the context of the psychological coupling between mother and child (Beratis et al, 1983). In developing the definition of the 'Transitional Object', Winnicott (1970, p 96) states "the object is a symbol of the union of the baby and the mother. In the early stages of the child's development this symbol can be located. It is the place in space and time, where and when the mother is in transition from being (in the baby's mind) merged in with the infant and alternatively being experienced as an object to be perceived rather than conceived of. The use of an object symbolises the union of two now separate things, baby and

mother, at the point in time and space of the initiation of the state of separateness”.

To develop this analogy further, Winnicott uses examples of mother's nipple and the baby, and thumb and baby; and in later development also teddy bears as representations of the mother, known as “attachment” (Stalker and Davies, 1998). This is the essence of individuation-separation where fantasy and (external) reality clash as illusion (Dinnage, 1978). It is this illusion that Winnicott argues is the basis of creativity and development (Rose, 1978). To aid or facilitate this process of creativity and development in children, the “good enough mother” (Winnicott, 1970) provides a facilitating environment promoting maturational processes. In the later stages of development the Transitional Object becomes more and more internalised in the form of a conceptual device (Arthern and Madill, 1999).

The facilitating process provides such a transitional device and in that way not only promotes development, but helps with difficulties in adaptation (Klein, 1993; Abluralin and Schaefer, 1994; Rudnytsky, 1997; Bachar et al, 1998; Lumoth, 1998)). Similarly an effective intervention allows a firm's contextual environment to provide similar “good enough mother” facilitation, allowing the organisation to recognise “strategic drift” (Johnson, 1987) against a background of constancy and to undertake corrective action.

#### *6.2.7.2 The Process of Learning in the Potential Space*

The argument set out here is that each manager has a recipe regarding the organisation's basis of past success as the basis of survival; when the manager is confronted with environmental jolts or change which is beyond current thinking, the manager uses the recipe to confront this environmental change to question the future survival of the recipe in alternative conditions. Through the process of confrontation, elements of insight from the environment are scaffolded with existing knowledge; during this scaffolding process, elements of the recipe are in a state of flux and there is a search for elements of stability in the recipe that can serve as a frame of reference for future survival and success.

This argument builds on Winnicott's (1970) theory of Transitional Object and Transitional Phenomena. Winnicott argues, using a Freudian psychoanalytic approach, that development or learning occurs in an area between an individual's inner world or psyche and the individual's construction of the external world. This learning area or ZOPED (Vygotsky, 1986) is the "potential space" or "intermediate area of experience" (Winnicott, 1970) where the inner world and external clash and a transition occurs. Winnicott used psychoanalytic theory to understand the experience when assumptions are confronted. This process is set out in figure 8 below:

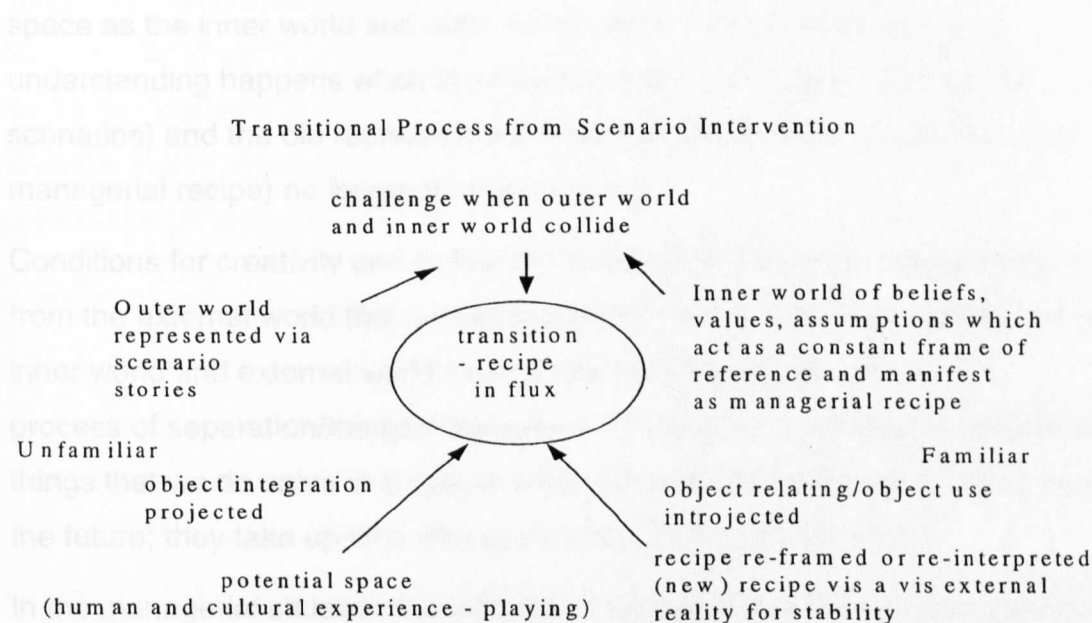


figure 2 The Process of Learning in the Potential Space (Winnicott, 1970)

Human and cultural experience, defined as the ongoing process of constructing, understanding and managing the self in the environment, is based on two aspects - an outer world (the world of external reality) and an inner world (the inner psyche). When these two worlds come together or collide, Winnicott (1970) suggests that there is a meeting place - the "potential space" which is "relative to the individual in the world, in which cultural experience can be said to take place (Winnicott, 1979, p 107). When the outer world and inner world collide, the individual and the environment moves from a state of separation to merger to separation. For the individual,

this potential space is “between reality and fantasy” (Muensterberger, 1978), where ‘play’ or learning and development occurs.

Rose (1978, p 351) states that for experienced managers “the construction of reality, arising from the inner reality (ego core), and the maintenance of identity, resting on primary identity, both constantly relate and reconcile continuity and change”. The ‘Transitional Object’ serves as a bridge between the familiar (manifested the reframed managerial recipe) and the disturbingly unfamiliar (as represented in scenarios), thus facilitating the acceptance of the new (Winnicott, 1970). Creativity or re-framing occurs within the potential space as the inner world and outer world clash. The movement to new understanding happens when the external reality (as represented by the scenarios) and the old representation (represented in the inner world as the managerial recipe) no longer threaten the self.

Conditions for creativity and re-framing occur with a trigger or representation from the external world that activates the inner world. With this activation, the inner world and external world clash in the potential space - this is the process of separation/merger/separation. “Playing and cultural experience are things that we do value in a special way; these link the past, the present, and the future; they take up time and space (Winnicott, 1970, p 109).

In the managerial situation the intellectual recognition of the need for change is not enough to create change. Management need a Transitional Object, in the form of a concept or model that will represent the ‘self’ in the transition process. This was observed in all three case studies. The literature does not indicate where this Transitional Object comes from. This research suggests that it is created through reframing the recipe at a higher level of conceptualisation (a process we have called upframing) which allows the lower level recipe definition to be altered without violating or threatening the ‘self’ (Tabin, 1992).

## **6.2.8 Knowledge development**

### *6.2.8.1 Inquiry*

Developing this broader understanding of future environments, encourages managers to inquire into the dynamics creating alternative futures. Inquiry, asking questions, is the first step on the road to creating new meanings and thus new business insights. The scenario development process creates an environment of inquiry. People talk to one another and play with ideas. They pose problems, generate hypotheses, test, experiment and reflect on the outcomes. Scenarios develop structural insights from causal reasoning. People relate best to concrete causally coherent narratives, providing the basis for further inquiry and integration of new evidence (Schoemaker, 1992). Questioning information and consciously reflecting on the problem solving process result in expanded reasoning capabilities (Schunk, 1996, p 206).

