

From information to knowledge management: a critical approach on differences and common ground under the integration rhetoric

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It is apparent that the criticism about Knowledge management as a fad or a new name for Information management, is mainly expressed from the Information Science community (Jashapara, 2004, p.12). This behaviour possibly stems: i) from the threat that Information managers are facing with the emergence of Knowledge management discipline and their difficulty to obtain strategic roles in the Knowledge centred organizations (Abell and Oxbrow, 2001, p.276), and ii) from the fact that the '(explicit) information centred' part of a Knowledge management initiative partially legitimizes the argument that Knowledge management "is simply a more pretentious synonym for information management" (Wilson, c2003, p.264). However such an argument cannot be extended to the whole Knowledge management concept.

The basic source of the above criticism is Wilson's (2002) "Black Bible of Knowledge management" where he gathers all his arguments concerning Knowledge management as a fad. The main arguments posed in his article are briefly presented below:

i) Knowledge management is a new strategy fad that stems from the consultancy companies. Knowledge management like other fads as TQM, Benchmarking, Business Process Re-engineering (BPR), is not going to last for a long period of time.

ii) Knowledge management as an academic discipline is not yet approved or considered important. Wilson asserts that Knowledge management does not appear into teaching programmes of the leading universities. Moreover he asserts that Knowledge management modules or courses offered from other universities are more Information management, Information systems and Expert systems oriented.

iii) The interchangeable use and the fault consideration of 'Knowledge' and 'Information' as synonyms from many Consultant companies and software providers.

iv) Knowledge management as a "search and replace marketing". Wilson asserts that many software companies in order to strengthen the Information management software market, re labelled many Information management systems and technologies as "Knowledge management software".

v) Tacit knowledge cannot be captured or managed.

vi) Finally, one more argument is that Knowledge management replicates Information management processes like information sharing (as knowledge sharing) (Wilson, 2003) or information mapping (as knowledge mapping). (Wilson, 2002)

For the purpose of this presentation, three main aspects, as criteria for differentiation and debate between Information and Knowledge management, will be discussed. The criteria are: Knowledge capital, Knowledge sharing and KM systems and e-learning. Finally, this announcement will present a conclusion and a set of recommendations for the effective application of Knowledge management by learning organisations like the Greek academic libraries.

2. From explicit Information to Knowledge capital

Bonthillier and Shearer assert that differentiation between "Knowledge" and "Information" is important in order to understand the differences between Information management and Knowledge management (Bouthillier and Shearer, 2002).

Information is defined as a set of organized data, with "meaning, purpose and relevance" (Jashapara, 2004, p.15-16; Awad and Ghaziri, 2004, p.36-37). Moreover, 'information' can have an impact on the receiver's "outlook or insight" (Davenport and Prusak, 1998, p.3; Jashapara, 2004,

p.16). On the other hand 'knowledge' is something "broader, deeper and richer than 'information' (Davenport and Prusak, 1998, p.5). Jashapara, in a practical sense, defines knowledge as "actionable information", as it allows us to make "better decisions" and predict future outcomes" (Jashapara, 2004, p.16). The dominant knowledge typologies in the Knowledge management discipline are: i) explicit knowledge (that it is codified), ii) Implicit knowledge (that it can be codified) (Al-Hawamdeh, 2002), and iii) tacit knowledge (that it cannot be codified and resides in human's mind). In this manner Information management is more focused on explicit knowledge/recorded information while Knowledge management is more focused on managing both tacit and explicit knowledge as also the procedure or activity of its constant transformation (from tacit to tacit, from tacit to explicit, from explicit to tacit and from explicit to explicit) (Nonaka and Takeuchi, 1995). Moreover at the explicit information level there are differences between Knowledge management and Information management. For example Knowledge management emphasizes the management of unstructured and informal information, while Information management is more concerned with structured and formal forms of information (Koenig, 2003, p.357). Furthermore, internal information (that resides in the organization) is considered of high importance in Knowledge management while Information management mainly manages external information (from the literature) (Koenig, 2003, p.357).

