

# Know-how and Workforce Planning

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## Introduction

This paper will address organisational knowledge management in the context of workforce planning. Complexity theory will be used to explain organisations and knowledge systems that maintain and support the function of these organisations. We consider organisations as complex. Their behavioural characteristics may be described as adaptive and self-organising with emergent properties. These complexity characteristics imply that organisations are highly dynamic with a natural propensity to create and adapt a range of knowledge and knowing.

We will introduce the concept of Know-how and its relationship to workforce planning. Our contention is that understanding the dynamics of Know-how embedded in an organisation is important to organising and enhancing the capability of a sustainable and motivated work force.

Particularly important is the potential loss of the knowledge and ‘know-how’ as the workforce responds to major systems pressures including:

- Retirement of significant numbers of staff due to the aging profile of the workforce
- Changing workforce patterns resulting in less stable workgroups and loss of capability
- Attracting the ‘best and brightest’ people.

We build and support our findings from work including a recently completed project where understanding the Know-how dynamics was undertaken as the first stage of workforce planning.

## Complexity Background

Complexity theory is starting to make noticeable inroads into organisational management practice. There are a number of discourses in progress and it is not the intention of this paper to review and discuss their merits or failings. The authors have considered and applied complexity in two ways, the first as a framework to make better sense of the dynamics in play in the social ecologies of a large public sector organisation, and the second, to influence the development of different approaches to problem solving specifically related to workforce planning.

In relation to know-how and workforce planning it is important to understand the key complexity concepts informing the work undertaken. The principal position is that the environment within which we operate is defined by complex interactions that are inherently unpredictable or at least imprecise and emergent. This environment, meaning both the organisational environment and the external environment it interacts

with, is dynamic, and causes the organisation to oscillate between order and degrees of chaos in response to predictable and unpredictable stimuli.

Our interaction with, and co-creation of, our environment defines **Human Experiential Space (HES)** (Kuhn, L 2003 et al) of which at any moment we occupy only a fraction of its potential. Within HES organisations have a strong disposition to create order through predictable and replicable processes. The actions we take to create predictability are the same as those we take to create use and share knowledge. Order and chaos are not only polarities of our environment and experience they are also only narrow zones affecting that experience. Within HES we intuitively, sometimes consciously, work with the complex interactions between chaos and order to adapt to our environment; chaotic dynamics enable us to create new insights whilst those of order enable us to apply and consolidate the new insights we choose to work with. Even so, they dominate our worldviews, chaos is seen as destructive at worst or uncomfortable at best and order underpins our major scientific and management ideals for guaranteed repeatability of actions and processes.

Other major concepts from Complexity Theory that were utilised in our approach were self-organisation, emergence, fractals, attractors, and “edge of chaos”.

**Self-organisation** is a core property of complex entities such as human organisations and describes the ability to create structure without external assistance.

**Emergent Properties** arise from the interaction of ideas and forces around problem resolution. They rarely surface without some form of activity and or stress on the system and if that does happen they are often missed, as their signature is usually slight when they occur in steady as she goes environments.

**Fractals** are similar structures that repeat at different levels within a complex dynamic system. They are wholes within wholes that differ in detail from each other depending on the scale at which they are viewed. In organisations for example they may be the values held by individuals, work groups and the organisation relating to sharing knowledge or innovation.

**Edge of chaos** is often used to describe working near the “uncomfortable chaotic” zone and is very closely linked to ‘a zone of innovation’ and out-of-the-square thinking.

**Attractors** are the focal points around which activities concentrate. They exert powerful forces on systems and their behaviour. Practically attractors act to focus conversation, effort and the energies of people. Attractors operate independently of the official organisation.

## **Narratology**

The major human construct we work with is narrative. From a complexity view narrative underpins human dynamics and is the foundation for constructing, articulating and sharing our knowing of our environment. The structure and context of narrative is all-important for meaning and acting, and builds know-how. The communication of HES is only possible through narrative. If we look at both individuals and groups the dynamics in play include: history, production, values and ethics, culture, communication, language, information, symbols, conversation, stories, myths and legends. These dynamics are dominated by narrative and represent a

multiplicity of approaches to making sense of our environment and how we then share that understanding with others to act in that environment. Facts form a small part of this sense making, yet they dominate the methodologies that we use to make decisions in organisations.

