

BUILDING CAPABILITY TO ACCUMULATE ORGANISATIONAL KNOWLEDGE: A CASE STUDY

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*Working Paper 29/05
May 2005*

DEPARTMENT OF MANAGEMENT
WORKING PAPER SERIES
ISSN 1327-5216



Abstract

In order to remain competitive and survive, organisations must accumulate knowledge about the changes that occur in their business environment. The centrality of this relationship between the organisation and its environment has placed learning and knowledge accumulation processes not only on the agenda of academics and researchers, but also on the business agenda of practising managers. In this paper, we will argue that “learning” and “knowledge” are central to success in today’s complex environment and how we build knowledge as a strategic resource is crucial for sustainable competitive advantage. Drawing on the practical experiences in a mid-sized service organisation, we will describe how this organisation has instigated a change program aimed at knowledge-accumulation through learning and offer a conceptualisation of knowledge management as a resource accumulation system. In this conceptualisation, appropriate infrastructure systems feed the knowledge accumulation process. These ‘infrastructural’ processes are indicative of the wide range of approaches necessary to facilitate learning that are outside traditional organizational innovation processes. It is this organisation’s experience that these innovations are part of creating a learning culture that stresses the importance of the interdependency between an organisation and its members.

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INTRODUCTION

The search by organisations for competitive advantage is akin to Man's mythical search for the Holy Grail. In this search, some have embraced the accumulation and management of knowledge and enhancing learning capability as the primary basis of their competitive advantage in modern times (Drucker, 1999). While a contemporary interest in learning in organisations largely stems from Senge's concept of a 'Learning Organisation' (Senge, 1990), this embracement of knowledge and learning is, however, not new. Over 25 years ago, Argyris and Schon were exploring ways in which organisations learn (Argyris and Schon, 1978), while 15 years ago, De Geus suggested "*The ability to learn faster than your competitors may be the only sustainable competitive advantage*" quoted in (Senge, 1990, p4).

Sharpening our focus on knowledge and learning, Prusak states in his opening remarks at the Strategic Leadership Forum's 1995 conference – Knowledge Advantage II, "*...the only thing that gives an organization a competitive edge – the only thing that is sustainable – is what it knows, how it uses what it knows, and how fast it can know something new*" (Prusak, 1996).

There is an important dual focus in Prusak's statement – he makes the important distinction between the amount of knowledge and learning and the rate of learning and new knowledge acquisition identified, and that both are necessary if 'knowledge' is to become a strategic resource that provides a distinctive competitive advantage organisations can bestow upon themselves.

In exploring this relationship between knowledge and learning, and differentiating between the amount and rate of knowledge and learning in this paper, we will construct a model based on the author's experience in a student service organisation based in the Tertiary Education Sector in Australia. The model has been developed as a result of the first 2 years of an on-going Action Research study in the host organisation.

Following the construction of the model, we will then argue that it is the rate of learning - "*...how fast it can know something new* (Prusak, 1996)" - as a function of building an enhanced learning capability, that is the key leverage point in any discussion on knowledge management, learning organisations and the creation of business self-reliance and self-sustainability.

FROM LINEAR TO CYCLIC LEARNING AND KNOWLEDGE CREATION

In the world of business, organisations and their managers are concerned about achieving results. For example, the work we do in organisations involves taking action with the intent of achieving a result that is deemed important.¹

Much of the decision making in organisations implies a structure such that managers have some information about a problem or issue (Forrester, 1992). Based on that information, managers take action and achieve a desired result. Diagrammatically, this can be represented as a logical linear process:

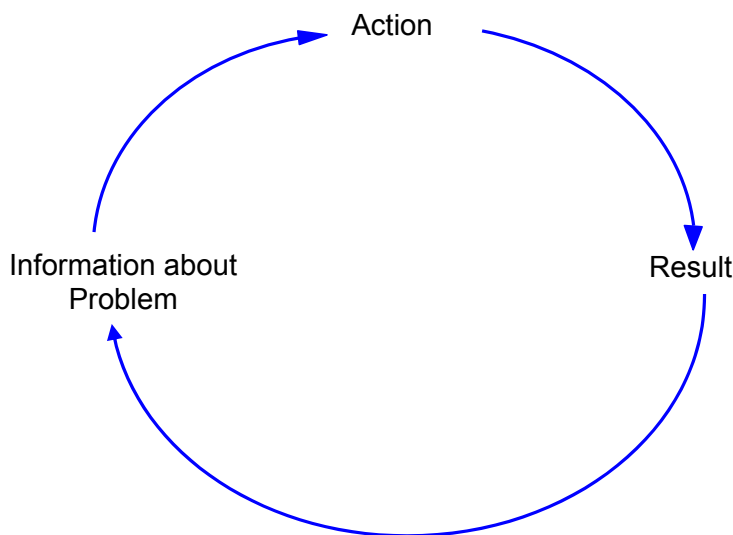
¹ In this paper, we are exploring how we take more effective actions to achieve these results - we are not focusing an examination on how the decision choices are decided upon, or how we choose one option over another.]