### *6.2.8.2 Individual and Organisational Learning*

For adults, in this context experienced managers, they know how to learn - through their educational experience, through social interaction, through their organisational experience, as they continue to search for the basis of success. This is reflected by Kolb et al (1971) who “combined these characteristics of learning and problem solving and conceiving of them as a single process, we can come closer to understanding how it is that people generate from their experience the concepts, rules, and principles that guide their behaviour in new situations, and how they modify these concepts to improve their effectiveness. This process is active and passive, concrete and abstract. It can be conceived of as a four stage cycle: (i) concrete experience is followed by (ii) observation and reflection, which lead to (iii) the formation of abstract concepts and generalisations, which lead to (iv) hypotheses to be tested in future action, which in turn lead to new experiences” (p 31).

### *6.2.8.3 Gaps*

Two organisational benefits accrue from this learning process. Firstly, many of the managerial assumptions are challenged as the organisation develops a

broader understanding of its future environment that allows it time to prepare an appropriate response (to ensure survival). The insights from the scenarios highlight issues that the organisation had not previously considered. For the organisation, these insights have not yet manifested in the business environment. Secondly, the organisation identifies knowledge gaps - what it does not know. Wack (1985) asks “what’s missing?” as a by-product of the scenario process. By identifying what the management team don’t know, and believe that insights in this arena will enhance individual and organisational knowledge, a research agenda is created.

#### *6.2.8.4 What’s missing?*

An issue neglected in the strategic management literature concerns the identification of managerial knowledge gaps.

Wack (1985b) stated that “you can test the value of scenarios by asking two questions - what do they leave out? (what’s missing) and, do they (scenarios) lead to action?” (p146). Schwartz (1990, p 146) similarly asks two questions - “what keeps the operating unit managers up at night? what would really make a difference?”

Wack and Schwartz both identify that a key component in learning from scenarios, is the identification of knowledge gaps within a management team. The empirical data highlights the importance of this issue for the three case study organisations.

Weick (1995) in discussing sensemaking in organisations identifies a key issue - “how can I know what I think till I see what I say?” (Wallas, 1926, p106). Within the scenario intervention context this is interpreted as “how do I know what I know, till I know what I don’t know?”.

In this section of the thesis, the discussion will concentrate on the first of Wack’s two questions - what do they leave out? or what’s missing? in terms of knowing and knowledge in the organisations. Identification of knowledge gaps is fundamental to firstly, challenge managerial assumptions and secondly, facilitating the transformational or re-framing process, and finally, assisting the search for information to support future decision-making.



Managers base their decisions and actions on a limited number of assumptions; this is called bounded rationality (Simon, 1957; March and Simon, 1958). To enhance management decision-making, it is necessary to either challenge the assumptions providing the basis of the decision, or stretch the number of assumptions used in the process. Bounded rationality views individuals as attempting to make rational decisions, which acknowledges that decision makers often lack important information on the definition of the problem, the relevant criteria, and so on. Time and cost constraints limit the quantity and quality of available information (Bazerman, 1998; Radford, 1998; March and Simon, 1958).

The scenario intervention provides an opportunity for management teams to spend time discussing issues that may impact the organisation in the future. This is important for three reasons. Firstly, the management team is together for several days discussing non-operational issues or non-routine issues. Secondly, the management team interacts with outsiders or 'Remarkable People', who introduce information and examples from other contexts in an attempt to stretch the boundaries of management thinking by relating these issues to the case study organisation context. Thirdly, the scenario process is about constructing alternative, challenging, plausible futures that the management team can use as the backdrop to future decision-making. The identification of managerial knowledge gaps can be facilitated by developing system models (or cause and effect pictures using influence diagrams) to represent environmental or structural dynamics describing alternate futures, which is part of the scenario process.

As a consequence of the combination of these three elements of intervention, managerial knowledge is articulated and managerial knowledge gaps are identified. These knowledge gaps are the basis of - an organisational research agenda and the underpinning logic to support the strategic intent emerging from the scenario intervention.

### **6.2.9 Critical Mass of Intent**

With the scenario process encouraging managerial inquiry, and the focus on understanding underlying structural drivers, insights identified allow the participants to re-conceptualise the business. The process of re-conceptualising the business includes re-definition of roles, customers, products, services, technology and stakeholders. This is an outcome of the (scenario) learning process.

The scenario process facilitates the process of re-framing the business, to re-define the purpose of the business. All the stereotypes, all the traditions, all the cherished ideas and assumptions, and all the sacred cows can be challenged. This is the inherent value of scenarios - they allow management to consider completely different ways of thinking about the business (Mason, 1994, p8) or critical mass of intent concerning possible upheavals in an industry (van der Heijden, 1996).

### **6.3 *Towards a New Theory of Management of Change***

As explained in the introduction to this chapter the evaluation of the patterns observed (Recipe Articulation, Recipe Challenge and Recipe Re-definition) against theory developed in the literature resulted in the identification of seven elements essential in a successful intervention-driven change process.

The seven elements are:

Firstly, managerial experience over time is internalised as assumptions, beliefs and values and manifests as a managerial recipe. This managerial recipe is the basis of navigating managerial decision-making.

Secondly strategic change is socially constructed, as the result of considering multiple realities of plausible futures, which act as a “jolt” to existing understanding to bring “new” managerial action.

Thirdly the basis of the motivation to change, and the resulting strategic intent, is “negative goal avoidance” rather than managerial

aspirations. The managerial response to learning from scenarios is about a search to regain control (within the emerging structure).

Fourthly, change is possible only against a background of permanence that maintains the notion of the 'self'. A fundamental condition for change is the recognition of a perspective on the recipe that stays the same during the transition. This is created by upframing of the old recipe. We have called this element the managerial Transitional Object.

Fifthly, learning from scenarios is based on developing structural understanding of driving forces. This structural understanding highlights a "critical mass of intent" in the industry. From this "critical mass of intent" it is possible to understand opportunities and threats as a continuum.

Sixthly, learning from scenarios highlights knowledge gaps, which is the basis of the development of further understanding of managerial and organisational knowledge.

Finally, as the case study organisations had time to think, time to think individually and time to think together using a structured process (Janis and Mann, 1977), within the context of a Transitional Object, dissonance is resolved and the team moves to action.

The above discussion has tried to reflect the inter-relatedness of the seven elements making up a successful intervention change process. This allows the development of a theoretical model of strategic renewal (see figure 2).

