Identifying the Philosophical Assumptions of Knowledge Management Perspectives

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The importance of Knowledge Management research and practice in the knowledge economy is well-recognised. However, successful development of KM as a recognisable discipline requires progress on conceptual, methodological and theoretical issues. The authors have chosen to approach the goal of conceptual integration by investigating the philosophical assumptions of KM research. The purpose is to promote conceptual integration in the KM discipline via awareness of one's epistemic commitments and those of others. In this initial paper we identify plausible philosophical assumptions of KM perspectives. The KM literature is explored and different perspectives on knowledge identified. Initial support is found for integration via a simple three-dimensional framework based on the work of Jürgen Habermas. The application of a Habermasian framework to the surfacing of philosophical assumptions of popular knowledge management frameworks will be reported in a subsequent paper.

1. Introduction

Knowledge Management (KM) is a discipline that has emerged in tandem with the establishment of the "knowledge economy" – the emergent economic era in which intellectual, rather than physical, capital is the principle source of wealth and power. The belief that putting intellectual capital effectively to work in organizations will create unique competitive advantage motivates KM researchers and practitioners to unlock the potential of knowledge which is supposedly lying dormant within the organization. 'If only we knew what we know,' is an often cited phrase (Davenport & Prusak, 1998, pg. xii) in KM that captures practitioners concerns of their limited ability to identify their most important intellectual resources and furthermore how to utilize those resources in ways which positively impacts the performance of their firm.

While these broad principles of KM are straightforward, the concept of 'knowledge' has proved to be far more elusive. The term has been used rather loosely in the KM literature. It is for this reason that KM has been criticised as management fad. Some have argued that in much of the literature 'knowledge' is synonymous with 'information' and that 'knowledge management' is merely marketing rhetoric which replaced 'information management' when 'information' fell out of fashion with consultants (Wilson, 2002).

Certainly there is evidence that KM is not just another passing management fad. Ten years after KM first became popular there continues to be significant literature output (Peachy & Hall, 2005). Furthermore, a preliminary time-series analysis of KM article counts suggest that KM is not following the same "boom-bust" cycle as Quality Circles, Total Quality Management, and Business Process Reengineering

(Ponzi & Koening, 2002). Therefore, this paper is motivated by the hope that KM is a useful endeavour and work is needed to achieve a satisfactory level of conceptual coherence about research output in order to promote mutual understanding, integration, consistency, clarity, and focus within the discipline.

There still remains the problem that the elusive nature of knowledge makes it is difficult to make sense of the KM literature as a whole. As a discipline, KM is replete with frameworks, theories, and definitions that *altogether lack cohesiveness and conceptual integration* (Guo & Sheffield, 2006). One consequence of this is that debates among KM researchers appear to focus almost exclusively on empirical studies and the reporting of facts. With a few exceptions (primarily from outside of the USA), there is no discussion about values and no attempt reach consensus on the shape of the discipline. In particular, there is little attempt to surface the assumptions underlying KM research. The authors are not aware of any papers in the KM discipline that focus on ethics. In this environment debate on conceptual linkages among facts, organizational norms and values quickly becomes brittle and acrimonious.

This research is part of a larger study that *promotes conceptual integration in the KM discipline via awareness of one's epistemic commitments and those of others*. The objective of the study is to analyse the philosophical assumptions of knowledge management perspectives and frameworks, and to draw implications from this analysis. In other words, the study aims to interpret the way in which those perspectives and frameworks treat knowledge and then examine how that affects their use in guiding KM research and practice. Mapping KM perspectives and KM frameworks onto the different knowledge interests will allow a consistent comparison useful for identifying common concepts and gaps. The results should be useful in building a conceptual foundation for KM.

This paper represents the first step of the journey. In this initial paper we identify plausible philosophical assumptions of KM perspectives. The KM literature is explored and different perspectives on knowledge identified. The purpose is to demonstrate initial support for integration via a simple Habermasian three-dimensional framework. The application of this framework to the surfacing of philosophical assumptions of popular knowledge management frameworks will be reported in a subsequent paper.

The remainder of this paper is organized as follows. Sections 2 and 3 give a brief overview of different perspectives and types of knowledge found in the KM literature. Section 4 introduces Habermas' knowledge interests and knowledge worlds. *Section 5 demonstrates the relevance and potential usefulness of the Habermasian categories by mapping into them the different knowledge perspectives and types.* Section 6 concludes this first step of the journey and introduces the second step.

2. Data, information, knowledge

Early writings in KM defined knowledge by distinguishing it from data and information and placing them all onto a three-level hierarchy as shown in Figure 1. Essentially the hierarchy is an extension of the relationship between data and information established in Information Systems: data are raw facts and

figures; information is processed data made meaningful by placing in a context relevant to the recipient of that information. Knowledge is then information somehow transformed to make it more valuable than the original information, for example by way of an individual personalising the information by evaluating it against, and then incorporating it into, his or her previous knowledge (Alavi & Leidner, 2001, pg. 109).