Figure 1: Open-loop Impression of the World (Forrester, 1992)



In this representation of organisational action, a manager has a problem to solve, and based on the available information about the problem, takes action and solves it. However, too frequently managers delude themselves by using this linear mental model. We live in an on-going dynamic world in which each action is based on the current information we have. Taking action and achieving a result provides a source of new information, that then becomes the basis of future decision-making about what actions we will take. Forrester (op cit) refers this to a Closed-loop Structure of the World (see Figure2). In this ‘view of the world’, there are not beginnings or endings rather there are on-going cycles. People are interconnected and interdependent, locked together in a web of mutual causality, continually reacting to their past actions and the past actions of others.

Figure 2: Closed-loop Structure of the World (Forrester, 1992)



The cyclic feedback structure above will be argued as central to learning and knowledge creation. Here, learning is implied as straightforward – from the result of your actions, you learn and gain new knowledge that forms new ‘information about the problem.’ Yet while learning and knowledge are implied and reside in the background of Forrester’s representation, this model does not represent our need to make them explicit – to bring them into the foreground. When managers make a decision on what action to take for improvement, they use existing knowledge and information in that choice.²

KNOWLEDGE AS A STRATEGIC RESOURCE

In the next part of the paper, we will develop Forrester’s model by making explicit the learning and knowledge relationships and elements implied in his Closed-Loop Structure model (Figure2).

² We are not going to discuss the difference between information and knowledge – this has been done elsewhere at length. For some recent discussion see Ackoff (1999), Barabba et al (2002) , Boisot (2002) and Sarah et al (2003).

We began this paper by recognising the interplay between an organisation and its environment, and the need for organisations to ‘learn’ about the changing nature of their business environment. We then suggested this accumulated knowledge is vital to the ongoing competitiveness of an organisation. This is the element that Forrester’s model omits as an explicit element.

‘Knowledge’ is considered a ‘strategic resource’ in the sense that it provides a sustained advantage in the face of competition. Referred to as the resource-based view of the firm (Barney, 1991, Prahalad and Hamel, 1990), competitive advantage derives from resources and capabilities an organisation controls that are valuable, rare, hard to imitate and not readily substitutable. These resources and capabilities include the information and knowledge an organisation controls (Barney et al., 2001). Knowledge accumulations can also be valuable, rare, hard to imitate and not readily substitutable. This is important to our conceptualisation of knowledge as a strategic resource.

However, we still need to expand our understanding of learning and knowledge and their interrelationship. We will argue that learning is a process that leads to an accumulation of knowledge, and that knowledge is a strategic resource crucial to sustainable competitive advantage. The challenge is turning the flow of learning as people act, into an accumulation of knowledge.

We have represented knowledge as an example of ‘asset-stock accumulation’ and that organisations consist of asset stocks and flows (Dierickx and Cool, 1989), akin to resource that increases and decreases over time. Metaphorically, knowledge can be represented as a bathtub, with inflows that increase its contents and outflows that drain and decrease this content. Learning is analogous to an inflow, increase or accumulation of knowledge, while unlearning is analogous to an outflow, decrease or depletion of knowledge.

There are arguably two types of approaches³ to the field of knowledge management:

1. “knowledge as product” focusing on how knowledge is shared, used and stored
2. “knowledge as process” focusing on how knowledge is created, used and recreated, and the dynamics associated with that process.

The “knowledge as product” approach focuses on knowledge management and has been typified by organisations employing the latest technology. Primarily, it suggests that ‘knowledge’ is external to the organisation or the individual: if it is out there, we have to find it, grab it and bring it in – and that’s all it takes. If you find it or buy it in, it will be used. It is a mechanistic perspective and is the assumption behind “database-approaches” to KM. It follows therefore that with the right information technology software, the right knowledge management policies, systems and processes, and the right advice from the right consultants, organisations can enhance their competitive position by capturing the knowledge needed and use this as a resource for their ongoing viability and sustainability.

In this paper, we are exploring “knowledge as process” where issues of localness, individual experience and context underpin knowledge accumulation. We propose that knowledge and ‘knowing’ is a cultural and human process and is the cumulative result of a learning orientation. Integral to this is the development of a range of organisational infrastructures aimed at increasing the rate of learning as an ongoing aspect of organizational life. These interactions are indicative of the wide range of processes built-in as structural components of the organisational infrastructure necessary to facilitated learning. These elements are typically outside the traditional organizational innovation processes and are covered in some detail later in the paper.

³ Adapted from Pawlowsky, P. (2001) The Treatment of Organizational Learning in Management Science. In *Handbook of Organizational Learning and Knowledge* (Ed: Nonaka, I.) Oxford University Press, Oxford, pp. 979.

Continuing with the “knowledge as process’ view, over recent times there has been a deliberate link between learning and what has been referred to as Knowledge-Creation (Nonaka and Takeuchi, 1995). Specifically, knowledge as a strategic resource or asset is ‘managed’ within the social dynamics of organisations – in what Nonaka and Takeuchi refer to as converting the *tacit knowledge* – what we know implicitly to *explicit knowledge* – what we know formally. Tacit knowledge (Polanyi, 1966) implies that ‘we can know more than we can tell’ and hence it is the conversion of tacit knowledge into explicit knowledge that is crucial if knowledge is to provide strategic advantage. The process of conversion is a key role for organisational members, including middle-managers, who “ ...*synthesise the tacit knowledge of ... employees and ... executives, make it explicit, and incorporate it into new products and technologies* (Nonaka and Takeuchi, 1995).

