A Conceptual Framework for Assessing Development Programmes for Change Agents

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ABSTRACT

Deregulation, unstable financial markets, increasing global competition, advances in information and communication technologies - these are only a few of the conditions driving the escalating pace of change evident within business communities today. Harnessing an organisation of people who thrive on the challenges of ambiguity, complexity and uncertainty and who can successfully and rapidly implement strategic and operational changes, is seen as a differentiating core competence for competitive companies.

Today, technology and information systems are usually key enabling factors when organisations embrace major change strategies, but it is becoming evident that to leverage strategic opportunities from advances in information systems and enabling technologies such as the internet, intranets and e-commerce, good change management practices must be adopted.

In this paper we derive a framework for assessing training programmes for change agents, based on an extensive review of the literature on change management models and the skills and competencies necessary to manage change successfully. This framework provides a basis for identifying pedagogical objectives for teaching change management to executives, IT specialists, change agents and change recipients. As an illustration, the framework is applied to evaluate the effectiveness of a computer based multimedia simulation, a training tool known as the EIS Simulation, in satisfying these pedagogical objectives.

1. INTRODUCTION

Much of the management theory debate in the 1990s focuses on companies being able to gain advantage when their organisation and people are able to rapidly respond to change, at a rate faster than their competitors. In order to achieve this organisational state, significant importance is being given to managers developing skills such as being able to learn (Argyris 1991), able to innovate (O'Reilly III and Tushman 1997), able to design and drive organisational simplicity (Jensen 1997), able to manage ambiguity (McCaskey 1982) and be able to manage and thrive on change (Hiltrop 1998, McCaskey 1982, Ulrich 1998).

Managing change in an organisation is not easy, nor prescriptive and as corporate planning horizons encompass the first decade of the 21st century it is becoming rare for any change to exclude a significant technology and/or information systems (IS) component.

Whether the change is described as discontinuous, transformational, IT-enabled, Business Process Re-engineering or framebreaking (Ascari et al. 1995, Hammer and Champy 1993, Manzoni and Angehrn 1997, Nadler and Tushman 1997, Tushman, Newman and Romanelli 1986), empirical studies are quoting failure rates for major change implementations as being around 70% (Bashein et al. 1994, Champy 1995). Recent findings on Fortune 100 company's activities between 1980-1995 found that only 30% of their change initiatives achieved a bottom line performance improvement which exceeded their cost of capital whilst only 50% of the companies saw an increase in their share price (Jacobs 1998). The preliminary results from the 1997 Study on Complexity (Jensen 1997) show that the number one source of complexity is the failure of organisations to integrate changes into their work. It is the combination of these negative results and the cry that change will continue at an ever faster rate which has led to the proliferation of publications, consulting services and training initiatives promoting good change management practices to practitioners in order to improve the success rate.

In this paper, we introduce a framework for assessing change management training programs, particularly those aimed at the change agents. An extensive review of the literature on change management models as well as the skills and competencies necessary for change agents to successfully manage change has been undertaken and the framework is presented. The framework is then used as the basis for deriving the pedagogical objectives for teaching change management and is applied to evaluate the effectiveness of a computer based multimedia simulation, a training tool known as the EIS simulation, in satisfying these pedagogical objectives.

2. THE MODELS FOR MANAGING CHANGE

Most of the literature concentrates on 'best practice' for successful implementation of change, and thus provides models, frameworks, tools and cases to assist practitioners in managing change more effectively. This does not mean that the models and methods for managing change have not been grounded in academic theory and research. Change Management is a multidisciplinary approach, and the models incorporate findings from many disciplines including Organisational Behaviour, Business Process Reengineering, Total Quality Management, Learning, Project Management, Motivational and Cognitive Psychology, Leadership, Problem Solving, Decision Making and Diffusion Theory.

The majority of the change management models fall into the following four categories. The first are models which provide prescriptive steps of what to do and what not to do (Canterucci 1998, Carr et al. 1996, Clinton 1997, Dunphy 1981, Kanter et al. 1992, Kotter 1995, 1996, PW 1995, Ready 1997) which have been developed from the authors' experiences with companies either as consultants and/or researchers. The second group are models which overview the entire change process using more of a problem solving and traditional project management methodology (Bennis and Mische 1995, Clarke and Garside 1997, Connor & Lake 1994). The third group are models developed from the change literature specifically to consider complex IT-enabled change (Benjamin and Levinson 1993, Bhattacherjee and Hirschheim 1997, Kliem 1996). The fourth group provide specific diagnosis tools and approaches to support key change management issues such as resistance to change (Jellison 1993, Kotter and Marshall and Conner 1996, Schlesinger 1979), rates of adoption of change for individuals (Jick 1993), project management (PA Consulting Group 1998, Randolph and Posner 1988), change-ready audits (Trahant and Burke 1996, Ulrich 1998) communications (Barrett and Luedecke 1996), Stakeholder analysis (Grundy 1997), organisational culture (Schneider 1998) and organizational justice (Beugre 1998).

There is a reasonable consensus in the literature regarding the critical ingredients needed to implement a successful change management programme. These ingredients, represented as a four stage cycle of visioning, planning, implementing and reviewing and learning are summarised in Figure 1 and discussed in further detail below.

2.1 Visioning Stage of a Change Project

Envisioning the changes is the starting point for action (Canterucci 1998, Connor and Lake 1994, Kanter et al. 1992, Kotter 1996, PW 1995). It is in this stage that key stakeholders are typically identified and involved and the impacts of the new 'desired' state accurately accessed. This helps reduce the chance of failure by gaining support from power groups early (Nadler and Tushman 1997).

