A Feedback Model of Knowledge-Creation Using Conversation-Based Learning

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Abstract:

In this paper, the authors draw on their practical experience in a mid-sized service organisation to offer a conceptualisation of Knowledge Management (KM) as a dynamic feedback system. In this conceptualisation, appropriate learning and innovation systems support a free-flow of experiences and insights in a series of productive conversations and dialogues that provide energy to leverage in the creation and flow of "knowledge" as an ongoing dynamic feedback system.

Keywords: knowledge management, learning, dynamic feedback system.

Introduction

In order to remain competitive and survive, organisations must anticipate and seek feedback about the changes that occur in their business environment. While “systems theorists” have been long aware of the concept of open systems theory (von Bertalanffy (1950), Emery (1981)), the centrality of the relationship between the organisation and its environment has placed learning processes not only on the agenda of academics and researchers, but also on the business agenda of practising managers.

However the creation and sustainability of a competitive advantage is a challenging task. Prahalad and Hamel (1990) suggest to gain this competitive advantage, organisations must be structured on the basis of their ‘core-competence’ and leverage these competencies in dynamically changing environments (Hamel and Heene (1994), Heene and Sanchez (1996), Sanchez, Heene and Thomas (1996) quoted in Sanchez and Heene (1997)). Linking the ideas of core competence with the proposition by de Geus (1988) that the only sustainable competitive advantage is an organisation’s ability to share knowledge and learn, knowledge and learning are considered central to success in today’s complex environment. Sanchez and Heene (1997) reinforce this notion stating, *“The search for competitive advantage, however challenges organizations to become more effective in using their existing knowledge to greatest strategic advantage”* (pxiii).

This “strategic” knowledge has become a marketable commodity in the business world in the post-industrial era and thus a key organisational resource becomes what Peter Drucker termed almost 40 years ago and Zuboff popularised 15 years ago, *"the knowledge worker”* (Drucker 1964, p8).

With the associated recognition of a new form of work, "knowledge work", seen as an imperative to business success and survival, there is a flurry of interest into its meaning, importance and implications as organisations seek to find ways to create and manage knowledge efficiently and effectively. For example, while these "knowledge workers" have always been around but traditionally only at senior levels. This new era is one in which knowledge is now more diffused and therefore is harder to identify. This therefore creates new challenges for organisations in these highly complex and competitive environments.

There are arguably two types of approaches[1] to the field of organisational learning and knowledge management in this "knowledge era":

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 formers focus on knowledge management has been typified by organisations employing the latest technology. 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 tacit knowledge of their members and leverage this for their ongoing viability and sustainability.

In this paper we are exploring "knowledge as process." We propose that knowledge and 'knowing' is a cultural process and is the cumulative result of a learning orientation. 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-creation through learning.

Integral to this is the development of a range of innovations aimed at creating conversations, dialogues, visual images and other interactions to achieve innovation in service delivery. These are indicative of the wide range of conversation-based processes necessary to facilitated learning and are outside the traditional organizational innovation processes.

It is this organisation's experience that these innovations are part of creating a learningful culture that stresses the importance of the interdependency between an organisation and its members. The paper outlines several new approaches that recognise the power of conversation-based learning.

What is Knowledge-Creation - The Literature?

While it seems intuitive that people share a common understanding of the term "knowledge", when it comes to defining the expressions such as "knowledge-creation" and "knowledge management" and associated themes, knowledge means many different things to many different people.

As Boisot (2002) observes, *"…terms such as knowledge, information and data are often used interchangeably in causal conversations, and this can lead to sloppy thinking on the topic of knowledge management"* (p67). Choo and Bontis (2002) consider knowledge management an umbrella term and assess it against the following categories: knowledge in organisation, knowledge based perspective of the firm, knowledge strategy, knowledge strategy in practice, knowledge-

[1] Adapted from Pawlowsky, P. (2001). The Treatment of Organizational Learning in Management Science. In Dierkes, M., Berthoin Antal, A., Child, J. and Nonaka, I. (Eds.) *Handbook of Organizational Learning and Knowledge*. Oxford,

creation, knowledge across boundaries and, managing intellectual capital. Knowledge management is clearly an eclectic field.