Consistent with this view that there is a direct link between learning and knowledge Sanchez and Heene state, “...*Learning is a process which changes the state of knowledge of an individual or organisation. A change in state of knowledge may take the form of the adoption of a new belief about new causal relationships, the modification of an existing belief, the abandonment of previously held belief, or a change in the degree of confidence with which an individual or individuals within an organisation hold a belief or set of beliefs.*” (Sanchez and Heene, 1997 p6). Knowledge in this situation while accumulating and depleting, is a changing element embedded in organisational experience. In the next part of the paper, we expand this idea further

KNOWLEDGE ACCUMULATION

Implicit in these definitions and explanations is the role that learning and unlearning has in the ‘changing’ of beliefs - akin the level of accumulated knowledge. (Warren, 2001, 2002) argues that firms need powerful tools for operationalising the accumulation and depletion of what are referred to as strategic ‘asset-stocks’ (Dierickx and Cool, 1989). He also argues that System Dynamics (Forrester, 1961, Sterman, 2000) provides ideal tools to create models of organisational performance as a resource building system.

Warren (2002) also suggests that the effectiveness of a resource building system is the relative capability in each resource-building activity, and that modest differences in capability building may result in substantially different business performance and competitive advantage over time. If organisations can learn from building and retaining resources, its capabilities will accumulate over time. The sum total across the whole organisation is a good indicator of an organisations learning capability.

The System Dynamics framework is able to represent learning leading to an accumulation of the stock of current knowledge and unlearning leading to a depletion of knowledge. Central to the System Dynamics framework is the concept of ‘stocks’ and ‘flows’ – that stocks are regulated by flows, akin to the level of water in a bathtub being regulated by inflows and outflows. In this analogy, learning and unlearning regulate the level of knowledge available. The dynamics of this system is shown as Figure3 below.

The System Dynamics iconography for stocks and flows consists of a series of ‘boxes’ and ‘arrows’. Accumulations and flows represent the organisational processes, with the stocks representing the accumulated stages arising from the flow of activity. Each flow has a circle, representing a tap (as an organisational process) that regulates the flow from one state to another. The stocks denote organisational “asset accumulations” holding a certain amount of “resource”.

Figure 3: Knowledge Accumulation System



Additionally, in integrating Nonaka's definitions, knowledge mediates and is mediated by an individual's mental models. Individual mental models and their collective manifestation in organisational culture are critical for knowledge accumulation and organisational learning. Mental models and organisation culture shape how we view the world and therefore determine the frameworks used as a basis of selecting courses of action. These frameworks also define how we reflect on and evaluate the action that forms new learning.

A model of this process is represented in Figure4 by the thin curved arrows to show the causal connections between the different elements. This cyclic process drives the knowledge accumulation process in organisations. It is this cyclic *rate* of learning and knowledge creation that is so important to competitive advantage. This integrated model of learning and knowledge creation is represented in Figure4.

