The Contribution of Scenario Planning to Organizational Learning in a Higher Education Institution

Paper supporting OKLC workshop

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Abstract

This paper focuses on the theory of scenario planning, particularly in relation to its role in organisational learning. Drawing on relevant theories, the paper goes on to focus on its implementation in a UK University.

Although scenario planning is often seen as a tool for informing organisations' strategic planning processes, the literature suggests that it has more subtle benefits when sensitively and appropriately introduced. This paper argues that scenario planning can be used to promote individual and organisational learning using a blend of soft and hard approaches in order to maximise the benefits. The University context and the barriers to change are outlined to illustrate some of the challenges inherent in managing change processes. The particular role of Human Resource Development practitioners is also

highlighted. The paper finally draws conclusions as to the individual and organisational learning that emerged and how this can be taken forward in future change initiatives.

Keywords: Scenario planning, learning, organisational development

Suggested Track: Q

Introduction

This paper will draw upon lessons learnt from the implementation of scenario processes in a large distance teaching University in the United Kingdom and forms the basis of a participative workshop.

The different approaches and literature on scenario planning will be considered, in particular its use as a strategic tool, and how it can be used as a vehicle for learning and for human resource development. The paper will briefly outline the context for the intervention, the nature of the scenario process introduced, and will conclude with the lessons learnt from the first intervention and how these were, with some difficulty, incorporated within the design for further scenario work.

Theory

Strategy and Scenarios

'I believe … that in deciding where you would like to go as opposed to where you are probably going to end up, you need a great deal of discussion and a great deal of development of new thinking and new processes. The idea of doing this through the planning department or through a paper on strategy presented to the Board, seems to me to be quite inadequate.' Harvey-Jones (1988).

One key purpose of strategy is to create a fit between the business environment and the characteristic of the organisation for which the strategy is designed. By its nature, strategy tends to relate to unique issues which haven't been seen before. Lindblom (1959) suggests that in reality strategy differs from the rational mechanistic model in that:

- Managers spend their time trying to avoid trouble rather than pursue goals

- Objectives are rarely articulated clearly

- Decision making moves between multiple ever changing decision centres

- People adjust positions through bargaining and compromise

- High value is placed upon consensus seeking behaviour

- Consequently policy making becomes a social process, in small incremental steps often disjointed.

This approach emphasises the nature and value of strategic conversations in the effective formulation of strategy. One problem for individual managers and indeed planners is that it is extremely difficult to hold a mental model of an organisation in ones mind as a whole. Miller (1956) suggested that individuals can only hold seven bits of information simultaneously in their mind. Later Kelly (1963) suggested this might be fifteen to twenty. Whatever the figure it is small compared to the elements needed to represent and understand a mental model of even a small sized organisation.

Quinn (1980) suggests that full strategy is rarely contained or written in one place. He suggests that the processes used to arrive at a full strategy are fragmented, evolutionary and largely intuitive. Within the fragments it is possible to find some very refined pieces of strategic analysis, yet the real strategy of an organisation tends to evolve as internal discussions and external events flow together to create a new widely shared concern for action among key members of the management team.

If strategic processes are largely social processes, if there are limitations on the ability to hold mental models of the organisation, if incrementalism is a preferred approach and if verbal information is preferred to numeric information, then given the speed and complexity of much external environmental change there is a need for a strategy formulation process which:

1. Utilises those preferences
2. Builds back the notion of community into organisations
3. Highlights the limitations and pathologies of overly rationalistic/managerialist paradigms
4. Engages those with the responsibility for implementing change in the strategic processes
5. Increases the capacity of individuals, groups and the organisation to learn and increase their accountability and commitment

6. Enhances the robustness of strategic and operational decisions
7. Achieves a degree of buy in to change.

What are Scenarios?

Scenarios are alternative stories of how the external environment may develop in the future. They present different but plausible future worlds that face an organisation over the next decade or so and the challenge it to develop plans and capabilities in ways that will enable it to meet any one of these different, possible futures. They should therefore be plausible, relevant and challenging

Scenario Processes

Daum (2001) describes scenario planning as the process whereby managers and others invent and then consider in depth several varied scenarios of equally plausible futures with the objective of surfacing surprises and unexpected leaps of understanding. These scenarios can represent a tool for ordering the perceptions of the management team. Daum goes on to make the important point that the aim is not to select one preferred route and hope for it to come true, nor to find the most probable future and adapt to it; rather the point is to make strategic decisions that will be sound for all plausible futures. If this happens, then no matter what future takes place, an organisation and its managers are much more likely to be ready for it if it has seriously thought about various scenarios.

