

Action knowledge in intellectual capital statements: a definition, a design and a case

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Abstract: Within the field of intellectual capital and knowledge management, the concept of knowledge is burdened by the naïve view of knowledge as passive representations of external reality. An alternative definition is proposed. 'Action knowledge' is the categories and distinctions that guide human activity in appropriate ways. In the organisation, this definition highlights the intelligent actions taken by organisational members in pursuit of their goals. The paper offers a design for an intellectual capital statement that emphasises action knowledge in the organisation. A case is presented: the intellectual capital statement of the Danish consulting firm, Nellemann Konsulenterne A/S. It shows a major concern with knowledge sharing and learning activities that bring out the dynamic nature of knowledge, as opposed to the 'amount' of knowledge stored in databases and intranets that the representational view of knowledge would lead us to emphasise.

Keywords: action knowledge; case study; intellectual capital, intellectual capital report, intellectual capital statement, knowledge, knowledge management.

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1 Introduction

The widespread concern with intellectual capital in corporations has led to attempts to write annual 'intellectual capital statements' that report on the knowledge resources held by an organisation [1]. These efforts, along with the whole field of knowledge



management, derive in part from the 1980s concern with the information society, as well as the immense successes of the 1990s in information technology, the internet, information management, corporate intranets, etc.

This information technology backdrop to the knowledge management and intellectual capital movements has reinvigorated the early 20th century philosophical view of knowledge as stable, internal representations of external objects or events [2]. Whether stored in the mind or in computer databases, knowledge is believed to be structures that represent or mirror facts in the world. Along these lines, it is tempting to think of corporate intellectual capital as the stock of knowledge residing in the employees' minds and the company's computers. To make use of this reservoir of knowledge, the company must leverage its intellectual capital, as the jargon goes. Knowledge management is often seen as the effort to 'create, share and exploit knowledge for competitiveness and profit.' [3]. According to this view, an intellectual capital statement is a report of the degree to which a company succeeds in this process of knowledge extraction and exploitation.

Leaving aside the debasement of the knowledge worker implied by this jargon, the whole idea of knowledge as a stock of static representations stored in minds or computers is manifestly unsuitable for the dynamic nature of organisational action. An action-based concept of knowledge is called for. Likewise, intellectual capital statements must reflect the active and personal nature of knowledge.

In 1997, The Danish Agency of Trade and Industry launched a project to develop guidelines for the construction of intellectual capital statements [4]. This project relies on more dynamic notions of knowledge: what is important in an intellectual capital statement is not the knowledge *held* by the organisation, but rather the way knowledge is being *used* in the organisation. Knowledge *activities* take precedence over knowledge *resources*.

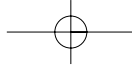
Having been involved as a sort of enlightened guinea pig in the Danish government project, the author of the present paper proposes a definition of action knowledge that squares with these efforts. This concept provides a suitable epistemological context for more dynamic and people-focused kinds of knowledge management and intellectual capital statements.

The notion of action knowledge is then applied in a design for an intellectual capital statement that delineates five phases to be covered when an intellectual capital statement is being drawn up for a company.

This design was used by the author to create an intellectual capital statement for the medium-sized Danish consulting firm, Nellemann Konsulenterne A/S (now NIRAS Konsulenterne), as part of the Danish government project. To this firm, its intellectual capital is properly seen as the informed and competent actions taken by its consultants, especially those that involve learning, knowledge sharing and knowledge development.

2 A definition of action knowledge

Although rarely articulated in the knowledge management literature, our common-sense view of knowledge is that of naïve realism. When the contents of my mind mirror the external world, I have knowledge of it. Early 20th century philosophy put this in terms of sentences or statements. If I say, 'City buses are red' I have knowledge of the world in so far as city buses are, in fact, red.



By mid-century, the *philosophes* of the computer, most notably Herbert Simon [5], saw that the ones and zeroes buzzing about in a computer not only add up to large numbers, but may stand for features of the world. Bits and bytes can be seen as symbols that represent facts in the world outside the computer. Computer programmes can be written that manipulate these otherwise passive symbols. Voila, artificial intelligence, as well as one of the most powerful scientific metaphors of the 20th century: that of the mind as a computer, and thinking as the execution of programmes that manipulate the bits of knowledge (representations, symbols, bytes) contained within it.