Figure 4: A Model of Learning Capability for Knowledge Accumulation

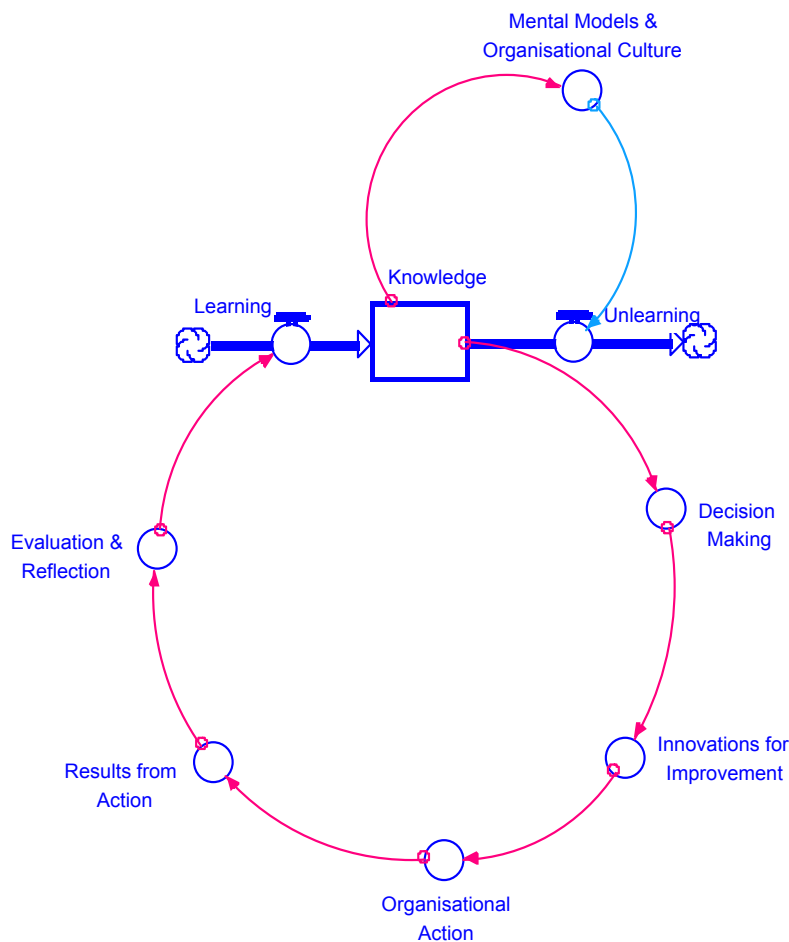


Figure 4 enhances the previous linear process flow to recognise the important interplay between mental models, beliefs, organisational learning in knowledge accumulation. It shows how knowledge, as a strategic resource in turn affects the decision-making in organisations and therefore the subsequent actions taken. The lower part of the model in Figure4 focuses on a domain of action while the upper part of the model focuses on the domain of learning. In this sense it is a model of Action and Learning – where action creates opportunities for learning that in turn affect future action in an ongoing cyclic model.

Acting is a part of the process of learning and therefore there are two different types of learning potentially occurring in this model. The first, in the lower part of the model, previously referred to

as the domain of action, is referred to as 'adaptive learning' (Senge, 1990). In this learning mode, new capabilities for management are created.

Organisations become more efficient by making improvements and amendments to systems and processes, but within an existing frame of reference. This is where efficiency and speed, in the form of routines as capability provide organisational leverage and contribute to competitive advantage. In the upper part of the model, a capacity to create anew is generated. This is the second type of learning that Senge (op cit) refers to as generative learning. In this mode of learning, organisations develop new perspectives, options and possibilities and frames of reference or frameworks of ideas (Checkland, 1985).

Other authors also suggest a distinction between two forms of learning – “single-loop learning” and “double-loop learning”, where the second is conceptualised as a change in a “frame of reference” or “governing variables (Argyris, 1999, Argyris and Schon, 1978).” In our model of Knowledge Accumulation in Figure4, double-loop learning has the same individual and organisational function as generative learning.

This more sophisticated understanding represents learning as a process of flows that lead to a change in the “strategic resources” (Warren, 2001). Here, the results of learning are new strategic resources in the form of the stock of “knowledge”. These organisational resource stocks are also the basis of action – for new organisational decision-making and taking action.

Our model is no longer representing a linear process flow model of knowledge accumulation rather an on-going circular 'feedback' system, where the existing conditions lead to changes in the surrounding conditions and the changed conditions become the basis for future learning and action (Forrester, 1992).

ORGANISATIONAL CLOCKSPEEDS AND LEARNING CYCLE-TIME

Senge (1990) defines a 'learning organisation' as “... *an organization that is continually expanding its capacity to create its future*”(p14). This perspective reinforces the notion that 'learning' in organisations is a dynamic process, linked to time and speed. This is consistent with the proposal in this paper that the key to is not only the *amount* of knowledge but also the *rate* at which new knowledge is created through the learning process. In this part of the paper we explore the experience to date with time and speed by using the concepts of Organisational Clockspeed and Learning Cycle-time. Organisational clockspeed refers specifically to adapting to the external competitive environment, and learning cycle-time refers to the internal rate at which learning must generate knowledge in the form of competitive advantage.

Speed is not 'absolute' and it is not speed alone that is important, but also the notion of pacing the natural organisational rhythm. Charles Fine suggests these natural rhythms exist as natural organisational clockspeeds (Fine, 1998). These natural rhythms as clockspeeds are generated within the 'supra-system' that is the business environment and system that the organisation finds itself within. Some examples of the determinants of business organisational clockspeeds include industry restructuring and technological innovation (Fine, op cit). The clockspeed of government organisations is related to annual government budget processes and the electoral cycles and political imperatives related to that cycle (Molineux and Haslett, 2003). Funding cycles in all organisations are another impact on the concept of clockspeeds.

In reflecting on the need to pace the natural organisational clockspeeds, cycle-time of learning and knowledge accumulation must match the natural clockspeeds of the organisations.

Our experience in our study to date suggests that the cycle-time of learning and knowledge accumulation must contribute new knowledge in a timely manner that coincides with the strategic decision-making cycles within the organisation. In offering a counter intuitive insight, our research

to date suggests that it may be more important to finish a cycle for knowledge production that coincides with the organisational clockspeed even if some element of quality is compromised in the short term. To be doing 'good work' but be operating in a long cycle that is out of step with the natural clockspeed of the organisation increases the risk of knowledge accumulation too late to provide a competitive advantage..

As a young organisation, we have yet to determine what natural rhythms and cycles operate in the Australian Tertiary Education Sector and our organisation in particular. However, work to date suggests the Australian academic calendar year is the natural clockspeed from which to operate with the majority of new tertiary students enrolled annually, at the beginning of academic semester 1 each year. Coinciding with this suggested 'natural rhythm' is that of the Monyx workforce of 750, over 450 of these are a casual workforce brought in for 'seasons' of activity that coincide with the commencement of academic semesters. These cyclic seasonal peaks of activity mean that cycles of organisational learning need to pace these same rhythms in time.