The scope of the change should be set realistically and intelligently and it should be embedded into the strategic context of the organisation (Canterucci 1998, Dunphy 1981, PW 1995) otherwise the capacity for failure is also increased (Want 1995).

Senior executive support needs to be explicit. A powerful guiding coalition (Ascari et al. 1995, Dunphy 1981, Kanter et al. 1992, Kotter 1995, 1996) is crucial. This coalition provides the necessary resources (Kliem 1996), must believe in the change process (Canterucci 1998, Want 1995) practice what is being preached (Kotter 1996, Nadler and Tushman 1997) and maintain or create reiterative top down, bottom up information and communication flows throughout the project (Clinton 1997, PW 1995).

A project management methodology or structured process should be adopted (Canterucci 1998, Clark and Wheelwright 1992, Kliem 1996, PW 1995). This approach should be implemented flexibly throughout the project and be capable of handling the unexpected (Canterucci 1998), fast, during the implementing stage.
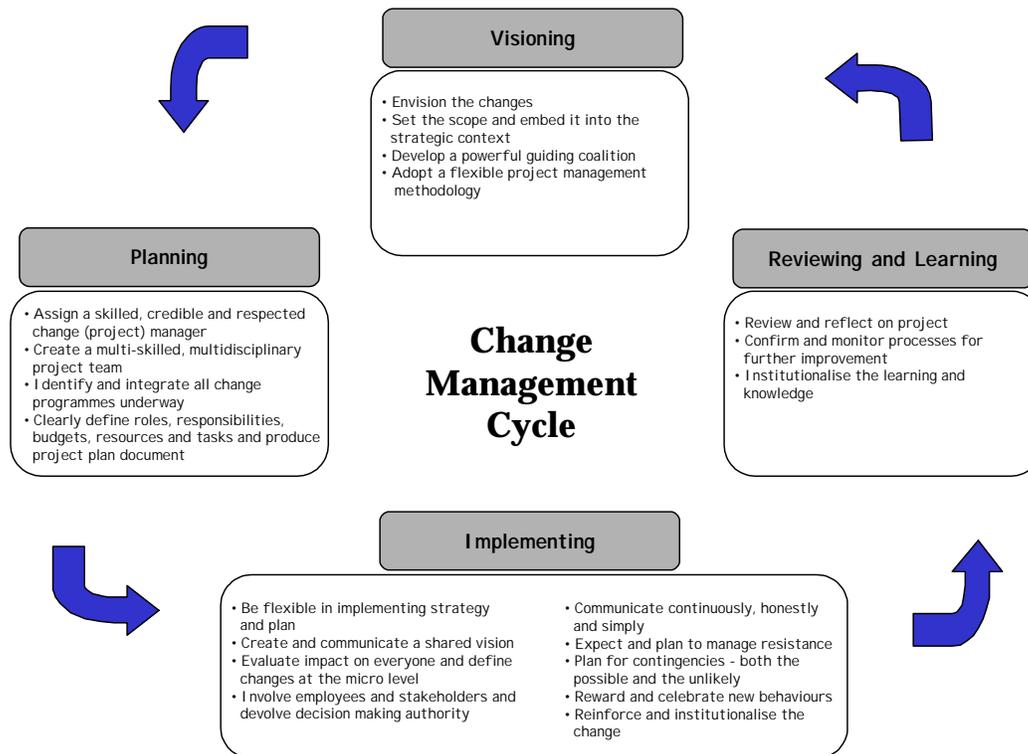

Figure 1: Change Management Cycle developed from the literature review

2.2 Planning Stage of a Change Project

A credible and well respected change project manager with the right skill mix of technical, problem solving, team building, communication, influencing, decision making and people skills is essential for success (Canterucci 1998, PW 1995).

Furthermore, it is recommended that a multidisciplinary project team of the best people (Want 1995) be created and it is important that they have the right mix of complementary skills in the team (PW 1995, Schroder 1989, Cockerill 1989). It is also critical that they have the capacity to empower others to achieve the vision (Kotter 1996). Be alert to the tendency to overload technical skills and overlook communication skills (Canterucci 1998) and ensure that the team members are trained in the essential skills they need (Barrett and Luedecke 1996, Kliem 1996).

Roles, responsibilities, budgets and resources should be clearly defined (Kliem 1996). A change strategy should be developed and the project plan should be documented detailing all tasks and milestones. This plan should also provide for timely short term wins throughout the project (Jacobs 1998, Kotter 1996). These wins can create celebration of success points and this helps in maintaining momentum (Canterucci 1998, Carnall 1995, PW 1995) during the project's life.

Most organisations have a number of major changes underway at any one time therefore it is necessary to identify all these change programmes, assess their impact, integrate them where possible and continue to monitor this situation throughout the project's life (Canterucci 1998, PW 1995).

2.3 Implementing Stage of a Change Project

Being flexible in implementing the strategy and plans (Buchanan and Boddy 1992, Canterucci 1998, Kanter et al. 1992) and adapting and customising the approach to suit the company's own specific context, culture, vision, politics, structure, collective knowledge and values (Want 1995) is fundamental in executing successful change strategies.