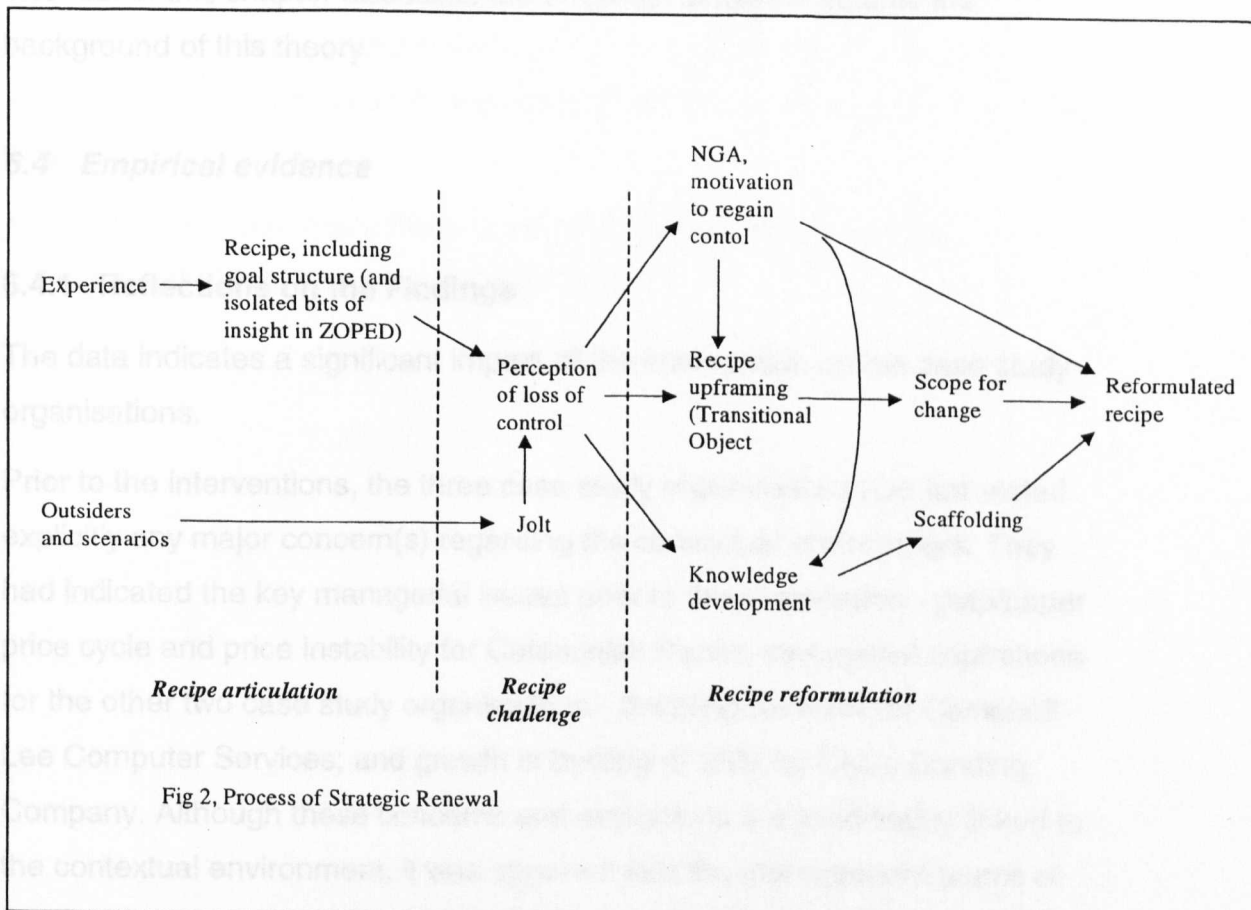


Fig 2, Process of Strategic Renewal

Experience leads to the existence of a recipe. The intervention creates a jolt to the recipe and the perception of loss of control. The 'Negative Goal Avoidance' mechanism provides a motivation for change, but mental space for change first has to be created through the development of the managerial 'Transitional Object', through the mental process of upframing the existing recipe. Once this is in place knowledge development and scaffolding can proceed, and a new recipe results that allows control to be regained and resolves strategic dissonance.

The rest of this chapter discusses the empirical evidence against the background of this theory.

## **6.4 Empirical evidence**

### **6.4.1 Reflections on the Findings**

The data indicates a significant impact of the intervention on the case study organisations.

Prior to the interventions, the three case study organisations had not stated explicitly any major concern(s) regarding the contextual environment. They had indicated the key managerial issues prior to the intervention - pulp/paper price cycle and price instability for Caledonian Paper; managerial aspirations for the other two case study organisations - doubling turnover for Campbell Lee Computer Services; and growth in bottling of 25% for Clyde Bonding Company. Although these concerns and aspirations are inextricably linked to the contextual environment, it was apparent that the management teams of the three case study organisations did or could not articulate the structural concerns or drivers behind either the cycle fluctuations or the drivers of growth. This articulation was noticeable by its absence.

At the conclusion of the interventions, the responses being considered or formulated for implementation were all articulated as responses to external business drivers that were interpreted by the management as threats to the business. For Caledonian Paper (and IPC Magazines), the Pulp/Paper price cycle was no longer the major concern. The challenge for the paper company was to understand electronic communication, new media and the impact on the demand for paper. For Campbell Lee Computer Systems, the challenge for this company arose from the need to understand the limitations of their past approach (relieving and problem solving), develop new approaches of understanding their customer business needs, working with customers to develop their business, and provide previously unconsidered approaches (enabling) to business relationships in the world of business to business via

the Internet. For Clyde Bonding Company, the challenge was to move from efficiency in operational production systems to developing an end-to-end supply system including information technology allowing order tracking in real time.

Table \* below summarises the process experienced by each of the management teams during the interventions.

Company	CBC	CP	CLCS
<b>Process of Transition in Thinking</b>  Original problem vision (espoused aspirations)	increase throughput to 10m bottles pa (25% increase)	develop better understanding the customer (through Alliance partnership) to mitigate pulp/paper cycle	double turnover to £12m pa (Strategies for Growth document with no specifics)
Original recipe and key success factors	Efficiency in whisky production and flexibility of response for customers	Paper produced faster and cheaper and pushed to customers	Product support (for IBM hardware and JBA software)  Problem solving and relieving for customers
Pre-intervention approach to customer	Respond to order	Price stability and smooth pulp/paper price cycle	Empathy and problem solving

Scenario insights	Structural threat - power of distributors and providers in the future	Structural threat - electronic communication and GICs determining role of paper	Structural threat - major supplier fails and re-definition of impact of Internet
Post intervention approach to (Creating Value for) Customer	Product integrity and support for the brand by providing supply chain management	Relationship with distributors (WH Smith, Menzies and Wholesalers) to understand change in consumer demand patterns and use of paper as a conduit for communication	Develop knowledge of customer's business, the customer's customer business, to help support business relationships
Domain in the recipe for re-interpretation	Supply chain management	Consumer and consumer knowledge	Enhancing customer's customer relationship
Threat	Change in industry structure - power with	Change in industry structure - invaders who	Change in industry structure - emergence of



	Distributors resulting in their ability to control the supply chain and therefore access to markets	would reduce the demand for paper	a new paradigm based around Internet and Customer Relationship Management, and demise of software supplier
Transition in thinking and Recipe re-interpretation	Customer Service Centre to produce end to end supply chain management for customers and suppliers	Communication and electronics and the role of paper; paper as a conduit of communication	Enabling business to business (Problem solving & Transaction processing remains, but within clearer context of service delivery)

Table 1

The table shows evidence that, from an interventionist perspective, the transition in thinking occurs within the domain of the managerial recipe. Interventionists therefore need to ensure they understand the managerial recipes held within a host organisation, being aware that the managerial recipe is the domain for learning. This is discussed in more detail below.

### 6.4.2 Case Evidence of Recipes in the three case studies

Table 2 below sets out a summary of the Managerial Recipe and its Re-interpretation

Company	CBC (whisky)	CP (paper)	CLCS (IT consulting)
<b>Constructs for original managerial recipe</b>	operational efficiency, operational flexibility, 3 tier industry - blending and bottling, distribution, and brand management	production efficiency, low cost production, bigger & faster machines, push paper, pulp/paper price instability	provide IT solutions, keep customers happy, never challenge customers, IT solutions based around IBM products and JBA software
Impact of original managerial recipe	by being internally focused, there is a 'pre-perception' built into the managerial recipe, which limits or prevents the recognition of external signals. Unless incoming information	by being internally focused, there is a 'pre-perception' built into the managerial recipe, which limits or prevents the recognition of external signals. Unless incoming information	by being internally focused, there is a 'pre-perception' built into the managerial recipe, which limits or prevents the recognition of external signals. Unless incoming information enhances operational

	enhances operational efficiency it is rejected. The management team and each managerial recipe is bounded by past experience, thus there is limited knowledge about business drivers.	enhances operational efficiency it is rejected. The management team and each managerial recipe is bounded by past experience, thus there is limited knowledge about business drivers.	efficiency it is rejected. The management team and each managerial recipe is bounded by past experience, thus there is limited knowledge about business drivers.
Recipe re-interpretation	2 tier industry - distribution and brand management, supply chain management and distribution key to future success, 2 directly/1 indirectly scenarios highlight supply chain management will dominate at	communication electronics and relationships with consumers to develop understanding of demand drivers, little emphasis on pulp/paper price instability	IT solutions at 2 levels - transaction processing and enabling relationships, previously Internet interpreted as Microsoft which is a competitor of IBM therefore not ethical to develop Internet solutions, however, Internet re-defined as

	operational level, need to manage and control distribution to retailers and wholesalers in the future		business to business
Bridge	scenario thinking presents the management team's with an opportunity to stand out of the self to conceptualise change, only when standing out of self does a management team understand self in a wider context	scenario thinking presents the management team's with an opportunity to stand out of the self to conceptualise change, only when standing out of self does a management team understand self in a wider context	scenario thinking presents the management team's with an opportunity to stand out of the self to conceptualise change, only when standing out of self does a management team understand self in a wider context

Table 2 Summary of Recipe Re-interpretation

The conclusion of this table is that recipes were clearly evident, and capable of being mapped out. Having done that the transitional process is revealed. What is identified as "bridge" in the table is the beginning of the formulation of a suitable transitional object, see below.