Our research study has revealed the natural cycle-time for innovation in Monyx is 60 days, with mid-cycle reviews after the first 30 days. This fits neatly in the middle of each Semester and balances the peak workloads associated with the beginning and ending of each Semester. This focuses innovation activity into a product mindset that embraces concepts of phasing, piloting, prototyping and other approaches to help complete work in the timely manner. This focus brings a strong 'action orientation' to our change program and drives the cycle-time of learning at a naturally sustainable rate.

Those organisations that create their own future have be referred to as 'architects of time', being proactive and creative, while those that are more adaptive and reactive are 'followers of time' (Kulkki, 2002). An explicit time-based dimension to learning for knowledge accumulation is a central insight developed over the life cycle of this action research project to date.

Having argued for a conceptual model showing the linkages and interdependencies, a question is what are the processes that operate the model and that bring the model to life? Earlier in the paper, we identified and defined "learning" as the generic name of these processes. The next part of the paper looks as this conceptual model through a lens of "infrastructures" in our case study of a medium-sized service delivery organisation in the Australian Tertiary Education System.

INFRASTRUCTURES FOR BUILDING A CAPABILITY FOR KNOWLEDGE ACCUMULATION AT MONYX

Monyx Pty Ltd is a recently formed University Campus-based service organisation focussed traditionally on delivering student services to the Tertiary Sector. Formed through the amalgamation of different service organisations across different Campus' of Monash University, the organisation has established a business strategy built around an explicit set of governing ideas and organisational values.⁴ One explicit organisational value is that of "Learning" - explicitly stated

⁴ In January 2000, Monash University brought together a group of student representatives and campus service providers to participate in a series of roundtable discussions. The purpose was to explore possibilities for a new seamless approach to the delivery of services at Monash University. Monash was keen to provide a consistent level of service at both the Australian and international campuses however this task was complicated by the different internal service provider organisations. These initial 'discussions' were held in spirit of exploration and co-operation with a view to providing a collaborative approach to service provision. The discussions, which resulted in the formation of Monyx, involved the student representatives and the University in adopting a set of guiding principles in early 2001 that are known as the "The Monyx Governing Ideas" within the new organisation. During the start up phase in the period mid-2001 to early 2002, a lengthy staff participative process was undertaken to define the values of the new organisation. Using the guiding ideas as determined by the owners, the staff determined a set of values to guide their behaviours. These are known as "The Monyx Values." These guiding ideas and values provide a sense of purpose and suggested behaviours for the conduct of the new organisation.

as *"we strive to enhance individual and organisational knowledge, skills and capacity in order to achieve our goals"*⁵. Without learning, there can be no improvement in performance.

The journey to knowledge is thus intertwined with the journey to learning - for Monyx the two are inseparable and interlinked within a knowledge accumulation process. Monyx is endeavouring to create "... an organisation skilled at creating, acquiring, and transferring knowledge and at modifying its behaviour to reflect new knowledge and insights" ((Garvin, 1993) p80). As such, they have taken the view that learning, and the knowledge that accumulates out of the process of learning, are strategic capabilities and resources. The effective management of these 'asset stocks' over time, when combined with other organisational capabilities, provides value to customers and members in the form of products and services that meet and satisfy needs to produce the results that are important to be a successful organisation.

However, for Monyx, the management of knowledge is not the point of leverage for systemic organisational change. Rather, knowledge is an emergent outcome built on a particular organisational culture – one typified by reflection, asking deep questions to inquire, seeking understanding, learning and a focus on delivering outstanding service to all stakeholders to achieve results.

Out of the events of daily organisational activity are new insights and knowledge that occur when individuals have new learnings

As a part of the Monyx organisational transformation, the explicit objective is to use its knowledge in future organisational activities. In Garvin's (1993) language, by modifying behaviour to reflect the new insights learned, Monyx is aiming to improve organisational performance and enhance its competitive position by improving the products and services provided to customers and other key stakeholders. It is only when the new knowledge is used, can the benefits of organisational learning and knowledge management begin to be seen.

A CONVERSATIONAL APPROACH TO KNOWLEDGE ACCUMULATION

In the conceptual model outlined in Figure4, knowledge management is an on-going cycle with an organisation's competitive position enhanced not through the amount of accumulated 'created', 'captured' or 'shared' or 'useable' knowledge, but by an increase in the speed of throughput of this knowledge accumulation model represented as the rate of learning. The quicker an organisation can cycle through this model, transferring the learnings and subsequent knowledge between iterations around this cycle, the more effective it will be. The leverage point then for knowledge management occurs on the 'taps' that regulate the flow – open the taps to increase the flow, and the cycle-time of the model increases. How then do you 'open the taps' of learning to increase the knowledge management process?

We have already addressed the organisational value of learning and the Monyx goal of creating a learning culture. Specifically, Monyx aims to have learning as an element central to all its activities – as it takes action, it learns what worked and what didn't, reflecting on why but also striving to improve through continuous improvement.

This philosophy of "learning (y)our way forward" is central to and consistent with the organisation's approach to knowledge accumulation.