In recent decades, however, the representational view of knowledge has run into severe problems. Some philosophers have abandoned it altogether [6]. It is increasingly considered a mentalist and overly rationalist view that excludes influences from many other domains, such as the body [7], emotions [8], experience [9], action [10], brain function [11], perception [12] and culture [13].

However, the view of knowledge as representational survived in one important camp: the computer industry. By the 1990s, computers had grown so powerful that their advocates in academia and business, no longer content with being experts in mere 'information management', found the appellation 'knowledge management' much more exciting, as if the repeated application of Moore's law up the ladder from megabytes to gigabytes to terabytes by itself would transform information into knowledge.

Today, there is a rift in the field of knowledge management, between people coming from the computer's information-storing angle [14] and people coming from the manager's action-orientated viewpoint [15]. How may we define knowledge from this latter vantage point?

Knowledge is simply what gives direction and meaning to human action [16]. A person has knowledge or knows things if he or she is able to engage in activity in a directed and coherent way, whether this activity is performed by the body, enacted in the social world, spoken as words or expressed through neural and mental activity (that is, thinking). Fixing a carburettor, chairing a meeting, discussing football results and planning a wedding are all evidence of knowledge.

So the structures in the mind that knowledge was classically seen to be are not just mirrors of the external world. They serve to give form to human activity that would otherwise remain formless, like the spontaneous flapping of a newborn's arms and legs, or the way you poked around under the bonnet of your first car. Thus, a Xerox repairman is knowledgeable not because he has a stock of passive mental structures, such as images or causal links or sentences, that correctly mirror the design of a photocopying machine, but because the movements of his hands and whole body are so guided by his knowledge that he manages to repair the machine successfully.

For our definition of action knowledge, let us expand the domain from the philosopher's 'mind' to the more encompassing term 'consciousness'. Let us also drop any individualistic or mentalist bias by referring, instead, to 'individual and collective' consciousness, thus including social and cultural aspects of knowledge.

Thus, we may define knowledge as *structures in (individual or collective) consciousness that guide human activity appropriately*.

These structures may be concepts, categories, distinctions, images or the like, the evanescent stuff of consciousness, the forms that allow us to distinguish *this* from *that* and draw a boundary around *this* and see it as A, distinct from B [17]. Rather than building-like structures, we should see them as dynamic forms channelling a flow, like the

whirlpools on the surface of a river that lend form and distinguishability to the water flowing through them [18].

As to ‘consciousness,’ one may wish to include in this term the subconscious, such as tacit [19] or embodied knowledge [7]. The term excludes structures or guides that are purely biological, such as instincts, reflexes, cellular control mechanisms, etc. These are, of course, powerful guides to human activity but not something we would ordinarily call knowledge. Likewise, structures held outside the body, on media such as hard disks, do not count as knowledge. We do not generally refer to machines as knowledgeable, and the whole notion of computer-based knowledge management is, strictly speaking, a misnomer.

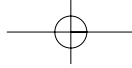
The definition stipulates that the structures must guide human activity ‘appropriately’. Bent over the photocopying machine, I may believe that pulling lever X will fix the problem. If this belief is unfounded, I do not have knowledge as my actions are guided inappropriately [20].

In this view, even so-called representational knowledge becomes a form of action knowledge. The mere statement of any idea, such as ‘City buses are red’, serves to guide the cognitive activity of the person entertaining this idea in his or her mind. Whether thinking is sentential or even verbal or not is immaterial, because the statements that philosophers have extracted from the flow of dynamic structures in consciousness are always active guides to our thinking and never just passive structures waiting to be acted upon.

This view of knowledge affirms the common, sensible distinction between *information* as dead, impersonal bytes residing in files and computers, and *knowledge* as being alive and subjectively meaningful. When I go to the airport, the monitors in the departure hall display five screenfuls of *information*, but only the one blinking line stating that my gate is being closed is relevant and meaningful to me: I take it in and start to run. This little bit of information now guides my activity and thus becomes knowledge. Likewise, in today’s information onslaught, so little penetrates our lives as to make a difference; so little becomes real insight or knowledge we can use. In any organisation, the pile of information stored in computers only becomes knowledge when it is engaged by some person who acts differently because of this information. The only evidence of knowledge is the intelligent actions of the organisational members. Knowledge is not a resource or reified bits of capital to be extracted from individual minds, it is the purposeful and directed activities of people who wish to make a difference.