### 6.4.3 Case evidence of Jolts

As discussed above, the participants in the scenario intervention, identified optional responses to avoid the negative impact of the threats inferred from the scenario representations of plausible futures. The following table summarises those threats, and the response to those threats:

Threat - CBC	Response to Threat - CBC	Threat - CLCS	Response to Threat - CLCS	Threat - CP	Response to Threat - CP
developing an understanding of limitation of "Production frame" compared with "Customer frame"	moving from managing tangible product to managing relationships - identifying service provision for the future	caught up in the Y2K bubble	identifying growth beyond Y2K, business to business and developing customers business	industry value chain around 3 tiers - pulp/paper , publishing and advertising threatened by change in technology	search for new alliances as industry value chain around 3 tiers - content, distribution and infrastructure, and service providers
identifying customer risk inside CBC and ability of customers	develop understanding of supply logics to change	locked into 2 key suppliers (IBM and JBA)	develop understanding of Microsoft	inter-dependent rather than independent relationships	move to develop joint initiatives and no blame

to corrupt (order and production) system	risk (using example of Ryder and re- configurati on)			p in paper and publishing (via system dynamics model)	
emergence of power over whisky with the Providers and Distributor s	identifying firm driven changes in supply chain and distribution logics	change in industry value chain from 3 tiers - hardware, software, and technical services to 2 tier industry technical services and business support	develop beyond IBM, JBA and understan d customer business as a system	access to customers via lifestyle providers (who can screw up paper)	undertake research into lifestyle providers; search for new alliances
brand managem ent key challenge in the future	developing system to support customer relationshi p managem	failure of JBA	develop knowledge of JBA plans for developme nt; develop capability	increased consumer choice through electronic communic ation via	research impact of Internet; research impact of consumer databases

	ent and customer intelligence		in SAP, Microsoft and other value added services in portfolio	Internet; Internet reduce advertising revenues for publishers	
competencies of blending and bottling, labelling insufficient to survive	develop Customer Service Centre with electronic access through IT system	developing understanding impact of Internet and removal of geographic boundaries for service support	develop response to exploit global communication and business to business through 'e' business	changes in technology - printing, digital TV, PCs impacting demand of paper	research into technology and potential for personalisation via in-house and in-shop printing
emergence of distribution monopoly in France with Intermarche (Famous Grouse supplying direct to Intermarche)	change from production recipe to customer co-ordination through integrated information systems	growth and ubiquity of Microsoft; Microsoft dis-entangled from Internet (no response or Microsoft)	research Microsoft; understand how Microsoft will develop applications for business	Invaders - Global Integration Communicators, infrastructure providers, media and lifestyle organisations	new media group initiative, research role of paper

e)					
		IBM moving into service support in the future - threat to core business	understand IBM Consulting plans for the future		
		lack of customer knowledge and customer relationship internally	develop marketing and customer databases; develop knowledge of customer business in the future		

table 3 Summary of Threats from Scenarios and Responses

#### 6.4.4 Case Evidence of Negative Goal Avoidance

Structural insights were developed firstly, in the initial conceptualisation of alternative futures, in the scenario structuring matrix; secondly, in comparing taken for granted (existing knowledge or understanding) in the business environment - 'Business As Usual' (BAU) with alternative futures not previously considered; and finally, in developing detailed dynamics of the



interaction in each of the alternative futures. This process allows a comparison of current competitive understanding with new, emergent understanding of socially constructed competitive environments. These environments highlight new, novel factors e.g. organisations, products and services that will impact on the case study organisations future success not previously considered. By studying these factors and their dynamic interaction that learning occurs.

#### *6.4.4.1 NGA - CBC*

For CBC, the scenarios structured around the key dimensions of 1) industry inside/out logics or competencies driving the future, with extremes of “industry logic as is” and “production re-configured through bundling and unbundling”; and 2) customer buying method changing from traditional methods to re-configured methods of “customers distribution systems/service as is” and “co-production of value with customers”. This indicated that control of the supply chain was the key to accessing markets.

CBC management identified that they had little knowledge about their customer’s business and therefore could only ever be reactive in their relationship with customers. In addition, they identified that they treated all customer orders with the same priority. No difference or distinction was made between a large volume order with a delivery date in 3 weeks and a small volume speciality order with a delivery date of four days. This historic approach created managerial and organisational problems of managing bottling operations with constant changes to the filling production runs. The scenarios indicated a future where customer service and distribution would be key to the future survival. Given the existing lack of control over planning and scheduling this would be catastrophic for CBC. CBC management team realised that they needed to wrest control of operations and scheduling from their customers, otherwise service would continue to be erratic in the future.

#### *6.4.4.2 NGA - CP*

For CP, the scenarios structured around the dimensions of 1) industry logics of “pulp/paper stability from consolidation within the industry” at one extreme,

and “instability from many industry players acting independently in the industry” as the other extreme, and 2) technology, with one extreme as “technology re-configuring consumers access to information and the use of new electronic media quickly” and “slow development of technology and new media and slow consumer uptake of these channels” at the other extreme.

The CP management team identified that the pulp/paper system was inherently unstable with the company and the competition continually adding production capacity when there was insufficient demand, and stockholding by customers in an attempt to alleviate price fluctuations. No amount of managerial effort could stabilise price. The scenarios highlighted structural dynamics dominated by consolidation of industry capacity; by electronic media re-defining how people demand and use information. Moving from paper based media to electronic media; IT would also play a role in developing customer relationships. This would be catastrophic for CP, as the management identified that they had no customer database to develop knowledge or build relationships to understand how or if paper would be used in the future.

#### *6.4.4.3 NGA - CPCS*

For CLCS, the scenarios structured around the interaction of three dimensions, rather than the traditional two dimensions (as in the case of CBC and CP). These were 1) “the future of the Internet – varying between “succeeding with wide acceptance and use”, and “failing with the system crashing due to lack of infrastructure and fears over illegal transactions affecting consumers” 2) “the future of the company’s main software product” – “JBA continues” and “JBA fails”; and 3) “the future intent of Microsoft with its products and markets” – “Microsoft remained as desktop only” at one extreme and “Microsoft providing business applications and dominating the business software market” at the other extreme. CLCS had no Microsoft capability in house at that time.

CLCS management team identified that in the three scenarios they had developed, one of the conclusions deducted was the failure of their software

supplier. This would be catastrophic for CLCS as they had developed a niche market specialism, supplying and implementing this software. They had no alternative comparable software in the product/service portfolio.

Another conclusion deduced from the scenarios was the magnitude of the potential impact of the Internet. Previously the Internet was ignored as not having much significance for the business of CLCS and its customers. This had occurred as CLCS related the Internet with Microsoft, and as an IBM reseller the management team had built up an internal belief barrier to products/services that was a competitive threat to IBM.

As a consequence of this 'IBM/Microsoft competition' belief, CLCS developed a Microsoft blind spot. They had no internal Microsoft knowledge or capability. Yet Microsoft dominated the office administration activities of their customers. As CLCS management team developed scenario stories and structural understanding based on Microsoft succeeding in the business application arena, the management team identified that this would be catastrophic for them as they had no Microsoft experience or capability.

For CLCS, the three key areas of concern from the scenarios indicated potential disastrous consequences if these conclusions occurred. The next step for CLCS management team was to develop appropriate responses as 'negative goals avoidance'.