The dominant discourse in organisations today is centred on a mechanistic view of the world that is strongly influenced by Cartesian Logic. It is the foundation of “scientific management” that not only values but also assumes that social dynamics in organisations can be reduced to quantifiable, repeatable elements and processes. In the mechanistic discourse there is an implicit assumption of absolute truths; the facts stand alone.

The alternate view, to which the authors subscribe, is the organic view that supports multiple perspectives each of which contribute to our understanding of the processes in play. Facts then are one of the ways of knowing and are themselves a form of narrative subject to the same rules of construction and intent as stories, myths, anecdotes, histories and other “non-scientific” ways of communicating.

Narrative has a multiplicity of meaning in its constructs. This meaning is both implied and deliberate and both specific and vague. There is an inherent ambiguity that forms part of narrative an ambiguity we can describe as deliberately fuzzy. A key characteristic of this fuzziness is that the more specific we attempt to be in our definitions and descriptions the less precise they become. Another way of viewing this paradox is that as we try to constrain and define the boundary of what we mean in our attempt to get clarity and agreement the more we uncover the differences in views and interpretations that others hold on the subject in focus. What we are very good at is working with fuzzy notions most easily represented as patterns of meaning. We can all agree on generality but will differ as we try to be more specific.

In working with narrative structure is important for not only what has been said but also the way in which it is said, what is omitted or alluded to, and the context in which it occurs.

## **Knowledge and Know-how**

We take the position that human knowing is complex and multidimensional encompassing many forms, such as explicit, tacit, tangible and intangible. Along with Snowden (2000:2) we subscribe to the view that “Managing knowledge is more akin to managing a complex ecology of interdependence, unpredictable and fluid entities than it is to designing and maintaining a sophisticated machine”.

As described by Kuhn, L., Woog R., and Hodgson. M, (2003) Knowledge refers to a variety of ideas, skills and techniques, facts, propositions, information as well as rituals, procedures and other artefacts of these things. In describing and discussing the dynamic and complex nature of knowledge in organisations, including its creation, access and use, it is useful to identify two forms of knowledge: borrowed knowledge and generated knowledge.

Borrowed knowledge is characteristically represented and ‘stored’ in books or other media, such as formulas, calculations, texts and other recordings and is commonly

brought into organisations by consultants, or staff (agents) returning from conferences or from educational institutions.

Generated knowledge is created by the individual or work group and does not exist outside the boundary (time and space) of the organisation. It is contextual and directly contributes to an organisation's ongoing evolution. Generated knowledge as we describe it is 'constructed' either from directly modifying or adapting existing borrowed knowledge or from indirect novel insight or conceptualisation.

Finally, we view generated knowledge as emergent and usually forms, not always, at the edge of chaos in response to stress or pressure on processes that are not working optimally.

Know-how is mastered by synthesising borrowed and generated knowledge. By know-how we mean the knowledge, ability and experience that are inherent in processes, politics, culture, and organisation history, including myths and metaphors of how things are done.

## **Know-how and Workforce planning**

Approaches to workforce planning tend in the main to be very mechanistic and structural assuming that the desired outcomes are in fact represented by the existing formal structures and the articulated strategies of the business. Most importantly this 'structural' approach assumes that any informal or unknown structures will align to the formal ones if they already haven't. This is a cumbersome way of saying that organisations step straight into the process of verifying role descriptions, competency frameworks and then resource determination because they assume they understand the existing know-how dynamics.

The know-how dynamics of an organisation can be identified at progressive levels of detail through identifying (eliciting) the prevailing narrative of the organisation and then cooperatively inquiring into the varying themes embedded in the narrative. The fractality of know-how is a useful quality when trying to discover and understand how know-how is created and applied in organisations.

This approach to know-how and workforce planning assumes that know-how is dynamic, evolving and from time to time transformative. It is a living complex system of the organisation. This more fluid and fuzzy view of know-how is counter though not apposed to the value of the determinism of a mechanistic approach where everything is treated as known and or knowable. The know-how view provides ways to account for such things as innovation, organisational learning, unprogrammable learning, accelerating experience and emergence that cannot be effectively managed using mechanistic workforce planning techniques.