A literature review conducted by Yau (2003) further reinforces the diverse perspectives on the topic of knowledge management referencing the subdivision of knowledge into its constituent parts by many authors in the field. The following table is adapted from Yau's 2003 study:

Author	Types of Knowledge Defined
Blackler (1995)	embodied, embedded, embrained, encultured, encoded
Boisot (1995))	proprietary, public, personal commonsense
Choo (1998); Choo, Detlor and Turnbull (2000)	tacit, explicit, cultural
Conklin (1996)	formal, informal
Rulke, Zaheer and Anderson (1998)	transactive, resource
Spender (1998)	explicit, implicit, individual, collective
Polanyi (1958)	tacit, focal

Table 1: Different types of knowledge (Source: Stenmark (2001), Stenmark (2002) Hildreth and Kimble (2002) - adapted from Yau (2003))

Returning to the categorisation of data, information and knowledge, Boisot (2002) posits that data exists in the world of activity, that knowledge in the people acting in that world, and information has a mediating role between them. There is a notion of flow in this description – that data can turn into information and progress to a higher state of knowledge as "informed or reflected action". This process flow is outlined in Figure 1 below:

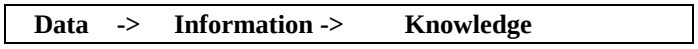

Figure 1: Knowledge-Creation Process Flow

Barabba, Pourdehnad and Ackoff (2002) express a similar concern to Boisot regarding the somewhat interchangeable use of these terms. *"It is a huge mistake to be blinded to the real and powerful distinctions in meanings of data, information and knowledge… The differences between data, information, and knowledge are as crisp as those between calculus differentials or quantum levels* (Barabba *et al.* 2002, p. 359).

Ackoff (1999) and Barabba et al. (2002) add the two additional terms of 'understanding' and 'wisdom' to the nomenclature of the knowledge management hierarchy. *"Information is more valuable than data, knowledge more valuable than information, understanding more valuable than knowledge, and wisdom more valuable than understanding"* (Barabba *et al.* 2002, p. 361).

In Figure 2 below, Ackoff (1999) and Barabba's (2002) hierarchy is mapped as an enhancement to the Knowledge-Creation Process Flow presented as Figure 1:

Data -> **Information** -> **Knowledge** -> **Understanding**-> **Wisdom**

Figure 2: Enhanced Knowledge-Creation Process Flow

Ackoff (1999) and Barabba et al. (2002) go on to define these terms and to make the distinctions in meanings that they believe is missing from much of the knowledge management literature:

- *Data:* symbols that represent properties of objects and events as the result of observation.
- *Information:* descriptions that answer questions such as *who, where, when, what,* and *how many*.
- *Knowledge:* instructions that answer *how* questions.
- *Understanding:* explanations that answer *why* questions.
- *Wisdom:* reveals answers to how things *ought* to be.

As stated above, data represented as symbols is not much use until it is processed into a useful form for an organisation and constitutes information. Similarly, information becomes more valuable when it is transformed into knowledge. Using these first 3 classifications and definitions, the knowledge management process is largely prescriptive – in a stable situation, where there is continuity and no change, this is adequate for the 'organisation' or system to be effective – to remain competitive and survive.

However, if we accept the principle outlined in the Introduction to this paper, that organisations are open systems, then we need to introduce a 'learning' dimension to our conceptualisation of knowledge management. Specifically, the two added classifications added by Ackoff (op cit) and Barabba (op cit) introduce context, purpose and intentionality to our conceptualisation. Nonaka, Reinmoller and Toyama (2001) refer to 'understanding' and 'wisdom' as higher states of knowledge, grounded in purposeful action. We will expand on this in the next section.

We can reconceptualise Figure 2 using the System Dynamics iconography of stocks and flows. Figure 3 below consists of a series of 'boxes' and 'arrows'. The arrows represent the organisational process flows in this model, with the rectangular boxes representing the accumulated stages arising from the flow of activity. Each arrow has a circle, representing a tap (as an organisational process) that regulates the flow from one state to another – eg: from data to information etc. The rectangular boxes denote "containers" or organisational "asset stocks" holding a certain amount of "resource".

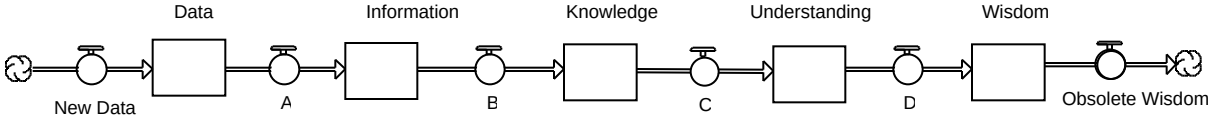

Figure 3: A stock-flow process flow diagram of a knowledge-creating system

Beginning with “data” that arises from organisational activities that generate new data, as it is processed it accumulates in a new state called “information”. This occurs as a result of a process labelled "A". Information is then converted through a process labelled "B" into “knowledge”: knowledge into “understanding” and understanding into “wisdom” that can eventually become obsolete as a result of forgetting or un-learning stemming from new learnings.