#### *6.4.4.4 Conclusion on NGA*

It has been argued in this section that the insights identified by the management teams in the three case study organisations during the development of scenarios revealed major structural insights. These structural insights indicated potential threats to all three case study organisations.

For CBC, the management team identified the changing distribution logistics systems would require change; for CP, the role of IT in creating personalised electronic communication and media solutions would have a negative impact on the demand for paper as a communication media in the future; for CLCS, the impact of the Internet for changing the nature of business relationships

had not been considered, as previously, the company had linked Microsoft (a major competitor of IBM and CLCS as a IBM re-seller) as the Internet, and CLCS had no Internet product/service offering.

If these threats were to become reality, they would have had an impact on the organisation's ability to survive. The management teams responded by developing responses or options to these threats. In each of the three case study organisations, the options developed were in response to preventing potential disastrous outcomes for the organisations or 'negative goal avoidance'. 'Negative goal avoidance' became the basis of each of the three case study organisations future strategic intent.

Constructing scenarios helps management teams to develop an understanding of a situation that was previously not considered or not understood. "Scenarios compel managers to consider what could be, not what has been. Scenarios explore different future business patterns, not extrapolations of historic behaviour. Scenario based planning is a creative, forward-looking, open-ended search for patterns that emerge in an industry. At its best, scenarios help managers discover entirely new patterns that no one else has recognised" (Mason, 1994, p 7).

In this context, scenarios help develop business opportunities. It is the interpretation of the word "opportunities" that needs to be more carefully defined in the future. Here opportunity is defined as a continuum of structural change where the organisation searches for a position to gain control. Strategic adaptation is seen as equilibrium seeking responses by organisations (Meyer, 1982).

It is also argued here that rather than the classic "aspirations and goals" as the basis of an organisation's strategic intent, it is the development of appropriate organisational responses to structural threats that determines future strategic intent.

#### **6.4.5 Case evidence of the Role of the Transitional Object**

In responding to threats and the search for control, management have used concepts introduced by the outsiders. The concepts introduced act as “potential space” (Winnicott 1970), that is the bridge between the participant’s inner world and with the actual, external reality. Here the participant finds his creativity to understand the dynamics of the situation understanding consideration.

The concepts challenge and question management’s understanding of

- (a) who are the organisation’s customers?
- (b) who are the customer’s customer
- (c) what is the offering?
- (d) how does the offering add value for the customer?

This provides the opportunity for the management to re-frame the organisation’s interaction with customers.

This sets in motion the process of redefinition of the recipe. A crucial step in this is the identification of n element of constancy, with which the team can identify itself. Without a notion of the ‘self’ to hang on there can be no change.

From the data this essential element defining the ‘self’ can be seen to evolve as follows:

For CBC moving from “efficiency by more throughput” before the intervention to “efficiency by integrated supply” afterwards. The element of constancy (the Transitional Object) is efficiency. The ongoing self: “CBC is about efficiency”.

For CP moving from “alliances to bring costs down” before the intervention to “alliances for business development” afterwards. The element of constancy (the Transitional Object) is alliance. The ongoing self: “CP is about customer alliances”.

For CL moving from “looking after customers by relieving” before the intervention to “looking after customers by enabling” afterwards. The

element of constancy (the Transitional Object) is looking after customers. The ongoing self: "CL is about looking after customers".

What management did was to upframe (redefine at a higher conceptual level) the goal structure of their recipe, and turning that into their Transitional Object, the object that can be taken into the new world as the basis for change. By doing that they created new space for change in the recipe underneath that higher concept leading to a reformulation of the recipe (after knowledge development and scaffolding in ZOPED).

The important insight from this can be formulated as follows: People cannot change everything at the same time. If pro-active change is required it needs to be understood. If your own identity is in motion you cannot deal with external change at the same time. Pro-active change requires an ongoing identity to hang on to while we change the underlying formula ("we stand for efficiency", "we stand for customer alliance", "we stand for customer care"). Change can then be interpreted, as "doing whatever is necessary to realise our self".

Upframing of the recipe goal structure and the resulting Transitional Object is the key to pro-active change.

#### **6.4.6 Case Evidence of Knowledge Gaps**

##### *6.4.6.1 Knowledge Gaps – Clyde Bonding Company*

For Clyde Bonding Company, five managerial knowledge gaps were identified during the scenario intervention.

Firstly, CBC management identified a lack of customer knowledge within their domain. Managerial knowledge was based around product and operations expertise rather than customer, markets and customer value knowledge. Management established an agenda to understand how to develop "whisky as a relationship" (Alistair McIntosh, CBC).

Secondly, CBC management identified they lacked knowledge of the dynamics of international markets. Customers business is primarily about global brand management, and CBC supply product into this context. CBC

management recognised that to support customers, they needed to understand wholesalers, retailers, distribution channels and the power of distributors. By doing so the intention is to develop a distribution system that assisted customers and their customers place and track orders.

Thirdly, CBC management identified they lacked knowledge of the evolving industry structure, with power moving towards distributors. This was highlighted with a potential distribution monopoly already identified in France. Taken with the past whisky industry decisions - "whisky loch", the management identified managerial gaps in the underlying structural dynamics.

Fourthly, CBC management identified they lacked knowledge about the evolving access to markets. CBC management identified they were locked into the traditional industry mindset for distribution. This knowledge gap was identified when the management team began to develop an understanding of alternate methods of access to customers. These alternate methods included lifestyle integrators and new electronic based media companies such as Virgin.

Fifth and finally, CBC management identified that they lacked knowledge about information technology, logistics, EDI and using these technologies to develop control in the supply chain.

#### *6.4.6.2 Knowledge Gaps – Caledonian Paper*

For Caledonian Paper, four managerial knowledge gaps were identified during the scenario intervention.

Firstly, CP management identified they lacked knowledge about the Internet and electronics as an emerging information media. CP management were locked into the traditional paper/publishing route to information, and had failed to identify the movement to greater access of/to information and customers ability to determine content for themselves provided by the Internet. Management lacked knowledge about how this would impact the demand for paper.

Secondly, linked to the previous issue, CP management identified that they lacked knowledge about emergent service providers who could exploit technology to provide information (content) previously the domain of publishers, in new novel ways. Service providers such as Virgin, Tesco, who had developed databases for customer knowledge and customer relationships, and had electronic distribution media to access to customers, were identified as major threats.

Thirdly, linked to the previous two issues, CP management identified that they lacked knowledge regarding competitive threats from advertising and media organisations as content providers. These organisations were identified as potential “global integrated communicators” who may provide an alternative channel for content. What is the future use of news - specialist or broad? Will consumers develop their own ‘electronic paper’?

Fourth and finally, CP management identified that they lacked knowledge regarding consumers buying trends regarding home and in-shop printing. What products were HP and Xerox producing? How would this impact the demand for paper and for publishing paper?

#### *6.4.6.3 Knowledge Gaps – Campbell Lee Computer Services*

For Campbell Lee Computer Services, four managerial knowledge gaps were identified during the scenario intervention.

Firstly, CLCS management identified that they lacked knowledge about the future plans of their software supplier - JBA. During the development of scenarios, the management team recognised the vulnerability of JBA in an underlying change in structural dynamics.

Secondly, CLCS management identified a lack of knowledge about Microsoft and its range of products, both in consumer and business markets.

Management identified that they lacked knowledge about the number of their own customers using Windows NT, the Internet, and the likely uptake of Microsoft as a business application provider. CLCS recognised that they had no Microsoft capability.



Thirdly, CLCS management identified that they had a lack of knowledge concerning the future of the Internet. Would the Internet be a major driver of business in the future? Management identified that they lacked information regarding servers, modems, web security, telecoms and bandwidths, and the emergence of ISPs.

Fourth and finally, related to the previous issue, would the Internet create a new Business-to-Business channel? CLCS management recognised that they lacked knowledge of digital TV, electronic funds transfer, and video integration as the underlying logic of Business to Business via the Internet.