The mechanistic workforce planning techniques work at the formal level of the organisation and are governed by directed relationships. This level deals with the tangible aspects of workplace dynamics:

- The authorised approach to work represented by the organisational structure including plans and goals
- The tools and processes

- The identified competencies required to fill the roles
- The resourcing profile in terms of numbers of experts, professionals, support staff, permanent vs. contract, and costs

The organic approach to workforce planning takes as its starting point investigation and understanding of the informal or shadow organisation. The shadow organisation is built on relationships of trust and we take the view that it is here that the real powerhouse of productivity and creativity in organisations operates. This level deals with the no less tangible aspects of workplace dynamics:

- Problem solving
- Decision making
- Experiential learning
- Guerrilla activities to circumvent inadequate tools and processes
- Socialisation
- Community

Our approach to workforce planning is holistic; our position is that effective workforce planning needs to integrate the organic and mechanistic views into an ongoing cycle.

The agency whose project study follows has also adopted this position, for them workforce planning is "...a continuous process of shaping the workforce and workplace...a strategic tool to assist management in planning for and improving organisational performance...[they see]...workforce planning as an evolving discipline increasingly focused on identifying and working with Intangible Assets."

## **A Project Study**

In February through to June this year we were engaged by one of the large State Public Sector agencies to assist the workforce planning process for one of their major divisions. This division had some 1100 staff predominantly concentrated in major metropolitan and regional centres. They also had a significant experienced workforce spread throughout the remainder of the state with both political and legislative requirements to maintain this regional support. As part of their strategic review they were undertaking workforce planning to ensure that they could and would meet their operational mandate.

Other factors influencing their requirements were the unknown impact of pending retirees, people who had been with them for significant time, and a need to change work practices related to expertise development, deployment and support.

There was a clear recognition by senior managers that unless they knew where and how know-how was created and supported that effective workforce planning would not occur and so the more traditional approaches to reviewing job roles, competencies, staff mix, etc to be effective, needed specific strategic input.

The main objective of this assignment was to design and conduct a systemic assessment of the Know-how situation and dynamics of the organisation to facilitate effective workforce planning. In particular to:

- Identify if and where the Know-how was at risk of being diluted or lost

- Better understand where and how the Know-how was generated shared and held
- Identify opportunities to improve the service and delivery effectiveness of the organisation

The approach taken (figure 1 **Workforce Planning Process**) was to work with a core group from head office and mentor them in the tools and techniques used to undertake the assessment. There were a number of reasons for this approach, skills transfer was important as the Department wanted to build internal capability to use the techniques for ongoing work, and secondly, it was considered that internal staff would be better able to elicit meaningful information in the first round of interviews given the culture that prevailed. Thirdly time and cost constrained deployment of a Hollywood production approach to the assignment.

Primary narrative snap shots were collected through selected interviews of a small number of staff that was indicative of the whole structure. This was a deliberate selection to capture both vertical and horizontal perspectives of know-how dynamics. There was also collection of statistical data on employee metrics as well as formal information from business plans, job descriptions, operational plans and structures. This indicative sample was used and the results of the interview dialogue were treated as a fractal or self-similar structure to the results gained from a representative sample of the organisation. This treatment of the interview sample was verified as valid by the scenario workshops results and later by the experienced ‘smell test’ of senior managers.

The interview questions were the same for each person and were structured to allow as much freedom of interpretation as possible around each theme/context. The interviews were conducted in pairs with a stipulation that material recorded needed to be categorised into two columns, one for quotes, stories, replies as uttered by the respondent and the other for observations and interpretations on the part of the observer.