Underlying this hierarchy appears to be the perspective of knowledge as an object – an object which is the result of processing two more fundamental objects lower in the hierarchy. This assumes that knowledge can be universal. For example, two individuals both possessing the same mental framework (e.g. relevant professional training) can obtain the same knowledge if they both have access to the same information, which was previously derived from the same data. The implication of this for organizations is the imperative to generate knowledge by building systems which can move up the hierarchy. Of course, such an imperative presupposes that knowledge creates the capability for action, i.e. individuals, and collectively, organizations will know what to do with the knowledge once it is obtained.

Alavi & Leidner (2001) identify some additional knowledge perspectives which are summarised in Table 1. Knowledge as an object, access to information and a capability has been alluded to above. In contrast to the assumption of knowledge as an object, Stenmark (2002) notes that the perspectives of knowledge as a state of mind, process and capability alternatively regard knowledge as action-oriented, socially-situated and context-dependent. This idea will be developed further in the discussion of knowledge taxonomies below.

3. Knowledge taxonomies

A second useful approach to understanding knowledge is to classify different types of knowledge (Alavi & Leidner, 2001, pg. 110). Perhaps the most widely-adopted taxonomy of knowledge in KM is the distinction between 'tacit' and 'explicit' knowledge as popularised by Nonaka (1994) and Nonaka & Takeuchi (1995). Tacit knowledge can be thought of as that which we inherently know but find difficult to articulate and explain. Alavi & Leidner (2001), quoting Nonaka (1994), describe tacit knowledge as "rooted in action, experience, and involvement in a specific context" comprised of cognitive elements, which include "mental models, beliefs, paradigms, and view-points", and technical elements, which include "concrete know-how, crafts, and skills which apply to a specific con-
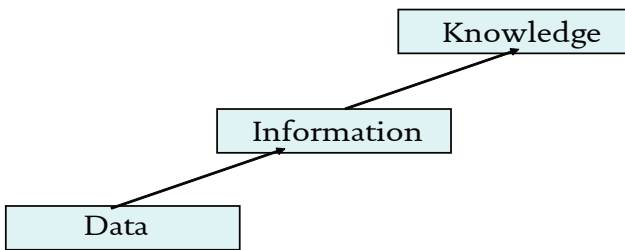

Figure 1 *The data, information, knowledge hierarchy (source: Stenmark, 2002, p. 3)*

Perspectives	Definitions	Implications for Knowledge Management (KM)
Knowledge vis-à-vis data and information	Data is facts, raw numbers. Information is processed/ interpreted data. Knowledge is personalized information.	KM focuses on exposing individuals to potentially useful information and facilitating assimilation of information
State of mind	Knowledge is the state of knowing and understanding.	KM involves enhancing individual's learning and understanding through provision of information
Object	Knowledge is an object to be stored and manipulated.	Key KM issue is building and managing knowledge stocks
Process	Knowledge is a process of applying expertise.	KM focus is on knowledge flows and the process of creation, sharing, and distributing knowledge
Access to information	Knowledge is a condition of access to information.	KM focus is organized access to and retrieval of content
Capability	Knowledge is the potential to influence action.	KM is about building core competencies and understanding strategic know-how

Table 1 *Knowledge perspectives and their implications*
(source: Alavi & Leidner, 2001, p. 111)

text" (pg. 110). On the other hand, explicit knowledge has been "articulated, codified, and communicated" in some form (ibid, pg. 110).

Table 2 summarises further approaches to classifying knowledge as identified by Alavi & Leidner (2001). These include: mode of knowledge creation/existence (mind of the individual, norms of the social collective), knowledge-orientation (know-about, know-how, know-why, know-when, know-with) and pragmatic classifications.

While the above taxonomies are useful, their simplicity does not fully capture the aspects of knowledge phenomena that are "multi-faceted and complex" (Blackler, 1995, pg. 1032). A more sophisticated classification scheme is offered by Blackler (1995) who identified five knowledge types (embodied, embedded, embrained, encultured, encoded) in his review of literature on organizational learning. An overview of those knowledge types is given in Table 3.