2.1. Tacit Knowledge

According to Polanyi's statement that "We know more than we can tell" every attempt to capture and rationalize in a management process something so hidden and ambiguous as tacit knowledge is a fad (Wilson, 2002). Wilson criticizes the feasibility of knowledge transformation from tacit to explicit. Moreover he attempts to give a more rational perspective of Knowledge transformation from Tacit to explicit by replacing the term 'tacit' with the term 'implicit' knowledge. In this manner Knowledge management, like Information management, can only manage what can explicitly be expressed. However knowledge management research has provided some frameworks or explanations that emphasize the transformation from tacit knowledge to explicit (Herschel, 2001, p.107-116; Selamat and Choudrie, 2004, p.128-139). Knowledge sharing practice, and mostly research tried to rationalize and exploit such an ambiguous concept as Tacit Knowledge, and to legitimise its use in the corporate environment. "Meta-abilities" (Selamat and Choudrie, 2004, p.128-139) and "Knowledge exchange protocols" (Herschell, 2001, p.107-116) are two examples where research tried to describe a standard framework or process, in order to facilitate the transfer of tacit knowledge through its transformation to explicit knowledge. In this manner tacit knowledge is not passively maintained and stored in one's mind but it can be shared and reused.

3. From Information delivery to Knowledge sharing

Knowledge management established the role of knowledge sharing as an important part of the knowledge centred organization. Knowledge sharing is an active procedure of constant knowledge transformation and generation. It promotes the idea of the learning organization, it supports the establishment of competitive advantage and improves human activity. Knowledge sharing is not just a mechanism for information access and delivery. It is an ongoing procedure of value addition to the organization's intellectual capital. Moreover, knowledge and information are shared "in the context of a dense web structure" (Koenig, 2003, p.357) where people access, use the obtained information or generate new knowledge. In this manner knowledge sharing can play a more active role in the "corporate culture transformation and change" than the central, one way transfer of information which information management introduced (Koenig, 2003, p.357).

Walsh and McGrath argue that a debate is taking place between "Knowledge workers" who require autonomy and flexibility to do their work, and management who looks for control and order (Walsh and McGrath, 2001). The basic question that stems from this conflict is "Which structure can support adequately the development of a knowledge sharing infrastructure ?" or inverting the above question "How knowledge management challenges the traditional industrial structures ?". From a knowledge sharing perspective both (Nonaka and Takeuchi, 1995) and (Boisot, 1998) argue that explicit knowledge can be more suitably handled and distributed in a structured and hierarchical environment, while tacit knowledge cannot be captured or transmitted within such strictly and formally formed organizational structures. For example communities of practice constitute informal socio-technical networks, without structured hierarchy, where tacit knowledge can be shared and interpreted among the members of the community or the group. However communities of practice and knowledge sharing initiatives cannot be established in organizations that follow hierarchical structures.

Walsh and McGrath, exploring how traditional organizational structures were affecting knowledge sharing in the EJECT-COM company, argue that these structures inhibited the creation and sharing of tacit knowledge among the members of the organization. They concluded that the ideal situation would be the establishment of a more flexible structure that could enable knowledge sharing within the organization (Walsh and McGrath, 2001).

Oliver and Montgomery presented the case of "New Genetics" a biotechnology firm that managed to adopt a new form of structure. Such a structure, captured knowledge sharing and flexible collaboration among knowledge workers into a new management strategy, excluding old-fashioned hierarchical and strict norms or structures (Oliver and Montgomery, 2000, p.33-56).

Whether an organization decides to adopt a "structure free" or a convergent form of flexible structure (convergence between old structures and linear, free flow, flat structures) in order to support its knowledge sharing initiative, unquestionably knowledge sharing has challenged the traditional industrial-hierarchical structure and its inability to support the knowledge flow within organizations.

Democracy in organizations or "internal democracy" (Huseman and Goodman, 1999, p.216) can be established as a result of knowledge sharing organizations. Knowledge sharing initiatives challenge the traditional hierarchical structure and particularly the behaviour that stems from such a structure. The barriers of communication between different levels of management are falling. People are becoming more encouraged in sharing knowledge at all levels of the organization. This notion of freedom and free knowledge flow is apparent even at the strictly hierarchical army structures. U.S. Army After Action Reviews (AAR) constitute an example of knowledge sharing based on discussion and free knowledge flow, where even a soldier is encouraged to participate (Dixon, 2000, p.33-52). The notion of democracy in a knowledge sharing culture gives each member of the organization the opportunity to be equally treated either as knowledge transmitter or as knowledge recipient.