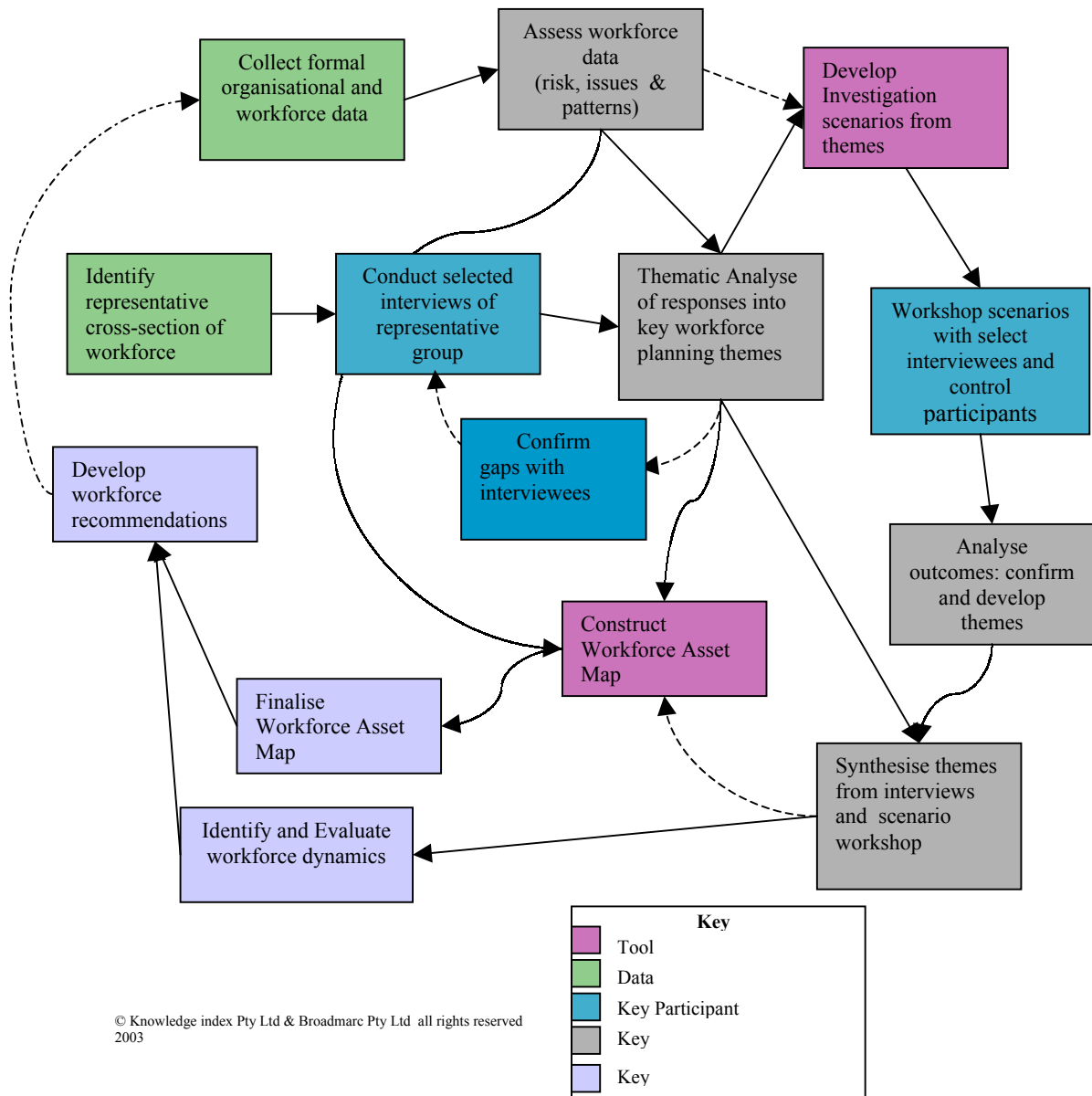
This material was analysed using a cluster analysis approach and at the same time synthesised into themes, some languaged as metaphors that reflected the organisational dynamics affecting know-how and operations. An example was the metaphor of the organisation as a franchise operation, which highlighted the nature of variation, and interpretation that occurred in know-how dynamics in the shadow organisation, counter to the official processes driven view. This franchise evolution had developed from earlier strategic decisions to move to a regional structure. This is an emergent process, the themes are not self-evident and require interpretation and language. In complexity terms they are the attractors around which organisational dynamics operate. The resulting attractor themes formed the basis of narrative scenarios that were developed and then presented back to workshops of field staff to verify the assessment of the know-how dynamics and uncover further themes and or detail. This cycle is iterative and able to be performed a number of times as required.