In Figure 3, we follow the Sanchez and Heene (1997) definition of “learning” and apply it to the activities denoted as “A”, “B”, “C”, and “D” as organisational processes of learning. *“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, p 6).

Consistent with our conception of organisations as open systems (von Bertalanffy (1950), Emery (1981)) and that organisations consist of asset stocks and flows (Dierickx and Cool (1989), there is a maturing of ideas or beliefs categorised by Ackoff (1999) and Barabba et al. (2002) where learning is the process represented as flows that lead to a change in the levels of what Warren refers to as “strategic resources” (Warren 2001). The results of learning are new strategic resources in the form of stocks of “data”, “information”, “knowledge”, “understanding”, and “wisdom”. We return to describing these organisational processes “A”, “B”, “C”, and “D” and the related concepts of asset stocks later in this paper under the heading of “conversational-based learning”.

Higher States of Knowledge

Nonaka *et al.* (2001) argue that these higher states in our model are fundamentally different from information and data, being *“…grounded in values, experience and purposeful action. Knowledge is meaningful; it is relational and context-specific, for it is continuously created in and justified in a changing environment… Knowledge must be understood in its context in order to become meaningful. Knowledge is fragile, for it depends on beliefs and commitment. Mental models, perspectives, and intentions are essential to knowledge…knowledge-creation is a dynamic human process of justifying a personal belief directed towards the truth…”* (p 828).

Figure 4 enhances this previously linearly conceptualised stock-flow process flow model to recognise the important interplay between mental models and beliefs, organisational learning and knowledge-creation. It shows how the collection of knowledge-created resources in turn affects the decision-making in organisations and therefore the subsequent actions taken. The lower part of the model in Figure 4 can be thought of as focussing on a domain of action while the upper part of the model on organisational learning. In this sense it is a model of Action and Learning – where action creates opportunities for learning that inturn affect future action in an ongoing cyclic model.

Individual mental models and intentionality and their collective manifestation in organisational intent and culture is critical for knowledge-creation and organisational learning. Existing mental models frame how we view the world and therefore determine which processes we choose to use for converting data to information, information to knowledge, knowledge to understanding, and understanding to wisdom.

This is represented in Figure 4 by the thin dashed curved arrows to show the causal connections among and between different elements in the upper part of the model and is consistent with the concept of learning new frames of reference or frameworks of ideas (Checkland 1985). Argyris and Schon (1978) and Argyris (1999) suggest 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."

