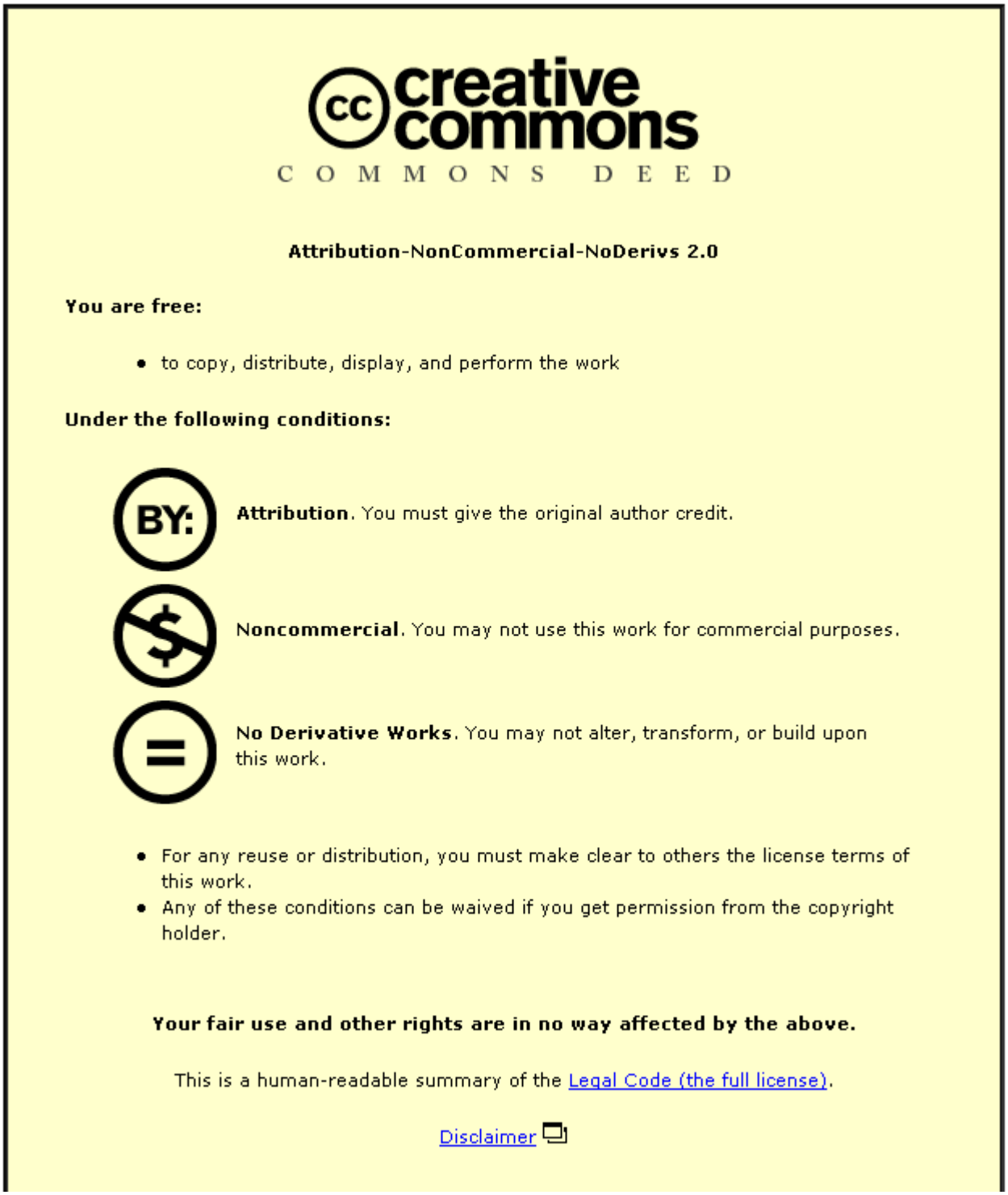
The ASHEN Model: an enabler of action
Part One of Basics of Organic Knowledge Management



creative commons

COMMONS DEED

Attribution-NonCommercial-NoDerivs 2.0

You are free:

- to copy, distribute, display, and perform the work

Under the following conditions:

Attribution. You must give the original author credit.