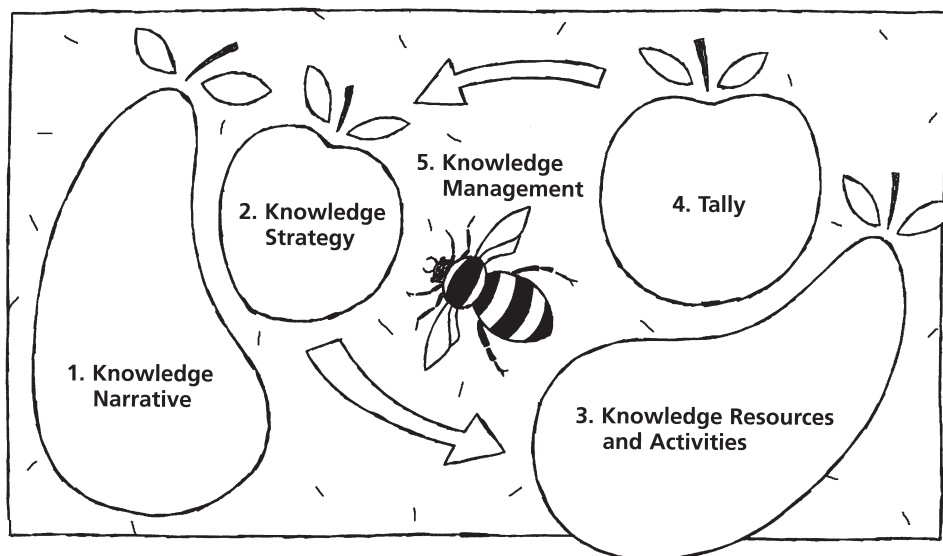
3 A design for an intellectual capital statement

Any intellectual capital statement will reflect the view of intellectual capital assumed by its creators, whether explicitly or implicitly [21]. An intellectual capital statement that emphasises the organisation’s action knowledge may be put together in the manner suggested by the model in Figure 1. This model has five elements that are also sequential steps in drawing up the intellectual capital statement.



- 1 knowledge narrative: who are we?
- 2 knowledge strategy: what do we want?
- 3 knowledge resources and activities: what do we have and what do we do?
- 4 the tally: how do we measure up?
- 5 knowledge management: how do we manage our knowledge?

Figure 1 Design for Nellemann Konsulenterne's 1999 intellectual capital statement

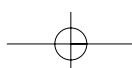


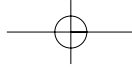
3.1 Step 1. The knowledge narrative

The first step is to appreciate the self-understanding held by the organisational members and management. In a sense, an organisation is sustained by the stories told by its members about production, service and success, about work mates, superiors and customers, and so on. These stories encompass the knowledge extant in the organisation, the familiarity with work routines, the know-how, the timeworn approaches to problems, etc. These stories may be synthesised and simplified into one story by which the organisation understands itself and the contribution it tries to make. This is the knowledge narrative [22]. It provides an historical and cultural context in terms of which the knowledge activities undertaken by the organisation may be understood.

The knowledge specialist charged with the task of writing this narrative may wish to divide it into three or four manageable and well-known bits:

- 1 the *history* of the organisation
- 2 its *culture*
- 3 its *value base* and *mission*.





3.2 Step 2. The knowledge strategy

The more immediate aims of the organisation, or its strategy, will be more or less resonant with this knowledge narrative and may (at the very least) be construed as issuing from it. Insofar as this strategy is relevant to the organisation's action knowledge, the strategy may be termed a knowledge strategy. A knowledge strategy details the knowledge-related activities that need to be performed in the organisation to fulfil its mission – in the way of training and development, learning mechanisms, knowledge-sharing activities, on-the-job training and executive coaching, as well as an overall organisational culture conducive to learning and knowledge sharing.

3.3 Step 3. Knowledge resources and activities

The next step concerns the implementation of the knowledge strategy in the set of knowledge activities performed on the organisation's knowledge resources.

The *knowledge resources* are the knowledge and the skills that the organisational members bring to bear on their work, whether acquired outside the organisation, as part of their previous education and training, or inside, during previous job experience.