#### **6.4.7 Case Evidence of Critical Mass of Intent**

##### *6.4.7.1 Critical Mass of Intent – Clyde Bonding Company*

For Clyde Bonding Company (CBC) management team, this challenge or “critical mass of intent” arose from re-definition of the industry value chain from three tiers - blending and bottling, distribution and brand management, to two tiers - operations and distribution and customers and access to markets. These changing industry structure dynamics highlighted the need for CBC to re-define its role and purpose. To do so, CBC segmented its customers on the basis of their ability to plan operations and the complexity in fulfilling orders. CBC had identified that their customers exerted control over CBC operations. With the insights from the scenarios - the growing control of distribution channels and access to markets, CBC re-structured their scheduling and planning to reflect different customer circumstances.

Previously CBC had responded at short notice to customer orders, regardless of volumes or order complexity. Those customers who placed orders at short notice corrupted the production system. “Previously CBC was a patchwork quilt” (Ernest Barnard, CBC). CBC determined to change the nature of the relationship with customers from “masters and suppliers to partners” (Robin Gillies, CBC) to enhance delivery and reduce costs.

CBC developed the concept of a ‘Customer Service Centre’ to co-ordinate all intra-group operations. This would allow CBC to minimise customer risk,

reduce complexity in production and increase visibility of customer orders through information technology (IT). By developing the 'Customer Service Centre', CBC could centralise all (group) operations and overcome the "lack of compatibility between planning, purchasing and delivery and logistics" (Robin Gillies, CBC). This would alter intra-group boundaries and require the development of new business processes and routines.

#### *6.4.7.2 Critical Mass of Intent – Caledonian Paper*

For Caledonian Paper (CP), the 'critical mass of intent' concerning possible upheavals in the industry, learning from the scenario development process, when participants developed industry structure insights at two levels. The first level of structural insights arose from linking the development of electronic communication, IT, societal changes and the magazine of the future. The second level of structural insights arose from the recognition of evolution of the industry from pulp/paper/publishing to content and channels of distribution. The CP management team realised that their focus on the supply chain was too narrow - concentration on pulp and paper compared with developing knowledge of the consumer. "We are kidding ourselves about the game we are playing" (Norman Davenport, CP).

To build on these insights, the management team developed a search for control by re-configuring paper production around customer value systems. CP management thinking moved from pulp/paper price instability to "customer lifestyles" (Iain Borthwick and Norman Davenport). This raised a number of managerial questions - "who has data on consumers?", "is the Alliance wide enough?", "who is screwing paper and publishing?" (Iain Borthwick and Norman Davenport, CP). The first question - "who has data on consumers?" highlighted the changing basis of customer relationships and the growing interaction with customers via electronics (previously the problem definition was around pulp/paper price instability). The second question - "is the Alliance wide enough?" highlighted the lack of knowledge of expertise about electronic communication and relationships within CP. The final question - "who is screwing paper and publishing?" highlighted the growing industry pressures for change, and the lack of knowledge about these pressures.

These questions, especially the last question, highlight significant change in espoused theory by management. Prior to the scenario intervention, the participants blamed each other for the fluctuations in the pulp/paper price cycle, now the participants were concerned with other organisations that could make or break their operations in the future. CP management realised that non-industry players' behaviour will drive demand (or not) for paper in the future - "our thinking is flawed, we know little about consumers and communication" (Norman Davenport, CP). The CP management team began to develop an initial understanding of how IT will drive consumer behaviour in the future. Consumers pattern of demand would move from paper based media to electronic media. Not only would this have a negative impact on paper production, it would have a negative impact on publishing revenues from reduced advertising and cover price. Additional channels would compete for a finite amount of advertising revenues.

By developing an understanding of the future paper industry logics, counter-intuitive thinking emerged from the CP management team. Having bigger and faster production machines was interpreted as a route to failure, as the future would require smaller, local and flexible approach to paper manufacture, together with knowledge of infrastructure, media and content. "This is frightening for us (CP and the paper industry) if it works out like this. Some of this is happening around us today, I cannot see any way this will not happen, maybe we should cancel our £400m investment in Rauma" (Norman Davenport, CP).

#### *6.4.7.3 Critical Mass of Intent – Campbell Lee Computer Systems*

For Campbell Lee Computer Systems (CLCS), three issues arose from the scenario development phase of the intervention to challenge managerial assumptions. Firstly, CLCS identified that they had been caught up by the industry moment - 'Y2K bubble' - "we are industry blinkered and have an inward focus" (Archie Aiton, CLCS). Secondly, CLCS developed a deeper understanding of the objectives of IBM, not just a supplier of AS 400 product, "but a creeping service provider which would threaten the service provided by CLCS" (Alun Rees, CLCS). CLCS also interpreted IBMs objectives as a

consolidation of the industry value chain. The industry value chain was moving from hardware, software and service suppliers to specialist service suppliers and one-stop shops, with IBM increasingly competing with CLCS as a one-stop shop. CLCS previously operated in a niche market as a one-stop shop (AS 400, JBS software and service). Thirdly, CLCS de-coupled the Internet from Microsoft. CLCS management had previously linked the two and believed that they were inseparable. CLCS management now developed a deeper, richer and broader structural understanding of the Internet and as a consequence 'e-business'. This deeper, richer and broader structural understanding was developed by linking servers, switches, networks, databases, media, telecom infrastructure and viewing Internet as a channel to create business relationships rather than as a passing fashion.

These structural insights challenged several key CLCS management assumptions. These assumptions included the basis of 'e' business, business to business using the Internet, and geographic boundaries to markets. Prior to the intervention, CLCS had only considered Scotland as their market domain. Now there was a need to think beyond Scotland as the Internet and IT eliminated market boundaries.

The 'critical mass of intent' in the industry highlighted structural developments based on Internet, business to business, and dynamics in software provision.

As a consequence of these structural insights, CLCS management began to consider "what will the customer want in the future?" (Alun Rees, CLCS). The inference CLCS drew from these structural insights concerned customer relationships - "plug and play solutions are not important, but the consequences are important, for example, the infrastructure investment encouraged the growth in demand for business to business" (Alun Rees, CLCS).

CLCS used these structural insights to identify the need to better understand their customer base, the characteristics of their customers, and the nature of the customer's customer to determine what if any business-to-business services they might demand in the future. This segmentation of their

customer base identified two types of customers. One type of customer would require traditional IT services, 'relieving or transaction' processing. The other type of customer would require 'relationships' or business-to-business services in the future.

From this segmentation, CLCS management reviewed their internal capabilities, which had previously been based around the logic of 'relieving'. From this review CLCS formulated an approach that would allow them to harness the structural insights from the scenario intervention process.

#### 6.4.8 Case Evidence of Recipe Reformulation

The following table illustrates the new concepts that were adopted by the case organisations. It shows significant change in the recipes as existing before the project.