'To operate in an uncertain world managers need to be able to question their assumptions about the way the world works, so that they can see the world more clearly. The end result is not an accurate picture of tomorrow but better decisions about the future' Daum (2001).

Ackof (1971) has described the 'futurity of decision making' by which he means the degree to which a particular decision affects how the future will unfold. Decisions with a high 'futurity' have to be taken in the light of high uncertainty. They are the most important

in that they are often strategic decisions. The presence of uncertainty means that there are often multiple, equally plausible futures to be considered.

One purpose of scenarios is to promote double loop learning. Indeed one reason for using scenarios may be to 'engineer' under the cover of an apparently legitimate change in approaches to planning, changes in cognition, perception and behaviour amongst managers and planners to free up their thinking and action. Thus they are enabled to move away from the apparent comfort and safety of rational mechanistic models.

The mental processes which accompany scenario thinking are focused upon those elements in the future which are to a degree predictable. The process requires there to be continuous learning through experience and the ability to readjust controlling variables in real time. Unfortunately many people are so entrenched within the rationalist paradigm that they fail to see alternatives or are unable to break existing mindsets and paradigms.

The development of scenarios is a social process where individuals working together combine their spontaneous insights using sound market intelligence. Scenarios elaborate existing cognitive structures by incorporating cognition, perceptions and paradigms that were initially isolated.

Chermack and Lynham (2002:16) define scenario planning as: 'a process of positing several informal, plausible and imaginative future environments in which decisions about the future might be played out for the purpose of changing current thinking, improving decision making, enhancing human and organisational learning and improving performance'.

Van der Heijden (1997) suggests that well written scenarios are internally consistent and plausible, link historical and present events with hypothetical events in the future, carry story lines that can be expressed in simple diagrams, reflect predetermined elements or those events that have already occurred but whose consequences have not yet unfolded and identify signposts or indicators that a given story is occurring.

Elsewhere, Van der Heijden (2003), in commenting on the failure of attempts at Scenario Planning notes the point that:

'A surprising finding is that scenario planning is overwhelmingly perceived as a highly specific tool for strategy development and planning'.

He then goes on to suggest that the 'tool' assumption makes reasons for introducing scenarios often seem superficial. He suggests that two modes of scenario process exist, the strategising mode and the learning mode. The starting point for this suggestion is the notion that the ultimate benefit of scenario planning must result in changed and more skilful action by the organisation within its business environment.

For Van der Heijden, the dichotomy between strategy and learning is a reflection of two forms of knowledge, "knowing by gaining control" on which strategy is based and "knowing by participation" on which organisational learning is based.

The evidence from evaluation of scenario planning interventions is that one element which undermines their success is the idea that scenario thinking can be combined with a strong rationalist approach to strategy formulation. Wack quoted in Chermack (2003) suggests that:

'Scenarios can be successful in structuring uncertainty only when they are based (1) on a sound analysis of reality, and (2) they change the decision makers' assumptions about how the world works and compel a change of the image he/she has of reality'.

Burt and Van der Heijden (2003) suggest that:

'Through the scenario planning process several plausible narratives about the future are constructed. This allows for uncertainty and ambiguity in the contextual environment to be acknowledged and implications for strategy development to be considered.   The idea of multiple futures opens up the possibility to explore imaginatively the possible impact of the contextual driving forces, something that is difficult if only one forecast is considered. The process naturally stretches and widens managers' viewpoints, resulting in new learning for the management team and helping to expand their planning horizon beyond the short term . . . .'

Scenarios also give managers something very precious; the ability to re-perceive reality. Schwartz (1991) and de Geus (1988) as well as Van der Heijden, have identified learning as a key component and a key outcome of scenario planning. When the scenario process

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is successfully implemented in an organisation it encourages strategic conversation which can shift the current assumptions of decision makers and enhance organisational learning. The enhanced learning capacity makes the organisation more adaptable to change.