Noncommercial. You may not use this work for commercial purposes.

No Derivative Works. You may not alter, transform, or build upon this work.

- For any reuse or distribution, you must make clear to others the license terms of this work.
- Any of these conditions can be waived if you get permission from the copyright holder.

Your fair use and other rights are in no way affected by the above.

This is a human-readable summary of the Legal Code (the full license).

Disclaimer

A full copy of the CCLicence is available at www.cynefin.net - Knowledgebase.

© D J Snowden 2005
Protected by Creative Commons Licence: Attribution-Non Commercial-No Derivatives

The ASHEN Model: an enabler of action
Part One of Basics of Organic Knowledge Management

David Snowden
Founder
The Cynefin Centre
www.cynefin.net

In a three part series of articles originally published in Knowledge Management in 1998 (commencing with the March edition), David Snowden laid the foundations of an approach to understanding the intellectual assets of an organisation using techniques derived from anthropology and based on the organising principle that 'We only know what we know when we need to know it'. Two years on those articles along with those of other authors in the field initiated what has become known as Organic Knowledge Management. In this new three part series, David Snowden updates and augments that material with the benefit of two years of additional research and practice. The first article looks at the language of knowledge and suggests a model of description that leads to constructive action. The second article will provide a practical set of guidelines to enable the identification of knowledge, updated and augmenting the 1998 material. The final article completed the picture by considering the critical importance of heuristics to managing in the face of uncertainty.

"A little knowledge that acts is worth more than much knowledge that is idle"

Kahil Gibran *The Prophet*

The way we choose (and it is always a choice) to describe something determines to a large extent how we act in consequence. At a trivial level the pessimist whose glass is *half empty* will hoard what is left against the possibility of future shortage; the optimist whose glass is *half full* proceeds with greater confidence. More seriously in the 17th Century the same act or belief could be reformation or heresy and in the modern era *Derry* or *Londonderry* spoken in innocence can identify an individual as belonging to a particular socio-cultural background with assumed beliefs and attitudes. This particular use of language to mandate response and action by its nature is equally present in all organisations.

Have we outgrown the 'tacit' and 'explicit' words?

The more intangible an asset appears, the more important the language with which we describe the problem. In knowledge management the words *tacit* and *explicit* dominate most conversation. Although the use of tacit is normally attributed to Polanyi's 1962 Terry Lectures at Yale University (Polanyi 1983), its de facto use is to a large extent determined by two authors: Nonaka globally and Probst in central Europe. The common reading of both these authors, whatever their intent too easily leads to implicit assumptions about the way in which knowledge should be managed that are inappropriate and in some cases down right dangerous.

The STET model (Nonaka and Takeuchi 1995) has four transitions between the tacit and explicit states: socialisation, externalisation, internalisation and combination. The examples are drawn from Manufacturing Industry in which all four transitions are necessary to move from research to production. The model in many ways gave rise to the current levels of interest in Knowledge Management and provided many vendors of both hardware and software with a classification matrix for new (and too often old) tools. The difficulty with the model in use is four fold:

© D J Snowden 2005
Protected by Creative Commons Licence: Attribution-Non Commercial-No Derivatives

1. It is often used in complete isolation from its supporting material, including highly valuable but underused concepts such as Middle-Up-Down, to define the totality of knowledge actions in companies. While the model is useful, it is not universally applicable in Manufacturing let alone the service sector.
2. It has an implicit assumption that knowledge is some form of thing or entity that retains a coherent identity through the four transformations. Knowledge is seen as an asset that can be created and managed; replacing products and raw materials as the primary focus of strategic thinking. One of many problems with this is that the transformation of knowledge between the tacit and explicit states fundamentally changes its nature.
3. It leads to confusion between the *container* and the *thing contained*. Tacit knowledge exists in the heads of individuals or communities, explicit knowledge in documents and other artefacts. In practice most useful knowledge has both tacit and explicit aspects and needs to be managed holistically, the STET model leads the average manager to manage the containers.
4. There is an implicit assumption that tacit knowledge can and should be made explicit. The two are separate questions (Snowden 1999), the fact that we can does not mean that we should and more often we cannot without loosing something essential. Although many people use the Polanyi quote "*we can know more than we can tell"* (op cit p4) few read on to understand that we can always know more than we can tell, and we can always tell more than we can write. They also fail to recognise that the initial emphasis on the word "can".