The *knowledge activities* are the actions that organisational members perform to apply and add to their knowledge. They may be loosely divided into activities that emphasise, respectively,

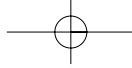
- learning (crudely put, knowledge going *into* people's heads)
- knowledge sharing (knowledge exchanged *between* people's heads) or
- knowledge development (knowledge going *out of* people's heads).

3.4 Step 4. The tally

This is the attempt to document and tally the knowledge resources and activities. The data may be gathered from many sources

- the accounting system (yielding figures such as training and development expenses per employee)
- other records (e.g. the number of internal evaluation reports completed)
- questionnaires (as administered to the employees about such parameters as their educational backgrounds or job experience)
- interviews (conducted by external consultants with the organisation's customers, for example) or
- participant observation (of the organisational culture and the extent to which it supports knowledge sharing).

An important precursor to the tallying is the reflection and collective evaluation performed by the organisational members as they look back on the past year's activities. Without this qualitative scrutiny and reflective conversation on the part of the people whose activities the tally records, the construction of the intellectual capital statement may well turn into an empty ritual immaterial to the goals of the organisation.



3.5 Step 5. Knowledge management

This last step feeds the results of the tally and the reflective conversations back to the knowledge strategy. What the organisation wanted to accomplish is held up against the data describing its accomplishments. Did the knowledge activities initiated and sustained during the year further the organisational goals – or were they irrelevant or even wasteful? Was anything useful learnt, as evidenced not only by the tally, but also by the reflective conversations carried out?

The comparisons of goals with performance, as well as the subsequent adjustment of the knowledge activities supported in the following year, constitutes knowledge management, writ large. Seen in the micro-perspective of everyday activities, knowledge management consists of the many small adjustments to knowledge practices, whenever organisational members reflect on and change the way they learn, train, evaluate, share information, etc.

Taken together, the five steps outlined above constitute a learning cycle that may be repeated annually, on a large scale, or daily, on a small scale. Devising and revising a (knowledge) strategy is an annual process in most companies, and the telling of the stories of who we are may well be an adjunct to this process. Knowledge activities are ongoing, whereas the reflection and measurement that produces the tally may be confined to a single month of the year, that preceding the drafting of the intellectual capital statement. The adjustments resulting from the comparisons of the knowledge strategy with the tally will take effect after the intellectual capital statement has been made public and discussed in the organisation.

4 A case: Nellemann Konsulenterne A/S

Nellemann Konsulenterne A/S is a Danish consulting firm of some 40 consultants who work mostly for the public sector in the areas of physical planning, strategy, organisational development and negotiation training. In mid-1999 it acquired another consulting firm, Amphion, which was one of the 20-odd companies involved in the Danish Ministry of Trade and Industry project to develop guidelines for the design of intellectual capital statements. Having made an intellectual capital statement for Amphion for the year 1998 [23], the present author continued the work and drew up an intellectual capital statement for Nellemann Konsulenterne 1999 [24] to be presented below (the presentation follows the five steps already outlined):

4.1 Knowledge narrative

Nellemann Konsulenterne's *knowledge narrative* briefly tells the story of the company's origins in its founders' concern to contribute to a kind of town and public planning that would consider the citizen as a whole, in contrast to the fragmented planning philosophy of earlier days. Amphion traces its origins, stretching back a dozen years, to a concern to help the public sector and labour unions develop their organisational and human resources in ways more effective as well as socially responsible.

The business philosophies of the two merging companies dovetail nicely. Both organisational cultures seem to emphasise the intrinsic rewards of empowering clients and their stakeholders, rather than the customary management consultant's ethos of long work

hours put in for individual financial reward. Such is also the wording of Nellesmann Konsulenterne's mission: by way of planning, consulting and training to create lasting improvements in society's physical and social structures, as well as empower the people living within these structures to change and develop them themselves.

4.2 Knowledge strategy

The *knowledge strategy* singles out three competencies or types of action knowledge that the company wishes to strengthen:

- *Interdisciplinary planning*: Nellesmann favours integrative project teams that include unusual areas of expertise – to ensure an holistic view.
- *Process consultation*: Rather than delivering solutions to the clients' problems, Nellesmann wishes to help the clients develop their *own* solutions.
- *Cookbooks, not grade reports*: Evaluations or analyses of major public projects should give directions for future development, not just grades for good behaviour.