4. KM Systems and Technology

Knowledge management tools, unlike Information management tools, do not limit their functions to the point of gathering, selecting, organizing, disseminating, securing and analysing information, but also involve technology that can facilitate the development of learning infrastructures, the implementation of processes like capturing and codifying knowledge, and the establishment of collaboration. For example Al-Hawamdeh asserts that "collaboration technology" is one of the most important Knowledge management tools, as it enables collaboration and interaction between professionals in a virtual environment (Al-Hawamdeh, 2002). Other technologies like web conferencing extend the above scope. Consequently, knowledge

management tools have to support and develop a more complex and integrated E-learning environment. "Information management tools are a subset of Knowledge management tools" (Al-Hawamdeh, 2002).

4.1. Reconsidering human capital within IT intense organisations

Knowledge management initiatives challenge the current management priorities (e.g. constant and huge investment in IT infrastructure) and re evaluates the role that individuals and human networks can perform in knowledge centred organizations. According to Huysman and de Wit knowledge sharing has to challenge three "traps" which are related with the role that individuals and groups of people can play in the organizational environment:

- the management trap (when the management does not pay attention to the human needs for sharing knowledge)
- the individual trap (when the management is focused more on individual learning than organizational learning), and finally
- the IT trap (when the organization pays more attention to the establishment of the IT infrastructure, than the formation of social networks/communities) (Huysman and de Wit, 2000, p.126).

Knowledge sharing challenges all the above traps. This can be accomplished by establishing a new management culture and norms that support the role of human capital in the corporate environment. Investment in human networks, organizational learning and finally the establishment of a knowledge sharing initiative that stems from people's needs and not from a Top management obligation are essential changes that can cover the three "traps" mentioned above and establish a new organizational culture.

In conclusion, what was attempted in the above section was a brief analysis of the debate between Information management and Knowledge management. Although the purpose of the analysis is not to close this debate, however the most apparent argument that may lead to a consensus, is that "Knowledge management is a broader concept than Information management, but Information management is an essential part of a Knowledge management initiative". Three aspects that legitimize the broad concept of Knowledge management (Knowledge Capital, Knowledge sharing and KM Systems and technology) were briefly discussed. However a major aspect, concerning the debate, that has not been presented above, is that within the information-intensive disciplines other similar debates can be traced. Authors such as Bouthillier & Shearer (2002) and Wilson (2003) remind us that a same debate had taken place few years ago between librarianship and documentation, and afterwards between documentation and Information management. Perhaps the problem is not merely based on the ambiguous concepts of 'Knowledge' and 'Information' but also on the lack of an integrated theoretical base of Information Science.

5. A motivational matrix for integrated Information and Knowledge management initiatives.

The above discussion revealed that Knowledge management manages to balance the human and technological aspects of current organisations into a new management philosophy. Besides the IT capital, human capital and the knowledge that resides in it, is an active force of the new integrated initiative were information management and knowledge management simultaneously occur. In such an integrated environment motivation is an important factor for the successful implementation of Knowledge management in the learning organisations. The purpose of this section is to propose a theoretical motivational framework that can be implemented by academic libraries and other information-intense organisations as an opportunity to support their knowledge

management initiatives as integrated socio-technical networks and not merely as IT initiatives. The proposed framework can be equally implemented either as a library management initiative (between the library management team and the librarians) or as a library service provision (between the library service and the user community).

There is a tendency that stems from economists perspective that organisations should be run as if they were markets where people are rewarded for their individual contributions (Osterloh and Frey, 2000). In this manner a whole organisational culture is developed that is based on extrinsic (reward system/self interest) than intrinsic motivation (community interest). However authors such as Osterloh and Frey (2000), McClure and Faraj (2000) have criticized this tendency by proposing a reconsideration of the existing reward system as the only mean for managers to encourage participation in Knowledge management initiatives and Communities of practice (CoP). Characteristically McClure and Faraj (2000) assert that “a system based on extrinsic rewards quick turns community interest (intrinsic motivation) into acts of self interest, and could potentially impede the free flow of knowledge (Information-knowledge hoarding) in a knowledge based organisation (McClure and Faraj, 2000). Moreover Osterloh and Frey (2000) from a “tacit knowledge” perspective assert that intrinsic motivation can reinforce the sharing of tacit knowledge within the organisation while extrinsic motivation can be more easily applicable in quantifiable or explicit tasks and products (Osterloh and Frey, 2000). They also support the dynamics of intrinsic motivation as a cost effective way for managers to increase cooperation and trust among the employees, encouraging their participation in knowledge-based cultures (Osterloh and Frey, 2000).