⁵ Source: The Monyx Values. Internal organisational publication <<http://www.intranet.monyx.com/about/values.html>> last accessed 2/7/2004. Available from the Primary Author

INFRASTRUCTURES FOR CAPABILITY BUILDING...

Learning collaboratively through conversation describes the approach Monyx adopted. In taking a learning approach, learning through action and reflection are central. To follow around the model of knowledge accumulation as outlined in Figure 4, beginning with the results of the day to day activity of organisational life, the initial question out of these events is *What Did We Learn?* For each person, what did they notice that either confirmed or disconfirmed what they thought would happen? And this questioning engages them in conversations about these reflections that in turn feed into the organisational processes of learning

In this part of the paper, we outline the specific innovations in organisational infrastructures to facilitate the learning orientation Monyx has embraced in the last 30 months. In outlining these approaches, we describe the design of an infrastructure for learning that integrates the interdependent nature of the cultural change program outlined in the Monyx Guiding Ideas and Values (see footnote 2) with a set of organisational processes and physical artefacts central to a capability for learning and knowledge accumulation.

- **Action Learning/Reflection/Journalising**

A central and core element is giving organisational legitimacy to reflecting on what happened and what lessons were learned. However, for any learning or knowledge accumulation to occur, there must be a space and time for evaluation and reflection – to draw back from the day-to-day events and look at the trends, the novelty, the surprises... and the confirmations.

For the individual, there is a deliberate integration of taking action and then learning from this action in each iteration of activity. There is deliberate time and space for reflection and a formal approach to journal keeping, diarising and note taking for capturing the learning. Included are formal sessions dedicated to reflection and evaluation for the primary purpose of 'learning' for knowledge accumulation.

- **Collective Conversations**

The world of work is increasingly interdependent – where teams of people collaborate to provide value to customers and other stakeholders. In this newer reality of work, teams are increasingly the common work unit where people work collaboratively and learn collaboratively to create new knowledge.

To collate and capture the individual insights and learnings, Monyx has focussed on both the conversation-based processes and developed physical spaces for learning to foster interaction and participation. The initiatives aim to increase the breadth of organisational learning by creating more opportunities for Monyx people to become actively involved in "learning (y)our way forward."

- **Physical Spaces as Conversation Spaces**

(Nonaka and Konno, 1998) introduced the concept of 'ba' to the world of knowledge management. For Nonaka and Konno the learning and creation of knowledge occurs through the interactions amongst individuals. 'Ba' refers to the spaces where these interactions occur.

In Monyx, these 'conversation spaces' are where people create collective reflection through dialogue and conversation with the subsequent creation of new insight and knowledge. We have designed the organisational headquarters building with an informal layout consisting of open-office design supported by designated conversation rooms supported by whiteboards and flip-charts to give visual expression to verbal and written textual context.

- **Dialogue**

Dialogic conversations are a core enabler for the approach to learning and knowledge management in Monyx. While authors such as (Ellinor and Gerard, 1998), (Isaccs, 1999), (Senge, 1990), (Senge et al., 1994) and (Yankelovich, 1999) provide a comprehensive overview of what the core skills and capabilities of Dialogue are, it is perhaps (Bohm, 1996) who is able to make the clearest distinction between Dialogue and other forms of communication for the management of organisational knowledge. To communicate existing knowledge accurately to another person so as to *make common* something that already exists is what Bohm refers to as communication. However, in the creation of new knowledge, a different conversation mode is required where groups of people focus not on making common what is already known, but on creating something *in common* – which is then held in common. Bohm refers to creating something in common as the process of dialogue.

As a part of the cultural journey of making meaning and making sense of what is happening and in seeking to add value to customers and other stakeholders, the use of ‘Dialogue’ as an alternate conversational form has been a core activity for Monyx over the last 18 months.

- **Learning Studio and Project Studio**

With the goal of integrating learning with work, Monyx has created two common spaces for groups of people to come together and ‘interact’ to create knowledge. These spaces are a ‘learning studio’ and a ‘project studio’. The title ‘studio’ was chosen to explicitly change the orientation to one of ‘design’ activity – to one of designing systems and processes for organisational intent and to learn and create new knowledge and insight as they go.

Consistent with the approach of “learning (y)our way forward” and “learning by doing”, Monyx’s aim is to create knowledge in and through action. For many, this is a significant shift from the “training” era where learning was conducted by a trainer in a training room, and then “the trained” came back to “work” to apply this. For the knowledge worker and for knowledge-based organisations, the effectiveness of knowledge is in its application – it is knowledge for action, knowledge in action, and knowledge from action.

- **Conversation Café**

There is a recognition of the increasing complexity of the world of work today, and of organisational climates where mandated changes and directions from the ‘top’ of an organisation are less and less likely to be effectively implemented. This creates the need to facilitate a higher level of engagement and commitment in a large number of people who have to take collaborative action to be effective. One large-group process that Monyx has also embraced in the last 18 months is the Conversation Café (Brown, 2002).

A Conversation Café is a creative process for collaborative dialogue, sharing knowledge and creating shared understanding as a basis for future action in groups of all sizes. In this process, people come together to have conversations around topics and issues that matter to them and their organisation. As a metaphor, the “Café” provides a guiding image and set of innovative tools and methods for enhancing collective intelligence and creative futures.