Probst and his co-authors (Probst, Raub & Romhardt 1998) offer a more seductive and simpler view of knowledge. Tacit gets little mention with the focus on a useful set of tools and techniques for managing knowledge, which can or should be codified. Knowledge is separated into two classes – that which can be codified and that which cannot which is held to be genius and beyond the bounds of structured management. His book, recently translated into English dominates thinking on knowledge management in Central Europe. It is attractive because it uses the principles and practice with which most western educated managers are familiar and comfortable. It reinforces the de-facto prejudice that anything useful should be written down or embedded in a process. The mechanical metaphor of Business Process Re-engineering, Quality Management and the like predominates.

Both of these models play to the contradictory dualism that is the day-to-day practice of most managers. In calm and rational moments, they want things written down: project reports, competitive intelligence and the like. They plan and build systems in which this 'Intellectual Capital' is widely distributed and considerable investment is made in its maintenance, all of which is justified on an idealized goal of dynamic decision making supported by the availability any time any where of all and any knowledge that they or their subordinates might need. These overblown expectations are both created and reinforced by unscrupulous vendors of knowledge management systems and consultancy. In contrast, when the chips are down Dr Jeckyl becomes Mr. Hyde and either through direct management or a 'go fix it' instruction to a trusted subordinate moves the problem from structured, explicit and pseudo-rational decision making to tacit empowerment based on trust and experience. Under these circumstances, simple rules and values predominate; it is always interesting to see the rationally constructed use of balanced score cards and the like being abandoned under pressure to focus on sales, profit and cash.

Dualism is inevitable if we see the organization as a machine interacting with human agents. The very language of tacit and explicit militates against a more holistic view of the interaction between human beings and their artifacts. If we separate human decision making from the support of artifacts – the touchy feely intuitive manager – then we rely on genius, or more often luck, at the expense of scalability; if we deify the

© D J Snowden 2005
Protected by Creative Commons Licence: Attribution-Non Commercial-No Derivatives

artifacts building unrealistic expectations about the use of technology then we gain scalability and loose massively in our ability to respond quickly to uncertainty. A holistic approach requires us to describe things in terms that naturally lead to holistic thinking, while providing some form of categorization that leads to effective action. Human beings need to categorize things in order to exercise their sense-making capability within organizations, however the categorization should lead immediately to effective action. A hunter in the field needs to categorize prey from predator instantly to trigger a kill or flight response, no lesser degree of responsiveness is required in the modern organization.

Knowledge is contextual, how and when the question is asked are vital

In 'A Hitchhikers Guide to the Galaxy', Douglas Adams writes of a society who construct a computer to answer the ultimate answer to the ultimate question of *Life the Universe and Everything*. After centuries of thought, it in some trepidation produces the answer: 42. At this point, an even more massive computer has to be constructed to identify the question! Interestingly the new computer is organic involving the planet Earth and white mice who provoke the subjects of their study – humans – by occasionally running the wrong way around a maze.

Knowledge is only known, when it is needed to be known (Snowden 1998a) it is triggered by events and by need. Normal consultancy methods, in which a structured interview is created, possibly with a questionnaire, are premature in the early stages of knowledge discovery. Asking people what they know is a cruel question. A group of managers in a workshop asked to write down what they know will scribble industriously for ten minutes or so and will then start to look puzzled before they reach an halt. The reality is that if they wrote down everything that they know, then they would be there for the rest of their lives. A database can be listed; a human mind has to be stimulated. One of the most common phrases in all languages is *I'll sleep on it*. In solving a problem an individual will stimulate themselves through conversation and reading, and then assimilate the results into something coherent. Knowledge Disclosure Points (KDPs) (Snowden 1998a) comprise decisions, judgments, problem resolution and learning. They are the points at which we use knowledge. Any individual will find it easier to recollect the use of knowledge, even if they cannot meaningfully answer the *What do you know?* Locating, categorizing and summarizing the KDPs in the community are the means by which we provide context: *When you made that decision, what knowledge did you use?* is an adequate question in context and is more likely to reveal meaningful results. How we identify those KDPs will be the subject of the second article in this series of three.