5.1. Extrinsic and Intrinsic motivation

Osterloh and Frey (2000) define extrinsic motivation as the process of “linking employees’ monetary motives to the goals of the firm”, while intrinsic motivation is related to the employees’ “immediate need satisfaction”, e.g. in case of problem solving. For the purpose of this study we will try to analyse intrinsic and extrinsic motivation from a dual framework proposed by Ardichvili, Page and Wentling (2003): i) “willingness for sharing knowledge” (contribution) and ii) “willingness for using knowledge”. In this manner extrinsic and intrinsic motivation can be used in order to motivate either knowledge sharing (contribution) or knowledge use. As an outcome of this study a motivational matrix for participation in CoP is proposed (see Figure. 5.1.).

5.1.1. Intrinsic motivation for sharing knowledge

The success of knowledge sharing depends on a variety of social and technological attributes (Holstouse, 1998) as also on the organisational culture and climate change (De long and Faj, 2000, Ardichvili, Page and Wentling, 2003, McClure and Faraj, 2000). This means that Management has to play a supportive role by developing the cultural, technological and psycho-sociological aspects needed for employees to be motivated to share their knowledge. Some of these aspects are briefly presented below:

- *Knowledge sharing as a norm.* This is the most critical point which Top Management should take into account when building KM Initiatives. When senior management incorporates knowledge sharing as an organisational norm (Osterloh and Frey 2000) and recognises the true value of Knowledge Management (Durham, 2004) employees are motivated to participate as it becomes clear that Knowledge sharing is an integral part of the organisation’s daily operations and culture. By establishing Action Tables (Durham, 2004) or formal and informal codes of Ethics the management can cultivate appropriate conditions for establishing knowledge sharing as an organisational norm.

- *Mutually supportive relationships* (Osterloh and Frey, 2000, Ardichvili, Page and Wentling, 2003). Mutually supportive relationships can motivate people to share their knowledge. Organisations that promote team based structures, and team spirit (Osterloh and Frey, 2000) will more easily develop the image of the “organisation as a whole” (Ardichvili, Page and Wentling, 2003, McClure and Faraj, 2000) where knowledge can be treated and shared as a public good among the employees.
- *Psycho sociological based motivation*. Ardichvili, Page and Wentling (2003) assert that most people are not willing to contribute in a CoP or a knowledge management initiative either because they are afraid that their contributions may not be important or relevant, or even because of the fear of negative criticism. The organisation should convey the idea that “every idea is worth of consideration even if it does not ultimately become the chosen one” (Durham, 2004).
- *Leading by example* (Durham, 2004). It is obvious that if senior management participates in knowledge management initiatives, more employees would realise the importance to do so.
- *Safe environment*. It is an obligation of senior management to develop adequate safety measures and reassure people about the safety and confidentiality of their postings in the knowledge networks. The more safe the knowledge network is the more likely for the employees is to share their knowledge through it.
- *Institutional based trust* (Osterloh and Frey, 2000) and *relationship building* (Lesser and Storck, 2001). The Top Management by encouraging face to face meetings, providing codes of ethics and adopting reliable management practices can more easily encourage employees to participate in Knowledge management initiatives and communities of practice. It is evident that “low trust organisation forms” impede knowledge sharing and use (De Long and Fehey, 2000).

5.1.2. *Intrinsic motivation for using knowledge*

“Knowledge sharing as a norm” and “institutional based trust or relationships building” are two important aspects that management should consider in order to motivate people use the tacit or explicit knowledge. However apart from the above it is important for the management to invest in the development of an adequate user friendly technological infrastructure in order to encourage and motivate people use the shared knowledge. Timeliness, easy access (content management, e.g. taxonomies), system interoperability and evaluation or filtering of information are some technical characteristics that will lead to more quick and easily accessible repositories of best practices and lessons learned databases.

From the above sections (5.1.1 and 5.1.2) it becomes obvious that the implementation of intrinsic motivation either for sharing or using knowledge requires a deep organisational change. It is the management’s role to encourage employees to participate by establishing mechanisms for reinforcing the needed psycho-sociological, cultural and technological changes.

5.1.3. *Extrinsic motivation for using and sharing knowledge*

However except for intrinsic motivation the senior management can also implement a variety of extrinsic motivation systems such as reward systems or evaluation of performance methods. For example Durham (2004) proposes that the management can clarify that the participation in the knowledge management initiatives is considered as part of each individual’s “performance goal”. Evaluation can motivate employees to participate as this will affect the evaluation of their performance. Moreover, in an interesting study Tiwana and Bush (2001) propose *Active feedback*

and *contribution ratings* as a way to estimate, evaluate and offer rewards for each member’s contributions and participation in knowledge based organisations.