De Geus (1989) defines organisational learning as: 'the process whereby management teams change their shared mental models of their company, their markets and their competitors'.

Rational, mechanistic approaches to organisations tend to emphasise individual development, often through means of competency frameworks. These tend to be derived from the strategic direction which originates from rational planning processes. Organisations structured into rigid departments and functions tend to promote inward thinking and problems of communication with other departments and groups can result. In such structures, learning in individuals is based essentially upon learning within the boundaries of their own departments, professional or occupational groupings. The inhibitions placed by such structuring upon learning is often exacerbated by the convergent thinking of some specialists and other key groups who have a tendency to reach 'standard' solutions to difficult problems. Learning may also be inhibited by reengineering and restructuring as a favoured change strategy. Learning is key to, and a key output of scenario planning. It involves challenging the paradigms, mindsets and assumptions which are constituents of mental models. Well constructed scenario interventions can assist in revisiting and challenging assumptions, sometimes with a reframing of taken for granted perceptions of the organisation and its environment.

Senge (1990) defines mental models as being:

> 'deeply ingrained assumptions, generalisations, or even pictures or images that influence how we understand the world and how we take action. Very often we are not consciously aware of our mental models or the effects they have upon behaviour'

Senge et al (1999) identify three stages of an effective organisational learning process: mapping mental models, challenging mental models and improving mental models. Scenario processes effectively implemented as tools for strategy formulation and primarily for learning can fulfil these three stages.

One key aspect which connects individuals and groups of individuals are the strategic conversations mentioned earlier. These are intelligent learning systems in their own right moving through learning cycles of experiencing, reflecting, mental model building and adjusting planning action steps and obtaining new experiences. These cycles are coupled through the strategic conversations. If the coupling is tight, mental models will overlap increasing the similarity between action plans and similarity of experience. In such a system deviant ideas become shut out and the dangers of 'group think' increase (Janis (1982)). Groupthink, as Van der Heijden (2004) notes, disables the evolutionary learning process as it shuts out mutational ideas.

If coupling is loose, overlap between mental models will be small and planning steps will take less account of thinking elsewhere in the organisation. Experiences will become personal rather than institutional and the overlap between mental models will reduce further. Ideas will grow apart, the organisation will grow apart and fragment.

The nature and type of learning in an organisation can help affect the nature of change. Argyris & Schon (1974) note that superficial change tends to take place when the context is invariant – i.e. single loop learning. In most strategic change situations there is however the need to be able to reframe contexts radically. Double loop learning is the term applied to situations where the context is also changed.

Double loop learning requires there to be a culture in an organisation able to support risk-taking and change, one which promotes openness to encourage dialogue and the expression of conflicting points of view. In such cultures mistakes and errors, uncertainty and ambiguity all provide opportunities for learning. Reason (2001) stresses that genuine learning is largely action based. Action learning requires a practical, participative and situated approach entailing personal reflection, cooperative enquiry with others over time and sometimes the involvement and participation of the wider community. Argyris (1991, 1994) discusses how defence routines can inhibit and prevent learning. He suggests that organisational change efforts are often sabotaged through a design that pre-specifies the strategy and processes preferred by top managers. This example of the effects of top down rationalist mind sets provides comfort to top management by appearing to afford them a degree of control but isolates employees from identification with and commitment to the change programme.

Within organisations, systems approaches can emphasise systems wide learning and change with a business focus. The approach encourages participation in creating change, individual self reliance built upon knowledge of a bigger picture and the interconnectedness of the parts. Lateral organisational links and networks are essential in the process of generating opportunities for learning and commitment.

> 'A learning system . . . must be one in which dynamic conservatism operates at such a level and in such a way as to permit change of state without intolerable threat to the essential functions the systems fulfils for the self. Our systems need to maintain their identity, and their ability to support the self identity of those who belong to them, but must at the same time be capable of transforming themselves.' Schon (1971, p.40).

Systems of overlapping mental models constitutes a positive feedback loop. Organisations if left to their own devices will tend to drift in either of two directions ending up with:
   a) Inaction resulting from fragmentation
   b) Myopia resulting from group think.