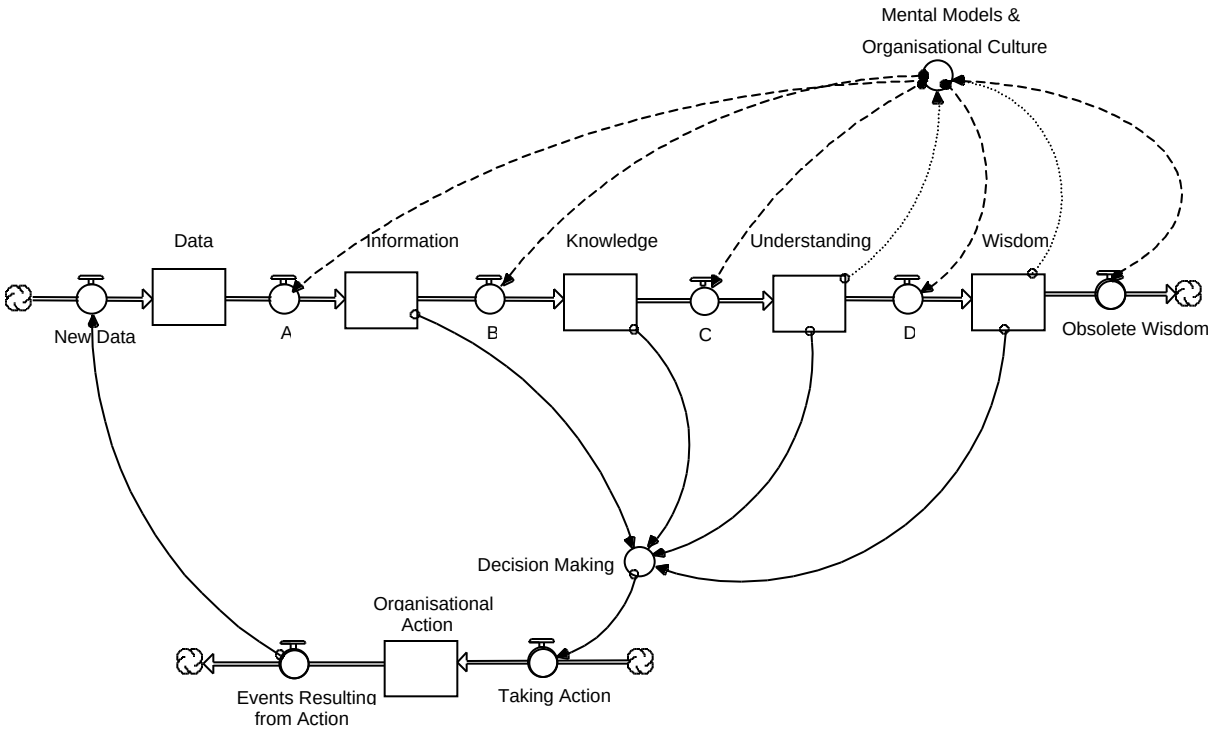

Figure 4: A Feedback Model of Knowledge-Creation for Organisational Learning

These changed frameworks, (mental models manifested as organisational culture) affect the decisions that organisations make since they affect the asset stocks or organisational resources used in organisational decision-making. The accumulated understanding and wisdom arising from action are what influence and change mental models and therefore how organisational members look at the world. Mental models lead us to notice only certain characteristics of a situation and therefore they directly affect the knowledge-creation process. The thin dashed curved arrows again represent causal connections between 'understanding' and 'wisdom' as organisational resources accumulated over time and how they influence our mental models, and how mental models lead to selective perception and directly affect how organisations select new knowledge artefacts in the form of information, knowledge, understanding and wisdom.

In what is a cyclic feedback process, the mental models affect the organisational resources of "information", "knowledge", "understanding", and "wisdom" and through the processes of learning, these organisational resources, in turn affect the mental models. These organisational resource stocks are also the basis of action – for new organisational decision-making and taking action. In taking action, organisations create new events from which data is extracted and the cyclic process continues. Implicitly, knowledge-creation and organisational learning can be seen as an activity of continuous adaptation to contextual change.

Our model is no longer representing a linear process flow model of knowledge-creation rather an on-going circular dynamic '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).

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 "conversation-based learning" in a medium-sized service delivery organisation.

What is Knowledge-Creation - 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.[2] One explicit organisational value is that of "Learning" - explicitly stated as *"we strive to enhance individual and organisational knowledge, skills and capacity in order to achieve our goals"*[3]. 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-creation 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 'assets' over time, when combined with other organisational competencies, provides value to customers and members in the

[2] 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 know 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.

[3] Source: The Monyx Values. Internal organisational publication http://www.intranet.monyx.com/about/values.html Last accessed 18/8/2003. Available from the Primary Author

form of products and services that meet and satisfy needs to produce the results that are important to be a successful organisation.

These elements are central to the organisation's "Core Theory of Success" that defines Monyx's approach to business success (Figure 5.) Through cultural change that creates not only a great place to work but encourages and connects to the need to continuously learn, then Monyx can provide great services that enhances relationships with all stakeholders delivering the results it needs for ongoing sustainability.

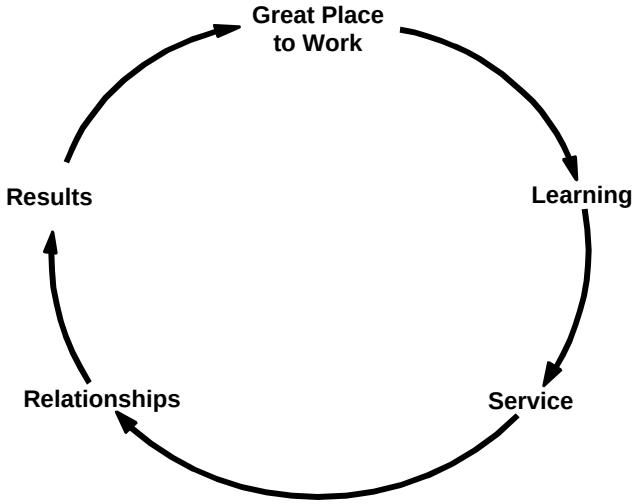

Figure 5: Monyx "Core Theory of Success"

Learning and the knowledge derived are central to this organisation's "Core Theory of Success" – that the management of knowledge and working in a different relationship with key stakeholders is central to their competitive advantage and provides unique insights into creating a unique value proposition for their stakeholders.

However, for Monyx, the management of knowledge is not the point of leverage for systemic organisational change. Rather, knowledge-creation 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.