It is also necessary to create and communicate a powerful argument for the change. This should include a shared vision/metaphor of the change, a sense of urgency for it to be achieved (Kotter 1996, Kanter et al. 1992, PW 1995) and communicating dissatisfaction with the current state (Nadler and Tushman 1997). At the same time try to instil into the values (of the people) within the organisation that change is a contact sport and the responsibility of everyone (Markus and Benjamin 1997).

To be successful it is also recommended that the impact of the changes on all the individuals, the organisation and stakeholders be evaluated and defined at the micro level relating to measurement methods, reward systems, responsibilities, work policies, processes and procedures, skills development and training, culture, motivation, communication and non-behaviour risks (PW 1995, Kliem 1996).

One of the strongest lessons in the literature emanating from the failure of change programs is 'Don't forget the people' (Kliem 1996). Genuine participation (Dunphy 1981) through involving as many change recipients as possible (Barrett and Luedecke 1996, Kliem 1996, Marcus and Benjamin 1997, Want 1995) in the change formulation and implementation is necessary. It is also recommended that an atmosphere of intrapreneurship for change recipients and end-users (Kliem 1996) be developed. Decision making authority should be devolved to employees at all levels, particularly those closest to the customer (Clinton 1997). Success requires that each person 'buys in' to the change and they will do this at their own rate (Kliem 1996, Jick 1993).

Communicating continuously, honestly and simply (Clinton 1997, Kanter et al. 1992), formally and informally (Barrett and Luedecke 1996). Cascade the communication, ensuring that the right person is saying the right message to the right audience (Kanter et al. 1992). Be aware that the inability to connect the dots and the inability to explain why the change is necessary in a meaningful way to all recipients increases the chance of failure (Kotter 1995, PW 1995).

Another key lesson in the literature is to expect resistance (Barrett and Luedecke 1996, Kliem 1996, Marshall and Conner 1996). It is necessary to understand resistance and its relationship to power, anxiety and control (Nadler and Tushman 1997), analyse and plan to handle it, and include explicit separations from the past (Kanter et al. 1992). Continually monitor the levels of resistance for all key stakeholders, individuals and groups throughout the project (Benjamin and Levinson 1993, PW 1995). Most of the literature on failure of change initiatives stresses that organisations don't change, people do. Unless the change is translated into the implications for each person affected and the change agents employ an open,

honest and sincere approach which builds trust and enables resistance to be overcome, the project will not be successful (Markus and Benjamin 1997, Marshall and Conner 1996).

It is necessary to plan for the possible and the unlikely by making contingency planning explicit. Planning for the unexpected again requires flexibility, often in the project methodology so that quick revisions and decisions can be made, as necessary (Canterucci, 1998, Benjamin and Levinson 1993).

The reward systems should be redesigned to motivate and reinforce desired behaviour/performance within the new state, as early as possible and these new behaviours and successes should be rewarded and celebrated on an ongoing basis (Barrett and Luedecke 1996, Clinton 1997, Dunphy 1981, Nadler and Tushman 1997).

Changes need to be reinforced and institutionalised (Barrett and Luedecke 1996, Dunphy 1981, Kotter 1996, Kanter et al. 1992, Kotter 1995, PW 1995). This is achieved by ensuring all processes - the measurement methods, reward systems, responsibilities, work policies, procedures, skills development and training, culture, and communication are consistent with, and reinforcing of the new state.

2.4 Reviewing and Learning Stage of a Change Project

Time should be allocated for reviewing and reflecting on the project's processes and evaluating its successes and failures, and rewarding appropriately (Connor and Lake 1994, Dunphy 1981).

The learning points from the reviewing and reflecting should be used to improve approaches for future projects. Once the first major change programme has been implemented successfully, future change programs build on the knowledge gained from and the relationships and groundwork established in that first one. This should translate into future changes becoming easier and faster.

Finally, it is necessary to establish and monitor processes to facilitate ongoing change and identify new needs and trends. Incremental improvements in between major, or discontinuous change should be the organisational norm (Dunphy 1981, Tushman et al. 1986).

3. THE COMPETENCIES FOR MANAGING CHANGE

Reviewing the literature on skills for management in general, or managing change in particular leads into significant debate on the definition of competencies and skills, values, style, behaviours, traits, knowledge and experience, about whether competencies are generic or transferable, and the validity of using them in recruiting, developing and managing individuals (Antonacopoulou and Fitzgerald 1996, Kanungo and Misra 1992, Parry 1998). This debate is further complicated with competence and competencies gaining more relevance at the organisational level.

Few authors of the well developed change management models have extended their analysis to provide comprehensive views of the skills and competencies needed to support their models and we have been unable to identify any which expand their analysis to each of the three accepted and active roles in change projects of change strategist, change agents and change recipients (Kanter et al. 1992, Kliem 1996, LaMarsh 1997, 1998, PW 1995). In addition, many of the generic competency models (Miller et al. 1997, Parry 1998) were developed for the comparatively more stable business environment of the 1970s/80s rather than the rapidly changing environment of today. This led the writers to extend the research into recent writings and empirical studies on top performers (Schroder 1989, Cockerill 1989, Cockerill et al 1993, 1995) and learning organisations (Argyris and Schon 1978, Senge 1990) in order to consider and derive a set of skills and competencies necessary for the change strategists and change agents, in particular, to successfully manage change. These findings are detailed below and summarised in Figure 2.