Chermack (2003) suggests that participants in scenario planning are continuously constructing individual meaning. As information is processed the mental models of individuals should change, resulting in new ways of perceiving the organisation's environment and ways to negotiate within it.

Much human empirical knowledge is stored temporally. Schenk (1977) introduced the term 'schema' to describe a chunk of temporally organised knowledge concerning an area of activity. Activating this schematic knowledge provides a basis for making inferences and suppositions about the meaning of events. People don't always state all the parts of a given thought they are trying to communicate. The conceptual processor uses schemas to fill in detail. Memory for an event will be poor if an appropriate schema is not activated at the time of observation. On the other hand if a particular event or bit of information becomes integrated with a larger schema, it will no longer be available as an individual entity and hence the memory of it will be distorted.

Ingvar (1985) suggests that temporally organised memory 'memories of the future' act as perception filters. Going through life, people spin stories in their mind about the future. This builds up a store of schemas through which subsequent events are interpreted.

There are different kinds of knowledge available for decision making. Codified knowledge is generally operationally available. Elements of this have meaning, are well connected, integrated and understood in context. Surfacing tacit knowledge however is much more difficult.

Tacit knowledge consists of isolated observation and experience that we have not yet been able to integrate and join up with our codified knowledge. Tacit knowledge often requires an outside agent to confront the individuals unconnected knowledge with the knowledge structure of the wider group. Scenario planning uses the insights and knowledge embedded within the tacit knowledge base by providing frameworks of creative exercises, simulations, and facilitation to inform the codified knowledge base of both individuals and organisations. In scenario development the social processes, where individuals combine their spontaneous insights to build frameworks for each others, as yet unconnected tacit knowledge. Scenario development tends to activate the relatively weak signals that form elements of the tacit knowledge base. These surface and reach our consciousness because intuitively we think that they may have some relevance to the situation. Scenarios elaborate cognitive structures by incorporating elements that were initially isolated.

These approaches go some way to explaining why participants in scenario workshops feel empowered by the new knowledge they have gathered through surfacing tacit knowledge and developing this into scenarios.

Vygotsky (1986) suggests that learning occurs as the result of interaction. He suggests that around a person's existing cognitive structures there exists a zone of proximal development within which an individual's empirically rich but disorganised tacit mental constructs interact with the logic of the reasoning expressed in the language of the social group. By 'scaffolding' these, unconnected pieces of insight become part of the overall structure of the individual's domain of knowledge which enriches the mental model used to consider the future. For Vygotsky, sense making can only take place in the zone of proximal development. Therefore strategy development needs to go beyond codified

knowledge and must involve the linking in of insights which have hitherto been tacit and unconnected.

Scenario planning then is concerned with perceptions, cognitive learning and action. Codified knowledge is generally operationally available within strategic planning processes; elements of this have meaning, are well constructed, integrated and understood in context. Surfacing tacit knowledge is much more difficult. Tacit knowledge consists of isolated observation and experience that we have not yet been able to integrate and join up with our codified knowledge. Tacit knowledge often requires an outside agent to confront the unconnected knowledge structure of an individual with that of a group.

Scenario planning can 'tap' the insights and knowledge embedded within the tacit knowledge base by using frameworks of creative activities and simulation as well as skilled facilitation to inform the codified knowledge base of both individuals and the organisation. In scenario development, social processes operate whereby individuals combine their various insights to build frameworks for the, as yet unconnected knowledge of each other.

The scenario development process, if properly handled, tends to activate the relatively weak signals that form elements of the tacit knowledge base. These surface and reach our consciousness because intuitively we think that they may have some relevance to the situation. Scenarios, in other words can elaborate cognitive structures by incorporating elements that were initially isolated.

There is evidence both from the experience of Shell with scenario work and from elsewhere that the management style best suited to promoting the strategic conversations so vital to maximising the learning from scenario processes is one of facilitation and where a desire to promote individual, group and organisational learning predominates. For scenario work to be effective in the long term there needs to be a move away from central, mechanistic, rational organisational paradigms towards ones where the system is more open, and leadership in distributed and diffused rather than centralised. In such a world goals, targets and objectives are seen as useful managerial tools, but used in ways which avoid the disadvantages of single loop learning. The emphasis is upon valuing learning at

all levels of the organisation. Understanding and internalising that learning will often necessitate major organisational and personal change.