Out of the events of daily organisational activity are new insights and knowledge that occur when individuals have new learnings. If a culture does not recognise, encourage or reward sharing of learnings, this is the end of knowledge management. In fact, it would never start - any new knowledge created stays within the domain of the individual and is not made available to others in the organisation as a commonly available "knowable knowledge". There is no maturing to 'higher-order' resource assets as described by Nonaka *et al.* (2001) as represented as "understanding" and "wisdom" described by Ackoff (1999) and Barabba *et al.* (2002)

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-Creation

In the conceptual model outlined in Figure 4, 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 throughput of this knowledge-creation model. The quicker an organisation can cycle through this model from event to event, 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 learningful 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-creation.

So to open the taps, in our model we argue that learning is central to the flow of activity between each stage in the knowledge-creation model. For Monyx, conversation is how learning occurs and is the organisation's response at each leverage-point in the model.

Conversational-Based Learning

Underpinning the Monyx approach to learning is a belief in the people who are Monyx and their capability and desire to want to make a difference for their customers and themselves, and in doing so create a great place to work – together. People are the experts and they know what is needed to improve the level of customer satisfaction, achieve results that are truly important for all stakeholders and in the process improve their level of job satisfaction by doing things better.

Learning collaboratively through conversation describes the approach adopted. In taking a learningful approach, learning through action and reflection are central. To follow the feedback model in Figure 4, around the feedback model of knowledge-creation as outlined in Figure 4, beginning with the day to day events 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 inturn feed into the activities denoted as "A", "B", "C", and "D" as the organisational processes of learning

In this part of the paper, we introduce the concept of conversation-based learning tools and methods Monyx has embraced in the last 18 months. In outlining these conversation-based learning 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 organisational learning and knowledge-creation.

- **Action Learning/Reflection/Journalising**

A central and core element to a learningful approach and knowledge management as a cultural challenge is giving organisational legitimacy to reflect on what happened and what lessons were learned? However, for any learning or knowledge-creation 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 semi-formal approach to journal keeping, diarising and note taking.

- **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 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 (op cit), 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. They have physically 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), Isaacs (1999), Senge (1990), Senge, Kleiner, Roberts, Ross and Smith (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 on not making common what is already known, but 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 have 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**

The 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 12 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 doodle on a sheet a butchers paper. We have found 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 that 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 learningful 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.[4]

· **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, the way they do what they do, and why they do what they do the way they do it! They'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.

· **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 the 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, Slovic and Teverskey 1982) that can lead to incomplete recall and inaccurate learning.

· **Summary of the Conversational-Based Learning "System"**

[4] For more information of the Conversation Café, see www.theworldcafe.com and the developers of the methodology,

Organisations work the way they do because people work the way they do. And people work they way they do because of the way they think. Therefore, if you want to change the way people work, if you want people to behave differently, then you need to enable to people to think differently; in the language of Argyris and Schon (1978) and Argyris (1999), 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 Dynamic Feedback Model, to change their mental models.

When taken together, the conversational-based learning approach has a deliberate intent to change the behaviour of people by giving them a different experience that includes the tools and methods and opportunity to learn. As a conversational-based learning system, the components will be modified, enhanced and added to create even more opportunities for Monyx people to create meaning and understanding as they interact with each other, as they interact with customers and as they interact with other stakeholders – to "learn (y)our way forward."

Future

In the initial period of the Monyx journey toward building a new organisation, they have been focussed on building capabilities for organisational learning through conversation. However, it is helpful to conceptualise the progress in building these learning capabilities as a learning journey in itself. The progress can thought of as a set of reflective cycles where action creates learning which in itself is the basis of further action as expressed in the feedback model in Figure 4. This cyclic learning acknowledges the dynamic nature of the organisation's understandings and wisdom, and helps to adjust direction and appreciate that this emergence is the natural outcome of taking action. This is the embodiment of a learning organisation and the conceptualisation of a feedback model of knowledge-creation.

In this paper, we have demonstrated one approach to creating an organisational and cultural infrastructure based on dialogic conversation as the basis of a learning approach. 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 and visual images and cartoons is another approach to engage large numbers of people on a journey of knowledge-creation and learning to create shared understanding and wisdom.

What approach an organisation chooses to follow will depend, not so much on the destination, but the nature of the journey. For Monyx, they have initially focused on designing an infrastructure for learning and knowledge creation. They have followed an unswerving commitment to the pervasive principles of designing for conversation-based learning: designing the physical space, designing the process, and designing the culture. These elements are intimately interdependent. They provide energy to the Feedback Model of Knowledge-Creation, and together they form the foundation of what Monyx believes will be an effective learning organisation.

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