New Concept	Identification and Adoption by CBC	New Concepts	Identification and Adoption by CP	New Concept	Identification and Adoption by CLCS
Customer Value	previously production frame compared with value and customer value relationship frame	Customer Value	previously arm's length relationship, moving towards Alliance for stability of relationship and stability of UK system	Customer Value	previously trust and integrity rather than enhancing customer's business; identifying and changing mindset
Customer's Customer, the Offering, Customer Business as a system	stretching up the supply/value chain to understand structural developments; narrow definition of purpose - blending and bottling compared with one system; understanding customer risk and seeing risk	Customer's Customer, the Offering, Customer Business as a system	understanding evolution of Key Success Factors in industry, understanding movement to lifestyle frame - key to future about access and dialogue for relationship; little knowledge about communicatio	Customer's Customer, the Offering, Customer Business as a system	problem solving and customer driven, in the past - one off transaction now develop relationship; understanding restriction of current approach

	inside CBC		n and relationships		
Re-configuration	developing understanding business logics through analogy with IKEA and process of producing whisky; using IT for search for control in supply chain logics; moving towards customer service solution compared with blending and bottling	Re-configuration of customer system	who owns the customer? who has access to the customer? developing understanding of the lack of relationship strategy	Re-configuration through encirclers, market makers and standard makers	ability to re-define industry structure (of hardware, software and technical support) to open up new possibilities
		Invaders and technology	re-define industry structure from pulp, paper, publishing and advertising to content provider, service provider and infrastructure provider to open up new possibilities	Enabling	new approach to business - facilitating growth of customer's business
		(system dynamics modelling into) Systemic relationships	one integrated system and inter-relationships compared with (previously) two separate entities; developing structural knowledge	(system dynamics modelling into) Systemic relationships	understanding underlying structure supporting movement to Internet and electronic communication (servers, modems etc)
		New Constellations	opening up the possibility of new business relationships and Alliances		

Table \*\*\* Identification and Adoption of New Concepts

## **6.5 Conclusion**

### **6.5.1 Main achievement**

The main achievement of this empirical study is the mapping of the managerial change process. Crucial to the process of change is the role of the managerial recipe. The process of upframing the managerial recipe is the basis of change. The new insight is that the transitional object is the upframed managerial recipe. The upframed managerial recipe acts as the basis of transition, the bridge from the old world to the new world. Presence and availability of a transitional object is the key to proactive, unconflicted change. This is a step that has the potential of being operationalised, with significant consequences for the “Management of Change” practice.

### **6.5.2 Issues for Further Research**

The adoption of the Vennix (1998) categories to structure the raw field data has created a very rich database. This thesis has used only a fraction of this richness. Significant possibilities for further research exist to develop theoretical understanding in the following areas:

- the method that generates and significance of content learning using a scenario approach
- the method that generates and significance of process learning using a scenario approach
- the impact of external knowledge in challenging managerial assumptions
- the myriad of visual schemas in challenging managerial assumptions
- the role of the facilitator in interventions (using a scenario approach)

- the role and impact of the individual interviews and feedback of the interview data in developing overlap in thinking in the management team
- the development of the “Business Idea” in helping management teams reflect on business processes, systems, routines as the basis of success
- approaches to help management teams know what they don’t know  
- knowledge gaps and subsequent research questions
- the importance of time and setting to enable management team reflection together on the past and study factors impacting on the business
- whether organisational interventions using a scenario approach would have produced similar or different impact on an organisation, as described by the constructs established in chapter 4, and in the vacant quadrant in the dendrogram on page \*
- the role and significance of the (Amara and Lipinsky, 1983) questions as a trigger for managerial inquiry and articulate managerial assumptions.



## Chapter 7

### Conclusions

#### **7.1 Introduction**

The purpose of this chapter is to draw conclusions from this research project. Conclusions are drawn on four aspects of the project, these being:

- the four research questions established in chapter 2 (p )
- the epistemology on which the research project is based
- the theory developed in this thesis and
- scenario planning as an intervention approach.

This thesis establishes a new theory about the management of change. This theory of change emerged from interventions with three case studies using scenario planning as the intervention tool and reflection of experience against the literature. Theory development was based on an inductive process.

The new theory clearly identifies the systemic linkages underlying the process of change. The new theory is based on the concepts of managerial recipes, transitional objects, jolts, motivation for change, search for control including negative goal avoidance, learning in the zone of proximal development, and identification of knowledge gaps.

The discussion in this chapter includes theory and practice, and the interplay between these. The discussion considers the significance for practice of the theory developed in this thesis.

#### **7.2 Reflection on Original Research Questions**

Chapter 2 of this thesis developed four questions to guide the research project.

These research questions were:

- What generates a desire in management to adapt to changing circumstances?
- What provides the context within which adaptation is addressed?
- What is the role of past experience in the adaptation process?
- What creates the link between thinking and acting in strategic learning?

This new theory has addressed and answered these 4 questions.

Question 1 - from the empirical evidence of the three case studies and the literature I conclude that by enacting the external environment through the development of multiple alternative futures this challenges the “business as usual” extrapolation in the heads of the managers. The participants provide the context and content of the alternative futures as they articulate and make sense of past and current experience. This management interaction is developed from a structured process of assumption surfacing and managerial interaction with outsiders, to develop coherent and internally consistent plausible stories of future contexts in which the business may operate.

The scenarios create a ‘jolt’. From the empirical evidence presented in this thesis, a jolt is a socially constructed threat to the future survival of the business, which would have catastrophic consequences if it occurred (see Chapter 6, sections 6.2.2; 6.4.3). This threat creates conditions that indicate management are not fully in control of their situation. None of the three case study companies had indicated any concern about the lack of control prior to the recognition of these phenomena. This shows that the intervention has the potential to create this state of affairs.

Continuing with the business as usual (BAU) approach will occur under three circumstances. First, if management believe there is little risk from staying with BAU. Second, if management believe there is an alternative option. Third, if dealing with the threat is too difficult (“denial”) for management.

The desire to adapt to changing circumstances results in management searching for a new position of control in the 'enacted' environment to allow regaining of stability.

Question 2 - The social processes, social interaction and the development of multiple futures provides the contextual backdrop for adaptation. Managerial dialogue is the basis of developing shared meaning about the organisation's broader environment. The structured process, adopted in these interventions has the capacity to provide the basis of debate, discussion and knowledge creation and results in structural understanding for the participants. Structural understanding emerges from understanding the context within which problems manifest. Knowledge about this context highlights a lack of control for management (see chapter 6, section 6.2.9).

Question 3 - Searching for a (new) position of control is based on management's beliefs about aspects of past experience and success, and how these can be used as the basis of future success. Critical management inquiry extrapolates these aspects into multiple futures to determine (i) the continued appropriateness of the success formula and (ii) the future desirable components for success (see chapter 6, section 6.4.2).

A crucial phenomenon is the role played by the 'upframed recipe' that acts as management's transitional object. The researcher considers this as the creation of mental space in which transition in thinking occurs (see chapter 6, section 6.2.7). This transition in thinking helps management to overcome the jolt and create the climate to regain control. Regaining control allows stability to return to the situation.

Question 4 - The socially constructed jolt and the belief about lack of control create the cognitive conditions for change. The cognitive response is the development of the 'upframed recipe' creating mental space for strategic learning. This upframed recipe links thinking to acting (see chapter 6, section 6.3; 6.5). This is a process of managerial inquiry that produces a (new) managerial theory about the requirement for continued success. This translates into future action plans.

### **7.3 Reflection on Epistemology**

This project was based on a social constructionist epistemology. Traditional positivistic epistemology assumes that social processes are based on measurable individual processes. A social constructionist epistemology argues that individual principles are derived from social processes. The focus of attention for the researcher is then social interaction based on communicative acts between social actors, amongst themselves and with the researcher. In the social constructionist epistemology, meaning occurs through discourse. Knowledge creation is an ongoing process. Reality for the participants exists through the processes of 'knowing'.

Central to researching discourse is the researcher. The researcher continually searches for methods to reduce intersubjectivity between himself and the actors (see xx, chapter x, pxx). One approach is collaborative inquiry and reflection between the social actors and the researcher. Throughout this collaborative process the researcher is also self-reflective. This is reflected in the inductive theory building process and the iterative nature of theory building. (see chapter 3, section 3.6)

The nature of social interaction and the emergent processes of 'knowing' do not fit with a positivistic epistemology. The latter takes knowledge as given, separate from the individual. The assumption behind the positivistic epistemology is that there is an objective truth existing in the world that can be revealed through scientific measurement. Scientific measurement focuses on measuring relationships between variables systematically and statistically.

Yet as this thesis explains, it was through social interaction and discourse that the process of theory development occurred. A phenomenological approach is based on the assumption of understanding phenomena in a real world situation as they occur. The researcher is concerned with how the social actors 'came to know' the process of 'knowing'. In this thesis the process of 'knowing' was based on a collaborative approach to (i) understand phenomena occurring in the intervention episodes, (ii) explore emergent themes arising from data analysis, (iii) explore emergent theory from the case studies. To do so requires 'exploratory research'.