One key contention within this paper is that the first attempts at scenario planning in the University were less than successful for several reasons.

1. The dominance of the planning function in commissioning and rolling out the scenario process.
2. The relatively rational management paradigms of key senior managers.
3. Lack of clarity of purpose of the scenario process.
4. Inherent resistance to change within the University.
5. The failure of the Human Resource Development function to recognise its key role in shaping the agenda.

Chernack quotes Provo et al (1998) who outline five key connections between Human Resource Development and Scenario Planning.

1. Increased knowledge about scenario planning can leverage Human Resource Development (HRD) to become a shaper of business strategy.
2. Implementation of actions resulting from the scenario planning process often requires HRD expertise.
3. The connection between scenario planning and organisation development or change efforts implies a domain of HRD.
4. The theory of the scenario planning process can benefit from the learning expertise within HRD.
5. Scenarios could be useful in considering the future of HRD itself. Chernack (2003:117)

Before looking at the contribution of the Human Resource Development capability to the scenario process it is appropriate to look at the context and the issues facing the University.

The Context and Issues

The University, because of its mission, its history and modes of teaching is a complex organisation. It is at once an academic institution, a publishing house, a sales and

marketing organisation and a warehouse. The need to process the work of thousands of students learning at a distance, to manage a workforce of 7500 Associate Lecturers to tutor students, the need to deliver materials, assess and award qualifications adds to the complexity.

The very reasons for bringing the University into existence, i.e. the relatively low rate of participation in higher education in the 1960s, had attracted a committed, sometimes deviant but innovative workforce. Staff were attracted by the values of Openness and Equality and the originality of the University's pedagogy. The long service of the workforce could be attributed to other factors as well. These included a reinforcement of personal commitment to the organisation by a sense of achievement, protected government funding and the rebuffing of attempts to close the University by a right wing radical government in the 1980s. Some thirty years after its inauguration the University still had a long serving workforce, committed to its original mission and values. This helps to sustain both organisational memory and myth.

The structures of the University, both governmental and bureaucratic, had reinforced difficulties the organisation has had in persuading a strong committed workforce operating in a hitherto benevolent environment to adapt to internal changes, to unlearn old ways of doing things, modify belief systems and meet challenges to established values and paradigms.

During the 1990s under the leadership of a new Vice-Chancellor the University had responded to the changes in the external environment and government reforms by adopting a series of what in retrospect can largely be seen as quasi rational management responses.

In 2002 after a year of strategic drift following the resignation and early departure of the Vice-Chancellor, a successor took up duties. Her background was very different to that of her predecessor. Whilst he had worked almost exclusively in Higher Education management in North America, the new Vice-Chancellor had worked in the Retail sector, had been Dean of a Business School and Vice-Chancellor at a major South African University. The new Vice-Chancellor inherited a senior team hierarchy socialised like

much of the institution into the dependent, risk avoidant, rational strategic mindsets of the past.

In a speech to a group of attendees at the University's internal leadership programme, the Vice-Chancellor set the scene for her view of how Scenario Planning could contribute to effective leadership:

> 'The idea of the learning organisation that Peter Senge so successfully captured in his first book, 'The Fifth Discipline' made a deep impression on me because it put together the various strands of ideas of what it took to make an organisation able to adapt to a world so complex and changing as ours . . . Since then many organisations have aspired to be learning organisations, but it is an exceptionally difficult thing to achieve and has, as its heart, some serious consequences for the culture of the organisation…

> '. . . several things have struck me very forcibly:

> Virtually everybody I meet identifies with the mission of the University . . . This is an enormous strength, especially coupled as it is with integrity of purpose;
> I do however believe that the organisation, both at an individual level and a collective level needs to find a way to bring together all the strands of activity into a coherent whole . . . It is my belief that a forum where we begin to build scenarios and use those scenarios to proceed to strategy would be immensely liberating to people and gives an opportunity to listen and learn from each other, engage in quality conversation'.

Her intention in introducing the Scenario Planning process was to shift the thinking of the leadership about what might happen in future in external environment. One overall aim was to seek alignment between leadership and decision making. In the University it is most probably the case that apart from the Vice Chancellor and the HR Division, the use of scenario planning as a vehicle for organisational and individual learning was largely overlooked and usually misunderstood.