One key aspect of the Café is the use of small-group technology – while a large-group process, groups of people sit in fours around a small coffee table and talk about the issue that is the theme for the day, and write on a sheet a butcher’s paper. We have found that, in this environment, participants are more likely to have the ‘real meeting in the meeting’ rather than in the bathrooms, over the drink-fountain or in the corridor. The small group creates a safe space. Café participants then rotate to different tables leaving one person behind, when they share the conversation points that emerged on the previous table groupings – not discussing who said

what rather than this was one issue or idea that we discussed. After several rotations, who said what doesn't matter – it's the idea that matters.

The Conversation Café is one practical application of the concept of a physical 'ba' ((Nonaka and Konno, 1998) where people come together to interact.

This dynamic is a clear example of how organisations can foster authentic learning conversations and knowledge creating and sharing among people of varied backgrounds and work settings – irrespective of whether they had formal “dialogue training” or not. “What matters topics” have been used to create shared understanding and knowledge from the collective interaction of up to 70 people at one time. Small groups appear to be a safe environment for the real issues to emerge – rather than the learning being subjected to overtly political or positional considerations.⁶

- **Learning History**

Building on conversations, one tool that Monyx has used for organisational-wide learning and the transfer and diffusion of that learning is the “Learning History” (Kleiner and Roth, 1997, 2000, Roth and Kleiner, 1998, 2000). This method captures learning from one situation or team, describes what happens in a process of learning and change, and makes it available for others as a source of learning and new knowledge.

During 2002, Monyx created its Core Theory of Success, a business model outlining the core elements required for organisational wide success. This process was subsequently captured and documented in a Learning History (O'Brien, 2003).

For Monyx, the Learning History approach compliments other strategies including reflection and the group-focused tools and methods typified in the use of Communities of Practice. However, its primary purpose is to promote learning conversation as a form of conversation-based-learning.

- **Strategic Images/Cartoons**

Design and intention are core elements to a learning and knowledge strategy – to give effect to the future intention in what is a dynamic and challenging business environment. To compliment the written and verbal aspect of learning and knowledge management, Monyx has also embraced the use of strategic images, graphics, pictures and cartoons to give meaning to the work they do. We've found that many people give effect to what is extremely difficult to describe in words and in writing, by metaphor and in the use of pictures and story. There is an old adage that 'a picture is worth a thousand words.' People have a far greater capacity to recall a strategic image as an artefact of knowledge, insight or wisdom than the key points in a 1000-word report. Many more people will remember a drawing and its symbolic significance than that which is immediately recalled from a written minutes or reports, or from an organisational rulebook, procedure manual or best practice guide.

- **Monyx Projects**

Speed of implementation is based on approaches that are explicitly intertwined with processes of innovation and reflection. Over the last 18 months, under the rubric of 'Monyx Projects', organisational wide innovation and change initiatives have resulted in organisation-wide action. Monyx has developed a 'capability for learning' using a project management nomenclature that affects the whole of the organisation, rather than local pockets or the temporary project teams established to explore the specific task or topic. Some examples of this include an

⁶ For more information of the Conversation Café, see <www.theworldcafe.com>.

organisational wide service strategy framework, a recruitment and induction package, and a branding protocol and framework for the new organisation.

As previously discussed with reference to 'clockspeed', by increasing the throughput while pacing the natural organisational cycles, and using Monyx Projects as an organising framework, Monyx seeks to increase the rate of learning. This increase in innovation and change efficiency is developing into an organisational wide capability for knowledge accumulation that is effective in meeting and exceeding the rate of stakeholder expectation change, that contributes significantly to sustainable competitive advantage.

- **Communities of Practice**

Over the last 2 years, Monyx has been undertaking an in-house Executive Development program structured around a University Master In Management Degree. This cohort group of students, numbering 25, has developed a common work focus centred on individual and organisational. Sharing in common the pursuit of the academic qualification and organisational improvement, the student group share a common element of their every-day work, including a common language.

Leveraging the learnings from the Masters Degree through work-based assessable assignments and presentations, as well as capturing the learnings in the form of useful tools and methods, this group of Masters Degree students are akin to a Community of Practice (Brown and Duguid, 1991).

As a community of practice, the Masters group setting is important as a catalyst for what people learn and how they learn (Wenger, 1998). While not explicitly referring to themselves as a learning community or community of practice, the group captures, shares and implements highly esoteric knowledge for organisational improvement (Brown and Duguid, 2000). Within what is a 'safe space' for learning that occurs when the group comes together, individuals observe other's ideas and thoughts, review and evaluate practices, and rethink their own theories and assumptions. From this group, learning and change generate new systems and processes, products and services as primary processes for sustainable competitive advantage.

According to (Argyris et al., 1985), Action Science aims to have practitioners (students) build and then test 'theories of practice' for the purpose of learning – expressing this as the creation of communities of inquiry in communities of practice (1985: 34). They define a community of practice as professional – in the Monyx example, it is professional managers engaged in a common academic study - who share a common 'language of practice' – Masters-speak – learning in the course of their education... (pg 30)" The common language constitutes a boundary of a community of practice, making action intelligible and acceptable to the members of the community, but not necessarily to outsiders. Our Masters group is a special community of inquiry – a special form of community of practice whose central activity is the creation of knowledge (Argyris et al., 1985).