However, while asking people what they know in the context of KDPs has proved more successful than conventional approaches, it still suffered in that knowledge so identified suffers from the problems of dualism mentioned above. There seems be an insatiable drive to codify. Two years of arguing with varying degrees of success to retain some knowledge in its tacit state gave rise *in the field under fire* to the ASHEN model, the components of which are described in the next section.

The ASHEN Model

The ASHEN model was created as a means of providing a linguistic framework both to help organizations identify what they know and to move directly to action as a result of the meaning provided by the language. It is designed to prevent the need for argument about the management of its outcome. The mnemonic form (HANSE in German) facilitates consistent use in the field. The five ASHEN components are:

© D J Snowden 2005
Protected by Creative Commons Licence: Attribution-Non Commercial-No Derivatives

Artefacts

> **art'ėfăct, art-,** n. A product of human art and workmanship; (archaeol.) a product of prehistoric art as dist. from a similar object naturally produced. [f. L *arte* (abl. of *ars*) + *factum* (neut. p.p. of *facere* make)]

The term artefacts encompass all the existing explicit knowledge and/or codified information within an organisation. The processes, documents, filing cabinets, databases and other constructed 'things' that encompass the codifiable to varying degrees of success. The management issue here is the removal of duplication and the general optimisation and ready distribution of such artefacts to communities that need them. The artefacts will always need to the in the right place at the right time - even though most people may be unaware of their existence for most of the time - this is a non trivial management challenge for which technology can only support, but not provide, answers. Many artefacts exist but are not known. They may be notebooks of past exceptions events in the drawer of a staff room of a supermarket; a diary in a café frequented on a regular basis by field engineers or a web site using the free space in Hotmail used by individuals in competitive companies who shared a common interest. All three of these examples come from the author's own experience, and in each case were probably one of the most valuable assets identified in a knowledge disclosure exercise.

Their value is in their natural occurrence; they developed based on the real needs of individuals. Attempting to change their nature would be dangerous. To take the example of the field engineers; the book in question was used daily to communicate valuable information about health and safety procedures, work a-rounds on technical parts, gossip about managers, information about customers. The mechanism of its maintenance was that each engineer would casually read it over a cup of tea and then write their own observations before leaving. One of the solutions proposed when it was discovered was to enhance existing hand held computers to capture the same information in the field. This missed the point, the artefact was a part of a social setting and involved social obligations. The solution was to endorse the use of the café in return for managers being allowed to photocopy the book on a weekly basis; and to sell the idea to the engineers by telling them to keep ***two*** books …….

Key is to respect naturally occurring artefacts and to separate the creation and capture of knowledge from its analysis and distribution. It may not be neat and tidy to do so and appear to be anti-rational and sub-optimal; but it works.

Skills

> **skĭll, n.** Expertness, practised ability, facility in doing something, dexterity, tact. [ME, f. ON *skil* distinction, cf. SKILLS]

In this context skills are those things for which we can identify tangible measures of their successful acquisition. If I employ a plasterer then I can measure the deviation from a vertical plane of his work and the time taken to complete. Customer relationship is a more different thing to measure and although it has aspects of 'skill', the term is not enough in its own right. The time element is an important aspect of the skill measurement. The author is a reasonably accomplished carpenter, but a skilled chippie can accomplish in one hour as task that is a weekend's work for the amateur.

Skills are something that organisations know how to manage. They are the most readily codifiable of the knowledge assets of an organisation. Training needs and skills analysis are well known techniques. Training courses, moderated work experience - the gambit of techniques available is wide and well proven. However there is always the danger of the codification heresy: the belief that once something is written down, then it is shared. Most of the published 'success' stories of Intellectual Capital Management often suffer from this heresy. To illustrate it let us return to the plasterer. Any one who has tried to

© D J Snowden 2005
Protected by Creative Commons Licence: Attribution-Non Commercial-No Derivatives

plaster a wall based on the codified knowledge of a book; say *The Ten Easy Steps to Perfect Plastering* will know the issue. Following the instructions does not mean that the plaster will stay on the wall, or that you will not have to burn out several sanding machines to achieve any smoothness. Too many organisations in building their Intellectual Capital Management Systems are actually creating legions of amateur plasters. While skills can be codified, time has to be take to internalise them. The management task is to catalogue the skills, understand the time horizon and resource requirements for their acquisition and plan accordingly.