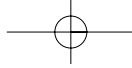
These overall ambitions are supplemented by more specific (and traditional) business goals in each of company's five departments.

4.3 Knowledge resources and knowledge activities

Next, the intellectual capital statement presents *the knowledge resources and the knowledge activities* identified as important for the implementation of the knowledge strategy. Data collected from accounting records, interviews with management, and two sets of questionnaires (one anonymous, one not) returned by all employees document the status of some 25 types of knowledge resource or knowledge activity. The most important ones are presented below. The knowledge resources identified show that the Nellesmann consultants have:

- a variety of educational backgrounds, mostly town planning and the social sciences
- a mean age of 41 years
- as many men as women
- competencies ranging from public planning, strategy, evaluation and analyses, HRM, to negotiation and conflict resolution
- an average of 15 years of professional experience, primarily derived from work for local and regional governments, the trade unions and a small number of large private companies.

The *knowledge activities* tallied are of three kinds (all measurements are averages for an individual employee, per year, unless otherwise indicated.)



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The *learning* kind are measured by:

- time spent evaluating completed projects (minutes per month: 69)
- introduction process for new employees (percentage of time spent during first three months on the job: 13%)
- professional books read (4.2)
- professional journal articles (time spent reading them per month: 3 hrs. 40 minutes)
- professional training and development (days spent: 4.6 days).

Knowledge-sharing activities include measures of:

- the extent of teamwork (percentage of total consulting hours spent in teams: 58%)
- peer coaching (number of times per month an employee asks a colleague for specific help or coaching that lasts a minimum of 15 minutes: 6.4)
- ‘scrutinising’ (number of times a colleague has evaluated one’s project at its inception and its conclusion: 3.3)
- in-house seminars (days spent on knowledge-sharing opportunities: 3.2)
- desk swapping (number of times an employee has moved to a new desk: 1.7).

Activities promoting *knowledge development* include:

- individual competency development plans (proportion of employees that has one: 14%)
- annual performance reviews (proportion of employees that has had one: 83%)
- proportion of routine work vs. challenging work (‘what proportion of your work time do you feel is routine, as opposed to challenging?’: 83%).

4.4 *The tally*

The tally is a table that lists the indicators mentioned above and their associated values.

4.5 *Knowledge management*

The last step, *knowledge management*, in which the knowledge strategy is held up against the tally, discusses steps that the company will take to address discrepancies. Adjustments include increasing the number of interdisciplinary project teams, establishing competency development plans for every consultant, strengthening the internal project evaluation routines and expanding the scrutiniser function.

5 **Conclusions**

A definition of knowledge was proposed that emphasises its dynamic quality: action knowledge is structures in consciousness (such as distinctions, categories, concepts and images) that guide human activity, including mental, bodily and social activities. Thus,

information stored on hard disks and other records is less important to knowledge managers than the live interactions of people using and sharing knowledge to improve human action. In this light, knowledge management is not the manipulation of knowledge resources for corporate gain, but the ever more sophisticated structuring of human consciousness and its manifestation in organisational action.

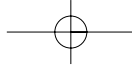
This notion of action led us to construct an intellectual capital statement that focuses on the intelligent activities of the organisational members. We paid particular attention to activities and routines that, reflexively, serve to enhance learning and knowledge sharing, such as evaluation, coaching, feedback and reflection.

This focus on knowledge activities and the frequency of their occurrence solves a major problem for the intellectual capital accountant approaching a company that has very few countables: what to count, what to measure? Some knowledge-intensive businesses, such as software houses, may measure their knowledge by counting the number of programming languages each software development specialist knows and the skill level he or she works at in each language. When faced with a company that emphasises interdisciplinary work and seeks to help its clients solve their own problems, we can no longer expect to be able to identify, fixate and count discrete skills. Names and categories for these competencies are not easily come by, as they develop and evolve in the course of business. A complementary focus is on the learning and knowledge-sharing routines and activities themselves. They are indicators of the company's concern with knowledge and its refinement.

The intellectual capital statement thus becomes a report not of any inert knowledge resources held by the company, but of the intelligent and learning-orientated actions engaged in by its members. This action focus should go some way towards meeting one of the challenges facing the intellectual capital report: making it meaningful and important to the every day concerns and activities of those organisational members who were not directly involved in the making of the intellectual capital statement.

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