In contrast with intrinsic motivation, extrinsic motivation is based on the development and maintenance of market/trade-off relations between the employees and the senior management. Although intrinsic and extrinsic motivation introduce two different ways for engaging members to participate and share their knowledge in CoP and Knowledge Networks, it is apparent that the balance between them can inhibit the “crowding out” effects (Osterloh and Frey, 2000) and can lead to a successful management of motivation that managers could implement in order to support the functionality and durability of the whole knowledge management initiative.

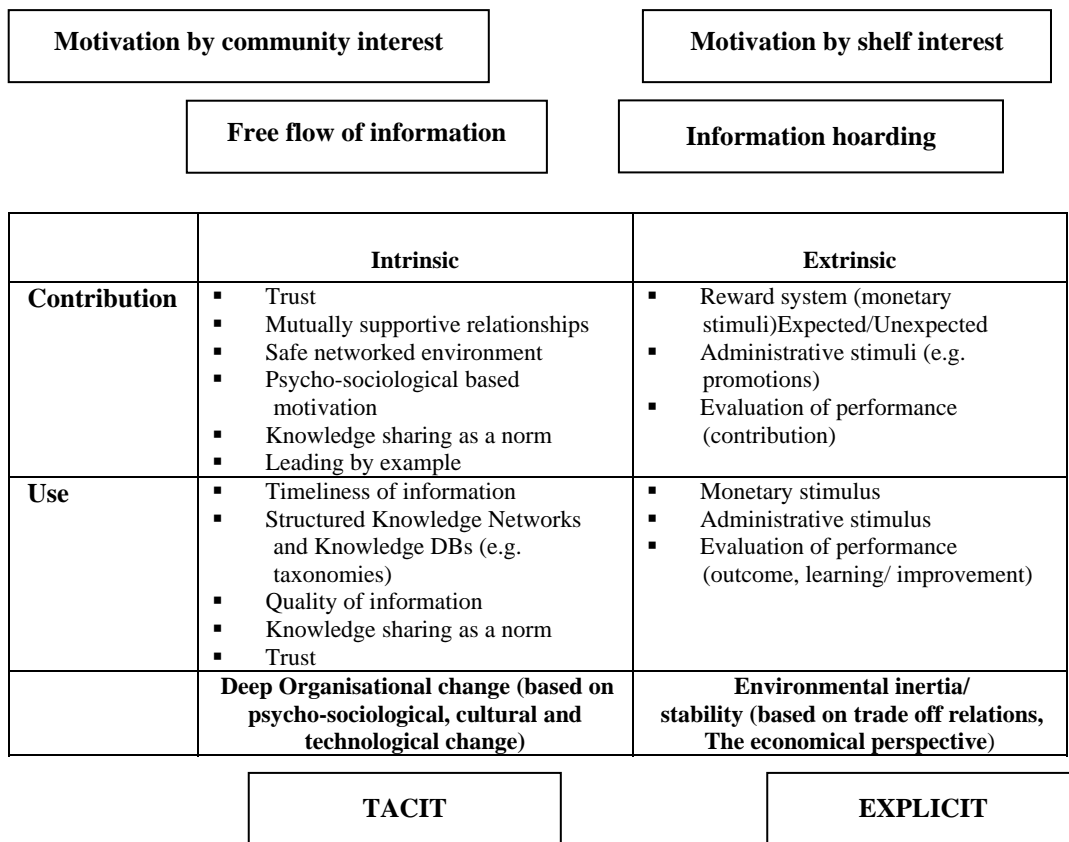


Fig. 5.1. The motivational matrix for knowledge sharing: implications for managers

6. Conclusion

This paper tried to present some of the main differences between information and knowledge management and highlight their integrated nature into the knowledge management initiatives. In addition, a motivational theoretical matrix has been proposed based on intrinsic and extrinsic stimuli that influence and support people’s participation into knowledge-based initiatives. Although knowledge management is still in its infancy in Greek academic libraries sector, it can be implemented as both a library management technique as well as a knowledge provision service

to the academic community. However it is important for the academic libraries to reassess the role of Information management and Information systems building along with their human capital. Two issues that should be taken into account when implementing Knowledge management initiatives, include the use of IT and Information management for supporting Knowledge management and the participation of people into informal web structures that promote knowledge sharing and re-utilisation. On the other hand Knowledge management initiatives should not merely replicate information management.

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