3.1 Competencies during the Visioning Stage

During the Visioning stage of a change project, the change strategists provide the vision (Kanter et.al. 1992, Nadler and Tushman 1997) use their conceptual skills (Connor and Lake 1994), are innovative and creative (Connor and Lake 1994, Hiltrop 1998) and use extensive information gathering skills (PW 1995, Hiltrop 1998). They can recognise patterns and trends (Buchanan and Boddy 1992), use diagnosis tools and create and choose from alternative solutions when making decisions. These skills are supported by influencing skills (Connor and Lake 1994) negotiating skills and coalition and team building skills (Buchanan and Boddy 1992, Hiltrop 1998). The strategists should also have an understanding of project

management methodologies, ensuring their approach allows enough flexibility for the change agents to operate with acceptable levels of risk.

3.2 Competencies during the Planning Stage

During the Planning stage of a change project, both the change strategists and change agents are active. The change strategists use their recruiting and team development skills to build a cohesive project team and start delegating once the change project manager is recruited. It is rare that one person has the breadth and depth of knowledge and competence necessary to envision the change and/or implement a major change therefore the ability to recruit, build and motivate teams of individuals with complementary strengths is crucial to success (Clark and Wheelwright 1992, Cockerill 1989; PW 1995). The change project manager should become actively involved in the recruitment of the other change agents on the team and start building them into a motivated, skilled and cohesive team. He/she will have highly developed planning skills (Canterucci 1998, Connor and Lake 1994) for teams and projects, coalition building skills (Canterucci 1998), and influencing and communication skills (Barrett and Luedecke 1996, Buchanan and Boddy 1992, Canterucci 1998, Connor and Lake 1994). The planning stage is not complete without further information gathering and questioning techniques supported by empathetic reasoning as the other change projects underway throughout the organisation are identified and integrated (Canterucci 1998, PW 1995).

Visioning

Change Strategists
- Information gathering
- Conceptualising and pattern recognition
- Coalition Building
- Using diagnosis tools
- Flexibility in use of project management methodology

Planning

Change Strategists
- Recruiting
- Team development
- Delegating

Change Agents
- Team building
- Coalition building
- Influencing
- Communicating
- Project planning and documenting
- Information gathering

Competencies for Change Strategists & Agents

Reviewing and Learning

Change Strategists and Agents
- Analysing
- Reflecting
- Learning
- Staff development
- Disengaging

Implementing

Change Strategists
- Influencing
- Negotiating
- Communicating
- Listening
- Monitoring
- Controlling
- Delegating

Change Agents
- Project Management
- Adapting methodologies and plans to suit organisation and cater for the unexpected
- Time management
- Project Time management
- Conceptualising and pattern recognition
- Influencing
- Negotiating
- Communications
- Coalition building
- Problem solving
- Listening
- Decision making
- Team building and management
- Participation management
- Training
- Resistance and anxiety management
- Contingency planning and risk management
- Performance standard setting
- Rewarding
- Monitoring
- Using formal and informal networks
- Using diagnosis tools
- Using technology
- Technical, functional and operational knowledge of all business systems involved
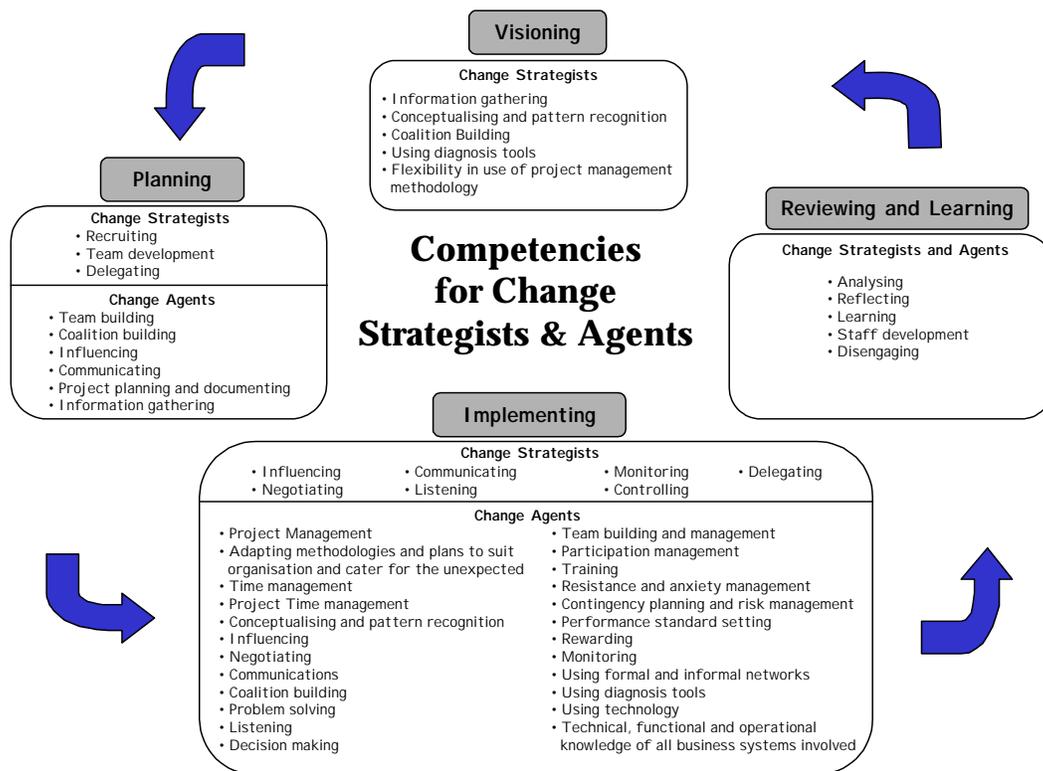
Figure 2: Skills and Competencies from the literature review

3.3 Competencies during the Implementing Stage

During the Implementing stage of a change project, the change strategists will be using their influencing and negotiating skills and their communication and listening skills to support their change agents activities, their monitoring and controlling skills within the project management processes, for example on sign off committees and they have a role in some of the tactics the change agents develop for managing resistance (Nadler and Tushman 1997).