The final stage was to reassess the themes coming from the workshops in terms of:

1. Validation with workforce data collected earlier in the process
2. Refine the themes into concise findings and imperatives for effective workforce planning
3. Identify high-level options as the basis of input into a wider planning process and to develop specific action plans.

### Workforce Planning Project Process

Figure 1



This approach enabled the Department to identify the divergence in practice that had developed over the years that was not picked up in the formal processes. Interestingly some of these issues had been intuited by senior managers and staff but they were unable to find empirical evidence to support their concerns. As for the all-important question of know-how dynamics it highlighted that this in itself was a highly complex system that was founded in each individual, to exaggerate the point 1100 know-how nodes. Due to work pressures and changes to operations over the years the method of expertise creation differed from location to location and was based on direct experience, time on job, which became a vicious circle militating against sharing across locations. This is not to paint a bleak picture the Department works well and had identified key strategic issues that needed to be addressed through the workforce-planning project. What is important here is that the pattern described was now entrenched and will if not dealt with have serious impact on services over the next few years as workplace turnover increases.

The advantage of the narrative approach was to identify the qualitative effects of workplace dynamics on know-how. A major finding was the dilution of knowledge over time due to systems that are not able to adequately capture and share experiential knowledge (created and borrowed knowledge) across the whole organisation. As a lead indicator this highlighted the impact that senior staff, the core knowledge holders will have as they leave the workforce over the coming years. It will be an erosive not a cataclysmic process because the processes in place are not able to transfer knowledge quickly enough in the current system.

Through understanding the know-how dynamics the Department was able to develop strategies and interventions better targeted to delivering organisational objectives. For example areas being addressed include:

- Training and workforce development had been and still was based on seniority and experience on the job. This is now being redeveloped in response to changes in the workplace with many new staff particularly at the lower levels either not wishing to or unable to stay in the job for life.
- Due to changes to support regional structures that were taken a decade or so ago the ability to expose staff to all possible conditions was limited leading to formation of silos and mitigation of know-how transfer. Old practices were dropped for example senior officer meetings that facilitated relationship building and knowledge transfer.
- The major risk to service continuity was not the anticipated retirement of a large section of the workforce over the next few years it was the gradual decline of developing experts to replace the senior people due to the above dynamics and because know-how is based on each individual.

The value to the Department of this approach was its speed and accuracy of information. It has provided management with the ability to review their strategic plans and bring forward restructuring aimed at improving service and service delivery, develop a robust approach to managing know-how and drive down total cost of support over time.

## Implications For Knowledge Management

The creation of knowledge is a social process (Verna Allee: 88) and understanding this is important to planning and designing effective workforces and workplaces. This project raised several points and questions for knowledge management particularly in the context of workforce management and planning.

The connectedness of people is important for effective management of know-how. If this is strong and has a richness of interaction and 'network' then the system is likely to be more robust and able to function and adapt to stress, changes and unpredictability. Conversation is a key tool in forming a rich connectedness that needs support in organisations and, is generally far cheaper to support than big spends on expensive tools and processes. This may be summarised as:

- Dialogue and conversation – important to knowledge creation and sharing
- Supporting interaction and connections between people is a key priority to maintaining know-how
- Managing the shadow organisation should take priority with managing the formal organisation.

Know-how can be dispersed and lost over time if mechanisms and actions are not maintained for interaction of a rich network of nodes and dynamics. These mechanisms do not necessarily need to be official work processes to be effective and depending on the history, culture, and prevailing narratives in the organisation may well be more effective if informal and supported to exist in this way.

Investment and reliance on tools and processes (classically these are big spends) for know-how development capture transfer and management if not linked and integrated with conversation, and the connectedness of people will:

- Not automatically add to the effective and sustained management of the organisation workforce and know-how
- May give false security that knowledge and deep levels of know-how and wisdom are captured and 'owned' by the organisation.

In adopting an holistic approach to workforce planning the use of narrative methods linked to the concepts of fractals, emergence and attractors are powerful and practical tools for understanding and managing know-how.

There exists a wonderful perversity within all of us, we will always find a way around the sexiest systems and processes, that don't quite suit us perceptually or in practice. In this climate of economic rationalism perhaps the best know-how system that is in need of resurrection is the "Tea Lady".

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