Heuristics

> **heurĭs'tĭc** (hur-), a. & n. serving to discover; ~*method*, system of education under which a pupil is trained to out things for himself, so ~s n. pl. [irreg. F. Gk *heuriskō* find, see –IC]

Heuristics or rules of thumb are one of the most valuable of assets and may be articulated without the need to render them fully explicit. They are the effective way by which we make decisions when the full facts are not known - or knowable in the time available. A good example is the CEO looking at a range of investment proposals without sufficient time - or the inclination - to go through the detailed case. The decision criteria often take the form of a simple rule set: Has someone I trust checked this out? Will it impact on my targets for this year? Will it distract key staff from other more important targets? These may or may not be articulated, but they are often known to the CEO's inner circle. They are also the means by which experts and/or professionals make decisions in conditions of uncertainty. An example would be 'If the gauge goes above that level, in these circumstances then I'll look at the problem again'. The essence of heuristics is that they have fuzzy edges and therein lies their power. They allow greater consistency in conditions of uncertainty but follow the pareto principle that 80% is good enough. Over time they may become fully explicit and become artefacts, or they may remain tacit - only available to an expert community. Recent work with a group of engineers revealed some interested heuristics, some of which could be codified and distributed - but the general comments about their use were summed up by one engineer who said 'Its a good rule and I use it all the time - but I wouldn't let anyone with less than ten years experience anywhere near it. Until then they can do it by the book!'

For management, identifying and codifying heuristics is a fast track and generally cheap way to spread valuable knowledge quickly. The act of making the heuristics explicit can also clear away false assumptions and out of date working practices, where the context in which the original and mostly un-stated heuristics were developed no longer appertains. The third in this series of articles will look in more detail at the use of heuristics in knowledge management, drawing on ideas from complexity theory.

Experience

> **ėxper'ĭence[1], n.** Actual observation of or practical acquaintance with facts or events; knowledge resulting from this [ME, f. OF *experience* f. L *experiential* f. EX[1]*periri pert*- try : see –ENCE
>
> **ėxper'ĭence[2], v.t.** Meet with, feel, undergo, {pleasure, trement, fate etc.); learn, find; (*that, how,* etc. [f. prec.]

Experience is the most valuable and most difficult of the tacit assets of an organisation. It is difficult for two reasons: (i) the experience may be collective rather than individual, and (ii) replication of the experience may not be practical or sensible. One case will illustrate this. A major UK company knew one of their key assets was the ability to manage cash but they didn't know why. Using the ASHEN model artefacts were readily identified in the form of management reports and the like. Skills were also evident, they

© D J Snowden 2005
Protected by Creative Commons Licence: Attribution-Non Commercial-No Derivatives

were all Management Accountants. The Heuristics were clinically paranoid in their attention to detail, but made sense when the experience was identified: the common experience of three members of the finance team of living through a bankruptcy in a previous employment. That collective experience had given them an ability to spot trends, and take common sense actions faster and with more effect than others, no matter how intelligent or how well trained. The issue was two fold: (i) the experience was collective - they were a team and, (ii) although it could be repeated it does not make sense to plunge a company into bankruptcy every two years as a training exercise for the finance department! Over time story telling, war gaming and techniques derived from journalism can mitigate this problem, but organisations should be under no illusion - mitigation is possible, but there is no full substitute for the experience itself. Key then is to understand the dependence - and the consequent vulnerability in the event of change - to key experiences whether individual or collective.