The skills and competencies needed by the change agents during the Implementing stage are extensive and include: flexibility (Buchanan and Boddy 1992, Canterucci 1998) information gathering techniques, the ability to adapt and customise the implementation to suit the company's own specific context, culture, vision, structure, politics, history, collective knowledge and values (Buchanan and Boddy 1992, Nadler and Tushman 1997), use of technology, project, time and meeting management (Canterucci 1998), clarity in all forms of communication (Buchanan and Boddy 1992, Canterucci 1998, PW 1995), listening skills (Buchanan and Boddy 1992, Canterucci 1998, Marcus and Benjamin 1997, PW 1995), extensive knowledge of any methods underpinning the changes (eg. TQM, BPR, New Product Development Cycles, Computer Systems Development Methodologies), extensive technical, functional and operational knowledge of all business processes in the organisation (Canterucci 1998), diagnostic and analytical skills (Buchanan and Boddy 1992, Connor and Lake 1994), conceptual skills, influencing and negotiation skills (Buchanan and Boddy 1992, Canterucci 1998), decision making skills (Canterucci 1998, Connor and Lake 1994) coalition building skills (Buchanan and Boddy 1992, Canterucci 1998), team building skills (Buchanan and Boddy 1992), coaching and mentoring skills, participation management skills (Canterucci 1998), training skills (Canterucci 1998, PW 1995) including helping people learn how to learn (Marcus and Benjamin 1997), knowledge and use of conceptual frameworks for understanding, analysing and managing levels of resistance (Canterucci 1998), adoption of change (Jick 1993) and formal and informal networks (), setting supportive performance standards, monitoring results in terms of adoption, usage, integration, simplicity, job design, work policies, processes and procedures, skills development, and use of reward systems to reinforce desired behaviours.

3.4 Competencies during the Reviewing and Learning Stage

In the Reviewing and Learning stage of a change project, the change strategists, change agents and change recipients use their analysis and reflection skills constructively to consider the successes and failures of the project and any further rewards to be given (Connor and Lake 1994, Dunphy 1981).

They need skills that allow them to learn to learn and be able to focus on how to do things better and faster next time (LaMarsh 1997). They also need to be able to feedback what they learn and update the training processes for change team members. The change strategists should also exercise the breadth of their human resources skills to reintegrate the change agents into their new positions as the project team ceases to exist.

Finally, the change strategists and change recipients use their knowledge of the now current state to set challenging performance standards and establish on-going improvement reviews and feedback processes.

3.5 A Correlation to High Performance Management Competencies (HPMC)

Ongoing empirical studies on the subject of high performance conducted over the past two decades in the United States (Schroder, 1989; Cockerill 1989) and the United Kingdom (Cockerill et al 1993, 1995) have found that the faster the rate of change in which high performance teams (and organisations) operate, the higher the correlation to a particular set of managerial competencies and performance.

This HPMC model was developed from the findings of empirical studies on high performing work groups (Boyatzis 1982), superior performing principals (Huff et al. 1982) and groups performing complex tasks, Schroder et.al 1967, Streufert 1986). The High Performance Management Competencies are defined in terms of output behaviours, and provide an additional framework for assessing change management skills and competencies. The underlying assumptions of the HPMC Model are that there are 3 classes of managerial competencies: 1. Entry Level Competencies which are an individuals characteristics of knowledge, abilities, motivation, values and styles which are developed through education and socialisation; 2. Basic Competencies, which must all be present, and include the specialised and technical functions needed to manage including planning, organising, controlling, developing and interacting and the

specific knowledge on how the organisation wants these basic competencies performed, and 3. The High Performance Management competencies which enable a manager to successfully manage in changing environments.

Figure A1 in the Appendix is a summary of the HPM competencies identified in Schroder's research. The strong correlation between the competencies in the four stages of visioning, planning, implementing and reviewing is documented in Figure A2 in the Appendix.

4. ASSESSING CHANGE AGENTS' DEVELOPMENT PROGRAMMES

Combining the competencies identified in the literature (see sections 3.1 to 3.5) with those analysed in the HPMC study provides an extensive list of skills and competencies which need to be developed by change strategists and change agents. This list provides, at the same time, the basis for deriving the ideal set of pedagogical objectives to be addressed by development programmes (including courses, lectures, workshops, training software, etc.) which target change agents and strategists. This is illustrated in Figure 3.

Figure 3: Assessment Framework (ideal set of pedagogical objectives)

Although it is unlikely for a given development programme administered in companies or management schools to address all the pedagogical objectives included in the framework in Figure 3 at the same time, the derived set of objectives provides a benchmark and a systematic way of identifying strengths and weaknesses of existing training approaches. This is illustrated in the following section by applying the above framework to assess a specific simulation-based change agents development programme whose impact has been studied and evaluated extensively over the last few years.

5. ASSESSING THE "EIS SIMULATION"

The EIS Simulation (Angehrn 1995, Angehrn and Nabeth 1997) is one of the tools used in development programmes for change agents in a number of business schools and companies worldwide. It consists of a multimedia simulation on organisational dynamics which adopts an experiential learning approach to force realism into the theoretical and conceptual change management debate and to improve the effectiveness in developing change management skills and competencies.