The inherent problems facing the University were about changes in structure, practices, beliefs and attitudes, of disjointed, but highly interdependent systems operating within internal and external environments that were highly ambiguous and uncertain. However, these were treated by senior management and consultants engaged to assist them as

relatively tame problems susceptible to conventional approaches to problems solving and change management.

Changes Needed

A number of changes were seen to be needed if the University was to be able to sustain its position in the market. It needed to:

- Attract and retain target numbers of students
- Become more focused in curricular and research activity
- Compete against other institutions nationally and internationally n the field of distance educations
- Re-invigorate the brand
- Move the community in ways which freed up thinking, move people out of their rational, managerial or one dimensional mindsets to consider other possibilities
- Reduce the strength of the prevalent conflicting paradigms i.e. the community of scholars and the rational/machinelike managerialist paradigms
- Replace existing paradigms with one which emphasised dialogue, community and an organic learning system of interdependent subsystems
- Transfer the strong identification with the original mission and the vision to a new revitalised mission, vision and value to support new strategic priorities

The barriers to change

However, despite recognition of the changes that were needed, a number of barriers were seen to exist. Many of the changes noted above were adaptive and predicated on what Chicoine (2001) refers to as the scenario simulation heuristic. The scenario simulation heuristic tends to render alternatives to a future in which individuals have the most emotionally invested as being unbelievable and therefore subject to being discounted. Their single one track future then acts as a filter which accepts information about emergent trends that reinforces it and rejects any information that contradicts it. Other features of the scenario simulation heuristic are that:

- The older and heavier and the more rigid the first scenario is the more it will resist deconstruction, inputs of opposite information, development of alternative scenarios or the learning process itself.
- The first future has built up a reinforcing pattern in which the older the pattern, the more elements it will have included in its agreed rigidity.
- The problem is that thinking, planning and decisions based wholly on the first scenario are bound to become less realistic and correct over time as the real future arrives and increasingly attacks the assumption behind the first scenario. Learning thus becomes more difficult and painful.

A second barrier to change was the mental models of managers and employees, which meant that the belief in a continuation of the previously successful success recipes, was difficult to eradicate. Many of these individuals were long serving key stakeholders who had designed and built the institution's unique capabilities and had contributed to the success recipe.

The Scenario Process

One initial issue was that the scenario planning initiative was organisationally driven from the University's Planning function. The nature of the function, of those attracted to work within it and a largely rational managerialist planning mindset in the management echelons of the University caused initial friction with the external consultants, who were used in their practice to an approach where scenario planning processes whilst informing future strategy were the beginning of a journey of personal and organisational development. Their senior consultant who had worked within the Shell roll out of scenarios found the tendency to over rationalise the processes counter to his experience and that of the Vice Chancellor.

One problem that many organisations have with scenario work, indeed it was the case in the early stages with the Shell experience, is the difficulty of shifting existing paradigms. Kleiner (1996, p.178) states when referring to operating companies and departments within Shell,

> 'They could intellectual see the forces at play, but they still felt committed to old habits'.

The HR team in the University could draw upon the experience of the external consultant's work at Shell and elsewhere and started to influence colleagues in Planning to explore both less rational approaches to Strategic Planning and incorporate the scenario work within other major strategic change initiatives.

As can be seen from the diagnosis earlier, the needs of the University were broader than just a change of strategic direction. Amongst the linked initiatives were a systems based leadership and development project designed to move the University towards being a learning organisation hosted jointly by the Systems discipline in Technology and the HR function, a leadership development programme, a 'brand' engagement programme and a personal leadership and responsibility programme all of which were designed to deliver the changes in behaviour and culture necessary to deliver the new strategy which was to emerge alongside the scenario work. In addition to this the Vice Chancellor established a strategic forum to take the scenario work forward.

The problem in Human Resources was three fold:
1. How to get the richest, most useful outputs from the scenario building process and roll out whilst freeing up the thinking of participants.
2. How to ensure that the outputs informed the thinking actions and behaviours of senior staff, and then other staff, so that what was learned from the process and from the insights gained from the scenarios were channelled into the learning systems of the University.
3. How to integrate the various Human Resource elements outputs and initiatives so there was a degree of coherence and reinforcement between initiatives.