A core goal of the Masters, in addition to content knowledge, is to help the students discover the otherwise 'tacit' choices they have made about their assumptions of reality, and by increasing the knowledge they have over their choices, they can be more effective in the achievement of outcomes.

- **Reflecting, Sensemaking and Making Sense using Causal Loop Diagrams**

Knowledge management behaviours incorporating reflection has been another central idea adopted by Monyx – the idea that we retrospectively make sense of a situation after the event, and our contribution to that situation. Consistent with the idea that sensemaking occurs retrospectively (Weick, 1995), the 'stock' of organizational knowledge is seen as continually

being refreshed through processes of selection and retention, as well as unlearning, as outlined in Figure 4.

As a retrospectively imposed structure on our experience, Monyx has made extensive use of what are variously referred to as influence diagrams (Coyle, 2000) and causal-loop diagrams (Senge, 1990). Preferring to use the later term, Monyx has made significant use of Causal Loop Diagrams to make sense of organisational action.⁷

A causal loop diagram is a form of knowledge – and while expressed diagrammatically, is often accompanied by a narrative as a set of events linked together sequentially. The logic of a narrative is not “if – then – else...” rather it is a sequential “first – second – third...” logic where the sequence of events imply a plot of a story.

For example, in 2003 the central communication device in a Board Submission revolved around a Causal Loop diagram, locally referred to as the “Tragedy of the CAF” that explained how competing parties in the organisation were competing against each other for increasing resources, with the unintended consequence of student fee increases reaching a threshold limit beyond which further rises were not able to be automatically applied.

- **Visualisation, Conversation Starters and Conversation Records**

Consistent with the picture complimenting the word, is the meaning that comes from conversation starters and visually based conversation records, rather than meeting minutes or action items. Monyx is using “conversation starters” and “conversation records” as a unique approach to initiating and recording significant gatherings and making these readily available. While specifically designed for the participants, they evoke an emotional recall to compliment the fact-based component of new knowledge and have been found to be useful for others who were unable to directly participate in a particular conversation. Central to this is the use of both high and low tech interventions - digital technologies are used to record and capture information that otherwise might not get stored and whiteboard notes that would otherwise get erased, butchers paper technology is used and store artefacts of the events, and video tapes of presentations and other organisational events. Without such complimentary tools and methods, conversation based learning may be likely to become subject to the human deficiencies of heuristic and biases (Kahneman et al., 1982) that can lead to incomplete recall and inaccurate learning.

SUMMARY OF THE CONVERSATIONAL-BASED LEARNING APPROACH

Organisations work the way they do because people work the way they do. And people work the way they do because of the way they think. Therefore, if you want to change the way people work, then you need to enable people to think differently. In the language of (Argyris and Schon, 1978) and (Argyris, 1999), we are enabling people to engage in “double-loop learning” and in the language of Checkland (1985), to reflect on their framework of ideas – in the language of our model of Learning Capability for Knowledge Accumulation at Figure 4, to change their mental models.

When taken together, these innovations in infrastructure have changed the behaviour of people by giving them a different experience that includes the opportunity to learn. As elements of a knowledge accumulation system, the components will be modified, enhanced and added to so as to create even more opportunities for Monyx people to further contribute to the accumulation of knowledge for action as they interact with each other, as they interact with customers and as they interact with other stakeholders – to “learn (y)our way forward” to provide sustainable competitive advantage.

⁷ For a detailed explanation on Causal Loop diagrams, see Senge (1990), Senge et al (1994).

BUILDING CAPABILITY FOR KNOWLEDGE ACCUMULATION

In the Monyx journey toward building a new organisation, we have been focussed on building capabilities for knowledge accumulation through narrative and conversation. The progress can be thought of as a set of reflective cycles where action creates learning which in itself is the basis of further action as expressed in Figure 4. This cyclic learning acknowledges the dynamic nature of the organisation's knowledge, and helps to adjust direction and appreciate that this emergence is the natural outcome of taking action.

In this paper, we have demonstrated one approach by creating an organisational and cultural infrastructure based on narrative conversation as the basis of a knowledge accumulation model. For individuals, personal reflection forms the basis of action learning. For large groups of people wanting to talk about things that matter, the Conversation Café approach is one method that Monyx has used extensively to great success. Visualisation, visual images and cartoons are another approach to engage large numbers of people on a journey of knowledge accumulation.

What approach an organisation chooses to follow will depend, not so much on the destination, but the nature of the journey. For Monyx, we have initially focused on designing an infrastructure for knowledge accumulation. We have followed an unswerving commitment to the pervasive principles of designing for narrative and conversation-based learning: designing the physical space, designing the process, and designing the culture. These elements are intimately interdependent and provide energy that is central to a learning capability. Taken together they form the foundation of what Monyx believes will be a capability for knowledge accumulation that will deliver it the holy grail of a sustainable competitive advantage.

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