The EIS Simulation is the basis for half day or full day workshops. In these workshops, managers, executives and students are allowed, like in a flight simulator, to have a first-hand experience as a member of a change agent team, whereby they intervene in a company to test the effectiveness of their implementation strategies and initiatives, and then this experience is debriefed in groups.

The challenge for the change agent teams playing the EIS Simulation is to gain the commitment of the top managers of a company to a major innovation: the implementation of a corporate computer-based information, communication and reporting system called an Executive Information System (EIS). The team operates within a virtual company in which they have 6 simulated months to interact with the virtual managers who have been given very realistic profiles, behaviour and different ways of resisting the innovation. These managers can gradually develop a positive attitude towards the adoption of the EIS as a function of the strategies and initiatives undertaken interactively by the change management team (see Figure 4 for screens displaying the organisational chart of the virtual company, information about initiatives/tactics the change agent teams may use in any way they choose (or not choose) at any time during the simulation, as well as a screen through which the users can take new decisions such as trying to arrange a face-to-face meeting with one of the virtual managers).
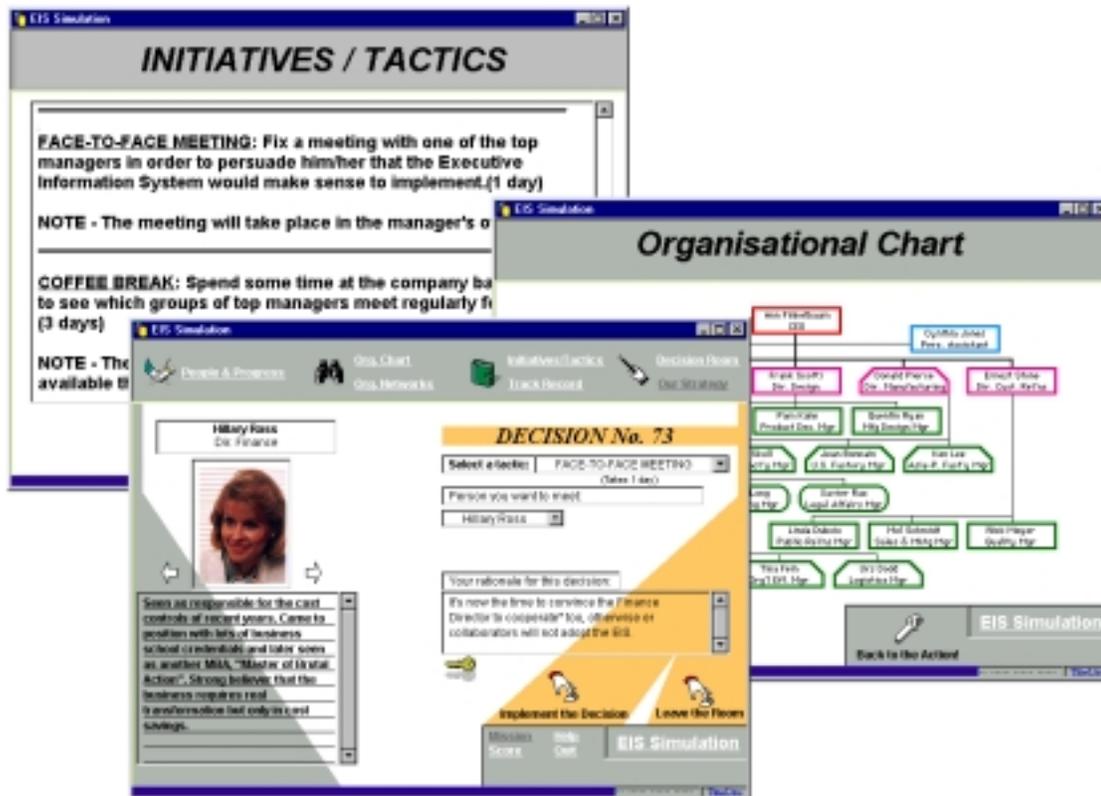

Figure 4: Sample screens from the EIS Simulation

Workshops or sessions based on the EIS Simulation start with a brief introduction before breaking the participants into teams and starting the simulation. The introduction typically highlights:

- why being able to manage change is necessary in today's business environment and the apparent levels of corporate effectiveness in doing so,
- how individuals usually adopt change or innovation at differing rates and are sensitive to different approaches
- how each virtual manager in the simulation has been modelled with backgrounds, personalities and the ability to react to initiatives and tactics used by the change agent team as well as to other events - such as the influence of other managers in the virtual organisation
- what information and communication based initiatives and tactics are available to them
- how they will receive immediate feedback about the effects of their actions
- the necessity for developing a strategy for how their change team will approach the implementation before 'getting stuck into it', and
- a reminder that they could hear a build up of frustration from some of the teams as they implement their strategy for they are likely to encounter familiar hostile behaviour and resistance patterns as found in the 'real-world'.