Analysing these various classifications shows that they also have commonalities and underlying perspectives just as the different knowledge perspectives had in Section 2.1. To begin, the examples of knowledge under the knowledge-orientation (know-about, know-how, know-why, know-when, know-with) and prag-

Knowledge Types	Definitions	Examples
Tacit Cognitive tacit: Technical tacit:	Knowledge is rooted in actions, experience, and involvement in specific context Mental models Know-how applicable to specific work	Best means of dealing with specific customer Individual's belief on cause effect relationships Surgery skills
Explicit	Articulated, generalized knowledge	Knowledge of major customers in a region
Individual	Created by and inherent in the individual	Insights gained from completed project
Social	Created by and inherent in collective actions of a group	Norms for inter-group communication
Declarative	Know-about	What drug is appropriate for an illness
Procedural	Know-how	How to administer a particular drug
Causal	Know-why	Understanding why the drug works
Conditional	Know-when	Understanding when to prescribe the drug
Relational	Know-with	Understanding how the drug interacts with other drugs
Pragmatic	Useful knowledge for an organization	Best practices, business frameworks, project experiences, engineering drawings, market reports

Table 2 *Knowledge taxonomies and examples*
(source: Alavi & Leidner, 2001, p. 113)

matic classifications appear mostly oriented towards describing knowledge either contained within or associated with rules. These could actually be subsumed under the embrained knowledge type – knowledge associated abstract thinking. As such, these classifications share in common an underlying perspective of knowledge that is generalized and universal – which corresponds to knowledge as an object. This perspective also underlies the explicit/encoded knowledge type (the two terms are synonymous).

In contrast, the underlying perspective of both the social and encultured knowledge types (which are almost synonymous, differing only in that the former is static and the latter is dynamic) is that knowledge is action-oriented, socially-situated, and context-dependent. Key assumptions of this perspective are that knowledge is emergent and that it is only meaningful when interpreted in a specific context. There are several implications of this perspective. Firstly, organizations cannot hope to 'know what they know' until an event occurs that calls for putting organizational knowledge into action. Secondly, an intervention that attempts to manage

Knowledge Type	Description
Embodied	"Knowledge that is action oriented and is likely to be only partly explicit" (pg. 1024); practical thinking.
Embedded	"Knowledge which resides in systemic routines" (pg. 1024); emerges through relationships and material resources.
Embrained	"Knowledge that is dependent on conceptual skills and cognitive abilities" (pg. 1023); abstract thinking.
Encultured	"The process of achieving shared understanding" (pg. 1024); emerges specifically through inter-personal interaction within groups.
Encoded	"Information conveyed by signs and symbols" (pg. 1025); explicit knowledge.

Table 3 *Descriptions of Blackler's (1995) knowledge types*

knowledge as a 'thing' to be extracted, transferred, stored and applied is misguided. Instead the focus should be an appreciation of the interpersonal relationships and social conditions ('the way we do things around here') which facilitate shared understanding and meaning between individuals. Thirdly, an appreciation of how existing organizational knowledge both enables and constrains the creation and normalisation of new organizational knowledge could provide a useful perspective on how knowledge evolves within particular organizations.

Another underlying perspective on knowledge that has not been discussed yet is that knowledge is inherently value-laden. This perspective can be interpreted as consistent with the popular definition of knowledge as a "justified true belief" (Nonaka & Takeuchi, 1995, pg. 21) because beliefs are founded on feelings which in turn are associated with values. While this perspective underlies both the social and individual knowledge types, it is arguably more relevant to individual knowledge considering that knowledge by way of mutual understanding within a collective does not guarantee equivalent positions regarding the validity of that knowledge among individuals (Marshall & Brady, 2001). In other words, an individual does not have to personally accept what is known in the organization. An implication of this perspective is that it allows for ethical considerations in KM if individuals are free to examine and challenge the values and interests motivating knowledge. Another implication is that an organization will become more open to the possibility of radical change if individuals at all levels of an organization feel they can challenge the established 'way we do things around here' without repercussion.

The preceding discussion on knowledge taxonomies has identified three underlying perspectives on knowledge: objective, social and personal. So far, the authors have presented each knowledge type as linked to just one of these underlying perspectives. However, it should be noted that these perspectives are neither mutually exclusive nor incompatible with each other. This is illustrated, for example, by the tacit knowledge type, which can be interpreted as incorporating all of perspectives. Firstly, we can perceive tacit knowledge as an object because it has the potential to be articulated as if it were a heuristic. A heuristic can be considered a generalization because it can be applied in different contexts. However, a heuristic

will never be a rule because its application depends upon the judgement of the actor who is applying it. In this way the social perspective also underlies tacit knowledge because tacit knowledge is grounded in experience and emerges through action sensitive to context. Secondly, because tacit knowledge exists within the mind it must also incorporate values and therefore be guided by the interests of the knower. Finally, while the social knowledge perspective strongly underlies both the embodied and embedded knowledge types they can also be seen to partially incorporate the knowledge as an object perspective as well.

4. Habermasian knowledge interests and knowledge worlds

In Sections 2.1 and 2.2 a framework which identifies three fundamental perspectives of knowledge has begun to develop. This section will continue to develop this framework by adopting the three 'knowledge interests' examined by Habermas in *Knowledge and Human Interests* (1987) and located in the 'knowledge worlds' described his *Theory of Communicative Action* (1984, 1987). The reason for drawing on Habermas is because he provides a more precise articulation of the three underlying perspectives of knowledge already identified.