Theory building is an iterative process involving literature searches, empirical observations, emergent categories and systemic relationships between these emergent categories. Multiple literature searches are required until a settled theory emerges, which explains the phenomena under study.

#### ***7.4 Theory of Management of Change***

This research project has produced a new theory, which explains management of change resulting from the use of interventions (using scenario planning). The theory integrates existing theory to explain the change process. The theory also introduces a new aspect of proactive change:

- proactive change requires management to remain in or regain control of their situation (for example if a socially constructed jolt threatens their beliefs about losing control). To remain in control requires understanding of what aspects of past success remain constant and what change is to be introduced. This occurs as management project aspects of the 'self', described in this thesis as the 'recipe', which is projected into multiple futures to assess the appropriateness or otherwise of the recipe. This process results in an 'upframed recipe' as the bases of change. The 'upframed recipe' is the transitional object, for management, which facilitates the transition process. This is analogous to the creation of physical movement, which can be done pro-actively only with a firm base from where force can be applied. The firm base is the transitional object.

The theory in this thesis is based on seven steps. These seven steps are:

- Firstly, managerial experience over time is internalised as assumptions, beliefs and values and manifests as a managerial recipe. This managerial recipe is the basis of navigating managerial decision-making.

- Secondly, strategic change is socially constructed, as the result of considering multiple realities of plausible futures, which act as a “jolt” to existing understanding to bring “new” managerial action.
- Thirdly, the basis of the motivation to change, and the resulting strategic intent, is “negative goal avoidance” rather than managerial aspirations. The managerial response to learning from scenarios is about a search to regain control (within the emerging structure).
- Fourthly, the manager realises that change is possible only against a background of permanence. A fundamental condition for change is the recognition of a perspective on the recipe that stays the same during the transition. We have called this element the managerial Transitional Object.
- Fifthly, learning from scenarios is based on developing structural understanding of driving forces. This structural understanding highlights a “critical mass of intent” in the industry. From this “critical mass of intent” it is possible to understand opportunities and threats as a continuum.
- Sixthly, learning from scenarios highlights knowledge gaps, which is the basis of the development of further understanding of managerial and organisational knowledge.
- Finally, as the case study managers have time to think, time to think individually and time to think together using a structured process, dissonance is resolved and the team moves to action.

## **7.5 Existing Literature**

This thesis integrated existing theory to develop theoretical explanation of the empirical findings. By integrating existing theory the researcher was concerned to build the internal validity of the emergent theory in this thesis.

This existing theory included:

- Managerial recipes

Recipes are defined as “those rules of thumb that are generally accepted by competent managers as the common-sense way of doing business. Such rules cover marketing, pricing, customer relations, product support, product quality, production methods, industrial relations, training, financial controls and so forth” (Grinyer and Spender, 1979, p 196), (refer chapter 5, section 5.3.1)

- Jolts

A jolt is defined “unforeseen exogenous shocks” which indicates that the rules of the game have changed (Meyer, 1982), (refer chapter 6, section 6.3.1).

- Negative goal avoidance

“negative goals” which are “aspirations to avoid”. Negative goals are disastrous outcomes that drive action (Eden and Ackermann, 1998) (refer chapter 6, section 6.2.4).

- Transitional objects

The ‘Transitional Object’ serves as a bridge between the familiar (manifested the reframed managerial recipe) and the disturbingly unfamiliar (as represented in scenarios), thus facilitating the acceptance of the new (Winnicott, 1970) (refer chapter 6, section 6.2.7).

- Scaffolding

Scaffolding is the process by which new insights are incorporated with existing knowledge to develop and challenge existing knowledge, resulting in new understanding (Vygotsky, 1986) (refer chapter 6, section 6.2.3.3).

## ***7.6 New Aspects of Theory***

This thesis also included new theoretical insights, these were

- Loss of control

As management draw implications from the insights in the multiple futures, they realise that the actions of others has changed the rules of the game; the underlying structure within which the business operates has been re-defined in a way which highlights lack of control at that time (refer chapter 6, section 6.4.7).

- Knowledge Gaps

Knowledge gaps arise from the insights about the actions of others and these actions are impacting on the case study company, yet they have no understanding of these actors or their actions (refer chapter 6, section 6.2.8.3).

The most important new aspect is:

- Transitional Objects in a Managerial Context

The interpretation of transitional objects in a managerial context is reframing the recipe at a higher level of conceptualisation (a process we have called upframing) which allows the lower level recipe definition to be altered without violating or threatening the 'self' (chapter 6, section 6.3; section 6.4; section 6.4.5; and section 6.4.8).

Observations from the three case studies explaining this transition in thinking are:

For CBC:

moving from "efficiency by more throughput" before the intervention to "efficiency by integrated supply" afterwards. The element of constancy (the Transitional Object) is efficiency. The ongoing self: "CBC is about efficiency".

For CP:

moving from "alliances to bring costs down" before the intervention to "alliances for business development" afterwards. The element of constancy (the Transitional Object) is alliance. The ongoing self: "CP is about customer alliances".

For CL:

moving from "looking after customers by relieving" before the intervention to "looking after customers by enabling" afterwards. The



element of constancy (the Transitional Object) is looking after customers. The ongoing self: "CL is about looking after customers".

## **7.7 Significance of New Theory**

Examples of proactive change based on managerial volition are seldom explained in the management of change literature. This theory explains why the literature is so scant. Only with a transitional object can management move from their business as usual world.

Until the intervention there was no felt incentive for management to change. The intervention jolt resulted in management questioning their assumptions about continued future success. Management could have ignored this jolt and continued with BAU. However, the theory presented here explains how management responded to this jolt. They engaged in a process of inquiry that questioned their assumptions, that is their recipe. Management adopted insights from the intervention to re-define the recipe. One important observation is the requirement to provide time and opportunity for management to reflect on the intervention insights and search for and develop appropriate responses.

The inferences drawn from this research project about proactive, volitional change suggest that change will occur when:

- a jolt occurs, resulting in loss of control and potential catastrophic occurrences (NGA).
- management develops a new understanding of high level aspects of their business formula which will remain constant in the future as well as what new capabilities are required to be developed.
- a cognitive process of sensemaking occurs which allows mental models to incorporate insights through a process of scaffolding.
- an upframed recipe overcomes the jolts.

In the introductory chapter, I had indicated my unease with my consulting experience. With the benefit of this research project it is now possible to

understand this unease. My personal experience was that many change processes come to nothing. I now understand why this happened. Management due to the absence of a Transitional Object could not act upon these projects. Change agents have the responsibility to help their clients to create one. This is a new insight. We now understand the general shape a Transitional Object takes, and how it comes about (upframing of recipes) so that we can now be more helpful in making change happen. In the practice world of management of change we can now become more effective change agents.

### ***7.8 Reflection on Scenario Planning***

This research project explored the impact of scenario planning intervention in 3 case studies. The empirical evidence identified a pattern of change occurring across the 3 case studies based on the creation of a transitional object. One of the common elements in the interventions was the scenario approach (see xx chapter x, px). From these patterns it can be deduced that scenarios facilitate the creation of transitional objects, which allow volitional managerial change to occur. A number of steps are involved in this process, these are:

- development of a shared understanding about the basis of part success (recipe)
- development of shared understanding of the key concerns of the business
- the introduction of outsiders with new concepts and language to challenge managerial assumptions
- the development of multiple futures which further challenge managerial assumptions and highlight lack of control in the situation
- problem definition set in a wider problem context arising from the development of multiple futures
- re-conceptualisation of the industry value chain from structural insight deduced from multiple futures

- opportunity for management to develop responses which allow them to regain control of their situation
- upframing of the recipe which is conceptualised in this wider problem context

This thesis supports these conclusions. The researcher recognises the limitations of a sample size of three companies. However, this does not limit the usefulness of the theory to inform (scenario) interventionists in the future.

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