Natural Talent

> **nătural (-cher),** a. & n**. 1.** Based on the innate moral sense, instinctive, (~ *law, justice*). **2.** Constituted by nature (~ DAY, *year*). **6.** Not enlightened or communicated by revelation (*the ~ man; ~ religion, theology*). **8.** Existing in or by nature, not artificial, innate, inherent, self-sown, uncultivated. **9.** Lifelike; unaffected, easy-mannered, not disfigured or disguised. **10**. Not surprising, to be expected. **12.** Dstined to be such by nature (~ *enemies, antithesis*). **16.** Person half-witted from birth; person who is naturally expert in some respect; thing that is by nature successful, a certainty. [adj. (ME) f. OF *–al* or L *naturalis* (NATURE, -AL); n. (16th c.) f. adj. & F *naturel*]
>
> **tăl'ent,** n. **1.** Special aptitude, faculty, gift, (*for* music etc., *for* doing; see *Matt.* XXV. 14-30), high mental ability, whence ~ED**2**, ~LESS, aa. **2.** Persons of ~, as *all the ~ of the country, ;looking out for local ~, ministry of all the ~s*; (sport. Sl.) *the ~* of those who take odds etc. relying on their own judgement and knowledge, opp to bookmakers. **3.** Ancient weight & money of account among Greeks, Romans, Assyrians, etc., of varying value. **4.** ~*money*, bonus to professional cricketer etc. for especially good performance. [ME, f. OF f. L *talentum* f. GK *talanton* balance, weight, sum of money]

Natural talent, the final component of our model is unmanageable. We can improve our ability to spot it, we can foster its development and attempt to prevent corporate politics from stifling its realisation., But we cannot manufacture or transfer it. We can build the skills necessary to spot it, and foster the experience that will allow us to use it. Like non-repeatable experience we need to understand our key dependencies and measure the risk and vulnerability to loss - and take appropriate action. The formal definitions quoted above speak for themselves

A wider perspective

The ASHEN model is powerful in that it uses commonplace, or takes slightly unusual words (artifacts and heuristics) and investing them with common sense meaning. It provides a different perspective, or creates an awareness of a required change in attitude. By asking the ASHEN question in the context of a KDP we can achieve a meaningful answer which itself leads to action. *When you made that decision, what **artifacts** did you use, or would you like to have? What **skills** did you have or need and how are they acquired? What **heuristics** do you use to make such decisions quickly, what is the range of their applicability? What **experience** do you have and what experience do the people you respect in this field have? What **natural talent*** is necessary? H*ow exclusive is it? Who else has it?* Such questions allow the questioned to produce meaning full answers with minimal interference from the questioner. How to minimize that interference to the point were it does not influence is the subject of the next article in this series.

© D J Snowden 2005
Protected by Creative Commons Licence: Attribution-Non Commercial-No Derivatives

Most importantly ASHEN helps create a key shift in organizational thinking from key-person dependency to knowledge dependency. This essential step of depersonalization is critical to effective knowledge practice. It is the shift from *Only Linda can do X* to *X requires this combination of artifacts, skills, heuristics, experience and natural talent and at the moment, only Linda has them*. The former statement has only crude solutions, the later permits greater sophistication and the potential for long lasting solutions and sustainable management action. It achieves this by using language that describes the situation at the right level of granularity to permit action without excessive analysis.

References

Nonaka and Takeuchi *The Knowledge Creating Company* Oxford 1995 ISBN 0-19-509269

Polanyi *The Tacit Dimension* republished by Doubleday & Company 1983 ISBN 0-8446 5999-1

Gilbert Probst, Steffen Raub & Kai Romhardt: *Wissen managen - Wie Unternehmen ihre wertvollste Ressource optimal nutzen*, 2. Auflage, FAZ Frankfurt, Gabler Verlag, Wiesbanden, 1998; ISBN 3-409-29317-5

Snowden, D (1998a) "I only know what I know when I need to know it - embracing the active management of tacit knowledge" *Knowledge Management* Ark Publications March 1998

Snowden, D (1998b) "A Framework for Creating a Sustainable Programme" *CBI Guide to Knowledge Management* London: Caspian Publishing/Confederation of British Industry 1998 (Republished in *Knowledge Management Year Book 1999* Butterworth Heinemann April 1999

© D J Snowden 2005
Protected by Creative Commons Licence: Attribution-Non Commercial-No Derivatives