Following the introduction, the change agent teams break into their team areas where they are provided with a working version of the simulation and some supporting paper work such as copies of the organisational structure and worksheets on which they can do analysis. It is now up to them to develop their strategy and implement it, to gain the commitment of the 24 virtual managers. At the end of the time period set for creating and implementing the team change strategy (which is typically a very intensive intellectual and emotional experience), each team is requested to reflect on the key Do's and Don'ts they have learned in relation to the change management experience, and then to present (through screens such as the one of Figure 5) and discuss their insights and questions.
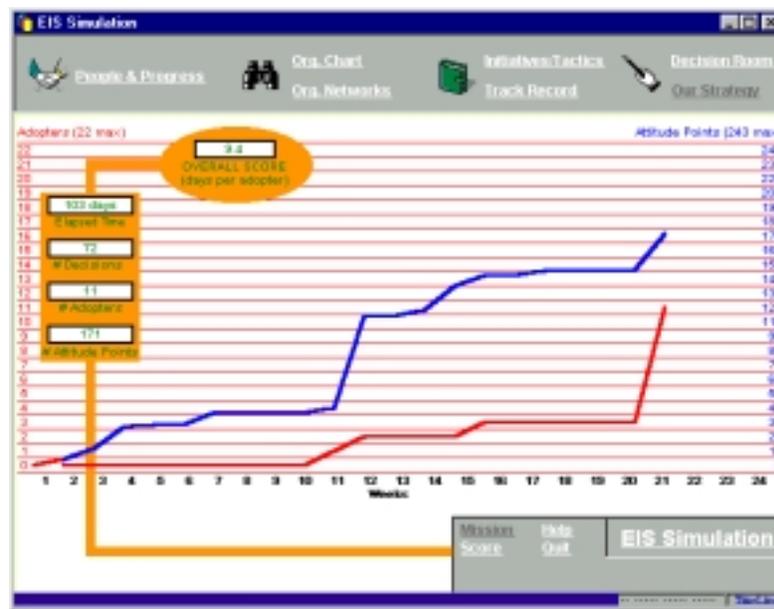

Figure 5: Sample summary screen from the EIS Simulation

In order to take the learning experience from single loop learning into the more effective, double loop learning process for each participant, the debriefing sessions are used to link the learning generated from the simulation to the participants personal experience of change and resistance. Questioning techniques enable the participants to discuss and reflect on their own experiences as change strategists, change agents or change recipients including their own resistance to change techniques. They are also challenged to think about how they will now handle situations upon return to their own organisations.

As reported in more detail in a recent qualitative study on the effectiveness of the EIS Simulation (Manzoni and Angehrn 1997) and raised during the debriefing sessions when using the simulation, the learning points about managing change nearly always encompass:

- surprise at how realistically the simulation captures people and their reactions in a normal business situation
- understanding of the need to identify and communicate with key stakeholders and key influencers
- understanding of the importance of information gathering
- appreciation of the power of informal networks
- awareness that receptiveness and resistance to change is different for each person
- understanding that communication flows must be maintained in all directions
- understanding of the importance for maintaining momentum of change
- understanding the importance and dynamics of teams
- understanding the importance of having a strategy and then being flexible and able to adapt that strategy based on the feedback being received
- appreciating the importance of and differences between time management and project time management
- understanding the need to consider the impact of your strategy and tactics on all of the organisation and on all stakeholders, not just the person you originally involve
- appreciation of the effectiveness of a combined top down, bottom up strategy

Figure 6: EIS Simulation Assessment Overview.

A further review based on the framework introduced in the previous section provides better insights of the strengths and weaknesses of EIS-based change management programmes or modules (see Figure 6).

Firstly, the framework reveals very clearly that EIS-based modules are definitely more suited to the training of change agents rather than change strategists. As displayed in Figure 6, this training approach addresses well the development needs of change agents during the critical Implementing phase but fits less well and less comprehensively with the set of pedagogical objectives to be addressed when training change strategists for higher performance during the Visioning phase (unless the objective of the learning experience is to develop better management skills in change strategists by making them more aware of the challenges faced by change agents during the implementation phase).

Secondly, the framework helps in identifying which pedagogical objectives are best addressed through the use of the EIS Simulation. As a large number of participants (and trainers) of EIS Simulation modules have reported in the structured questionnaires administered over the last three years, the realism of the approach helps managers become more "streetwise" in the context of organisational change and innovation initiatives, i.e. it provides a risk-free environment to experiment with different ways of succeeding in complex organisational contexts. The EIS simulation is one of the first executive learning tools developed based on the Business Navigator method (Angehrn et al. 1993, Angehrn and Nabeth 1997) and focuses on developing 'Action'-oriented skills (which are typically acquired through extensive experience). The Business Navigator method provides guidelines for the design of learning tools, which enable a manager to be projected into a virtual business environment (VIBE) which is "highly interactive and realistic… in which he/she will experience the difficulties of thinking, moving, understanding and acting in the diverse, socially complex, information and knowledge intensive, competitive and co-operative reality of today's businesses".

Thirdly, the framework emphasises the major weaknesses of the EIS Simulation, i.e. the pedagogical objectives which are either not or only inadequately addressed by this particular approach to change agents' training. This is specifically the case for skills related to recruiting and staff development and the broader skills in setting performance standards for staff, teams, business and project effectiveness. In addition it does not adequately cater for developing concept formation and negotiation skills required during the Visioning, Planning and Implementing phases nor adequately address the development of knowledge management competencies relevant for the Reviewing & Learning stage. While some of these shortcomings could be addressed through a natural extension of the simulation (e.g. integrating more experiential learning situations in which learners can test their negotiation, recruiting and staff development skills), other ones, such as concept formation skills, might be developed separately using complementary pedagogical techniques such as case methods.