Jürgen Habermas is a prominent German philosopher and sociologist. His Theory of Communicative Action can be broadly described as concerned with "discourse ethics" (Endres, 1996). Within his theory, Habermas defines the 'system-world' and the 'life-world'. The system-world is the totality of social systems whereas the life-world is the totality of an individual's lived-experiences. Each is defined via its relationships to three perspectives on knowledge or knowledge worlds: "the objective world, which represents facts independent of human thought and serves as a common reference point for determining truth; the [interpersonal or] social world, comprised of inter-subjective relationships; and the subjective world of private experiences" (ibid.). Within each knowledge world Habermas' recognises a different knowledge interest, viz. technical, practical and emancipatory, respectively. The technical interest is concerned with instrumental interventions for controlling humans' interaction with the physical world. The practical knowledge interest is concerned with achieving shared interpretation and meaning between individuals. The emancipatory knowledge interest is concerned with self-reflexivity and recognizing "systematic communicative distortions" (Guo & Sheffield, 2006, pg. 2) that are the result of the "colonization" of the life-world by the system-world.

The three Habermasian knowledge interests (technical, practical and emancipatory) and knowledge worlds (technical, interpersonal and personal) correspond to the objective, social, and personal perspectives of knowledge, as identified in Sections 2.1 and 2.2, respectively. This is illustrated in Table 4 (also listed are corresponding research paradigms which may help in understanding knowledge interests and perspectives for those readers who are already familiar with these different paradigms). *Aligning each knowledge perspective with the appropriate knowledge interest/world surfaces the researcher's purpose and underlying theoretical perspective and epistemological commitment.* For example, the declarative, procedural, causal, conditional and relational knowledge types presented in Table 2 all have a common technical interest in explaining, controlling, and predicting phenomena concerned with human 'work' as defined by Habermas.

Knowledge Interest	Knowledge World	Knowledge Perspective	Research Paradigm
Technical	Technical	Objective	Positivist
Practical	Interpersonal	Social	Interpretivist
Emancipatory	Personal	Personal	Critical

Table 4 *Habermasian categories and corresponding KM perspectives and research paradigms*

5. Knowledge perspectives and types mapped onto the Habermasian categories

This insight, together with the concepts discussed in Sections 2.1 and 2.2, lead to the mapping of knowledge perspectives and types defined by Alavi and Leidner (2001) and Blackler (1995) onto the knowledge worlds described by Habermas. A key assumption is that these knowledge interests and knowledge worlds are broad enough to provide a comprehensive categorization of knowledge. Because knowledge phenomena are inherently complex and multidimensional these categories are not mutually exclusive. A knowledge perspective/type may be associated with multiple knowledge interests or knowledge worlds. At the risk of oversimplifying the richness of the relationships the result is presented graphically in Figure 2. The depth of shading represents the strength of association between a particular knowledge perspective/type.

6. Conclusion

The aim of this paper was to address two key problems in KM research, namely a certain lack of cohesiveness and conceptual integration, and difficulty in discussing the relationships among facts, social consensus and values. The solution to both problems is approached by investigating the philosophical assumptions of KM research. The purpose is to promote conceptual integration in the KM discipline via awareness of one's epistemic commitments and those of others. In this initial paper we identified plausible philosophical assumptions of KM perspectives. The KM literature was explored briefly to identify different perspectives on knowledge. Initial support is found for integration via a simple three-dimensional framework based on the three 'knowledge interests' (technical, practical and emancipatory) that Habermas examined in *Knowledge and Human Interests* (1987) and located in each of the three 'knowledge worlds' (technical, interpersonal and personal) described in his *Theory of Communicative Action* (1984, 1987). The application of a Habermasian framework to the surfacing of philosophical assumptions of popular knowledge management frameworks will be reported in a subsequent paper.

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Habermasian Category			
Knowledge Interest	**T**	**P**	**E**
Knowledge World	T	I	P
Knowledge Perspective			
Knowledge, data, information	■		
State of mind		■	
Object	■		
Process		■	
Access to information	■		
Capability		■	
Knowledge Types (Alavi & Leidner, 2001)			
Tacit	▨	▨	▨
Explicit	■		
Individual			■
Social		■	
Declarative	■		
Procedural	■		
Causal	■		
Conditional	■		
Relational	■		
Pragmatic	■		
Knowledge Types (Blackler, 1995)			
Embodied	▨	■	
Embedded	▨	■	
Embrained	■		
Encultured		■	
Encoded	■		

Figure 2 *Knowledge perspectives and types mapped onto Habermas's knowledge interests and knowledge worlds*

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