HRD were keen to move managers in particular away from rational managerial modes of thinking towards utilising a more flexible repertoire of management styles and practices many of which were inhibiting to the achievement of a new mission and vision.

Arie de Geus in an article in Harvard Business Review in 1988 'Planning as Learning' made the following point in relation to the scenario work at Shell:

'We no longer saw our task as producing a documented view of the future business environment five or ten years ahead. Our real target was the microcosm (the mental model) of our decision makers'.

In the University it is most probably the case that apart from the Vice Chancellor and the HR Division, the use of scenario planning as a vehicle for organisational and individual learning was largely overlooked and usually misunderstood.

Learning

It is true to say that in the scenario processes outlined in this paper, the Human Resource Function initially took a limited role. This was partly because the initiative was grounded within a largely rational planning function and partly because of the initial use of external consultants, experienced world wide in the successful application of such techniques. Human Resource Developers, in the form of internal consultants, were reluctant to bring softer, often deeper, less rational insights to bear upon what was becoming an increasingly structured process informed by the rational managerialist mindsets of planners and participants alike.

However, involvement in facilitating workshops using a limited range of 'set breaking' approaches yielded a range of new insights into what was needed to develop capacity to change and to confirm some existing perceptions of what might be problems or issues to be addressed

Within the scenario processes they identified that there needed to be stronger 'set' breaking activities. There was a need to heed Chicoine's (2002) advice that the older and the more rigid existing scenarios are, the more they will resist deconstruction, inputs of opposite information, the development of alternative scenarios or indeed the learning process itself. Each participant in either the scenario building, or the scenario roll out process brought existing scenarios of the future of the organisation each containing its own justification and logic shaped over time. This is particularly likely to be the case within an organisation such as this one where earlier successes had bred a reliance, indeed a comfort, in an unchanging world.

The scenarios have been used to challenge traditional mindsets around planning and management. Traditionally a rational, convergent and output based approach, the scenarios now challenge units to:

- adopt an external focus
- look forward to a more distant horizon
- engage with uncertainty
- test the resilience of strategic planning

Units have engaged with this revised process by identifying within each scenario story, the main challenges and opportunities for their area. From these are derived possible strategic responses and therefore objectives for action.

This work has been undertaken at organisational and unit level. Coupled with the review of mission, vision and priorities outlined above, this represents a significant shift in thinking about planning.

Previous change initiatives in the University had focused on raising awareness of the external environment through an adaptation of traditional customer focused thinking. Scenario building and planning has widened that approach to include consideration of our interaction with the external environment.

The breadth of dialogue and involvement in Strategic Planning has led to questioning many existing paradigms and therefore to some difficult conversations and decisions.

There is now greater awareness of the strategic role of Human Resources and Organisational Development in delivering results within the organisation and a focus on building capacity and capability in a more systemic approach to leadership.

There were other lessons which became apparent:
- the need to be clear within the leadership system of the organisation of the purposes of the scenario process;
- the need to ensure that these purposes are consistently communicated and practised in the University;
- the need to ensure that learning processes, both as a part of and as a consequence of the scenario process are managed in ways which reinforce the purposes of the process.

Building upon our description and analysis of the learning we gained from the first iteration we will now share with you some of the approaches we have developed to revitalise the process as it moves into the next iteration.

Conclusion

The scenario development process, if properly handled, tends to activate the relatively weak signals that form elements of the tacit knowledge base. These surface and reach our consciousness because intuitively we think that they may have some relevance to the situation. Scenarios, in other words can elaborate cognitive structures by incorporating elements that were initially isolated.

There is evidence both from the Shell experience and elsewhere that the management style best suited to promoting the strategic conversations that the scenario process should generate is one where facilitation and regarding the organisation as a learning system are key elements. For scenarios to be effective in the long term there needs to be a move from central, mechanistic, rational organisational paradigms to paradigms where a more open system predominates, where leadership is distributed and diffused rather than centralised. In such a world, goals, targets and objectives are seen as helpful managerial tools but used in ways that avoid the disadvantages of single loop learning. It involves valuing learning at all levels of an organisation. Understanding and internalising that learning often means changes at personal and organisational levels.

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