6.0 CONCLUSIONS

"I wasn't smart enough about that (the people). I was reflecting my engineering background and was insufficiently appreciative of the human dimension. I've learned that's critical."
(White 1996, quoting Dr James Champy, Wall Street Journal)

There has been a clear move away from the notion that information technology (IT) and business process reengineering (BPR) are magic bullets in being able to achieve sustained organisational change (Markus and Benjamin 1997). Managing strategic innovation is perceived increasingly as being "as much about managing change as about managing technology" (Tushman et al. 1986). In this paper we have derived a conceptual framework for assessing training programmes for change agents, based on an extensive review of the literature on change management models and the skills and competencies necessary to manage change successfully. This framework provides a basis for identifying pedagogical

objectives for teaching change management to executives, IT specialists, BPR experts, change agents and change recipients. As an illustration, the framework has been applied to assess the effectiveness of a computer based multimedia simulation, a training tool known as the EIS Simulation, in satisfying these pedagogical objectives.

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High Performance Management Competencies (HPMC) Model

The Cognitive Competencies	The competencies are essential to strategic thinking, planning and organising in an uncertain and changing environment
Information Search	Gathers many different kinds of information and uses a wide variety of sources to build a rich informational environment in preparation for decision making in the organization
Concept Formation	Builds frameworks or models or forms concepts, hypotheses or ideas on the basis of information; becomes aware of patterns, trends and cause/effect relations by linking disparate information
Conceptual Flexibility	Identifies feasible alternatives or multiple options in planning and decision making; holds different options in focus simultaneously and evaluates their pros and cons

The Motivating Competencies	These competencies build the motivation, responsibility and involvement of members which permit organisations to allocate responsibility downward and flatten the structure
Interpersonal Search	Uses open and probing questions, summaries, paraphrasing etc to understand the ideas, concepts and feelings of another; can comprehend events, issues, problems, opportunities from the viewpoint of others
Managing Interaction	Involves others and is able to build co-operative teams in which group members feel valued and empowered and have shared goals
Developmental Orientation	Creates a positive climate in which staff increase the accuracy of their awareness of their own strengths and limitations; provides coaching training and developmental resources to improve performance

The Directing Competencies	These competencies ensure that decisions are made, that there is clarity of purpose and acceptance of "causes", values, and plans which provide direction and confidence for the group
Impact	Uses a variety of methods (eg. persuasive arguments, modelling behaviour, inventing symbols, forming alliances and appealing to the interest of others) to gain the support for ideas and strategies and values
Self Confidence	States own "stand" or position on issues; unhesitatingly takes decisions when required and commits self and others accordingly; expresses confidence in the future success of the actions to be taken
Presentation	Presents ideas clearly, with ease and interest so that the other person (or audience) understands what is being communicated; uses technical, symbolic, non-verbal and visual aids effectively

The Achieving Competencies	These competencies permit organisations to move beyond "reactivity" and "putting out fires" to a proactive climate of moderate risk in which progress is monitored against competition or a challenging standard, and where efficiency is the focus
Proactive Orientation	Structures the task for the team; implements plans and the ideas; takes responsibility for all aspects of the situation even beyond ordinary boundaries - and for the success and failure of the group
Achievement Orientation	Possesses high internal work standards and sets ambitious, risky and yet attainable goals; wants to do things better, to improve, to be more effective and efficient; measures progress against targets

Adapted from Schroder H.M. (1989) *Managerial Competence: The Key to Excellence - A New Strategy for Management Development in the Information Age.* Kendall/Hunt Publ. Company, Iowa.

VISIONING

Change Strategists		Change Agents	
Literature Search	**HPMC Model**	**Literature Search**	**HPMC Model**
Information gathering Conceptualising and pattern recognition Coalition Building Using diagnosis tools Flexibility in use of project management methodology	Information Search Concept Formation Conceptual Flexibility Managing Interaction Self Confidence		

PLANNING

Change Strategists		Change Agents	
Literature Search	**HPMC Model**	**Literature Search**	**HPMC Model**
Recruiting Team development Delegating	Managing Interaction Developmental Orientation	Team building Coalition building Influencing Communicating Project planning and documenting Information gathering	Managing Interaction Impact Presentation Information Search Proactive Orientation

IMPLEMENTING

Change Strategists		Change Agents	
Literature Search	**HPMC Model**	**Literature Search**	**HPMC Model**
Influencing Negotiating Communicating Listening Monitoring Controlling Delegating	Impact Interpersonal Search Presentation Achievement Orientation	Project Management Conceptualising and pattern recognition Adapting methodologies and plans to suit organisation and cater for the unexpected Time management Project Time management Influencing Negotiating Communications Coalition building Problem solving Listening Decision making Team building and management Participation management Training Resistance and anxiety management Contingency planning and risk management Performance standard setting Rewarding Monitoring Using formal and informal networks Using diagnosis tools Using technology Technical, functional and operational knowledge of all business systems involved	Proactive Orientation Conceptual flexibility Impact Information Search Interpersonal Search Presentation Concept formation Self Confidence Developmental Orientation Managing Interaction Achievement Orientation

REVIEWING TO IMPROVE

Change Strategists		Change Agents	
Literature Search	**HPMC Model**	**Literature Search**	**HPMC Model**
Analysing Reflecting Evaluating Learning Rewarding Creating feedback processes Monitoring Knowledge Management Staff development	Information Search Interpersonal Search Achievement Orientation Developmental Orientation	Analysing Reflecting Learning Staff Development	Information Search Interpersonal Search Achievement Orientation Developmental Orientation