

11 Tool support in overcoming challenges of knowledge sharing within organisations

Amanda DELAMER

University of Applied Sciences Wiener Neustadt, Austria

11.1 Abstract

Knowledge owned by an organisation is located in various places and defines not only what the business knows but also what it can accomplish. For any organisation, people are its key asset. The status of their knowledge, much of it accumulated and some shared, as well as demands made on it are constantly changing. To keep pace with developments, enhanced sharing of knowledge is something that needs to be actively addressed, encouraged and supported in a complex organisation. Ideally, such an implementation allows the level of knowledge exchange attained to far exceed any due solely to the more routine interactions between people. Efficient tools and processes can allow a concern to better meet its needs by effectively capturing and sharing the knowledge that is essential to its success. This paper examines some of the inherent challenges in knowledge sharing within an organisation and some more practical solutions applied to overcome them.

Keywords: Knowledge management, organisation, knowledge sharing, tool support

11.2 Introduction

Sharing of knowledge is vital within an organisation and needs to be not only encouraged and supported but also actively addressed to optimise use of an essential resource. Knowledge that is easily documented or digitally archived can be readily stored and made available to others. However, knowledge in the form of know-how, experience and softer skills invariably resides with individuals and is by its very nature more difficult to access and impart. People who are bearers of knowledge are a key asset to an organisation and the status of what they know, much accumulated and some shared, as well as demands on that as a resource are constantly changing.

To maintain sustainable competitive advantages, it is vital for an organisation to understand the exact nature of its knowledge assets and how the challenges of managing them can be met. The solutions invariably rely heavily on dedicated technology with ever-improving functionality, which allows valuable organisational insights and records to be stored and shared. However, the successful management of knowledge is inextricably linked to people and the upholding of a culture among them, where both open-communication and the willingness to share expertise thrive.

11.3 Knowledge and the Sharing of It within an Organisation

This paper focuses on knowledge and the sharing of it within organisations using tool support. It is assumed that these tools are primarily embedded in Information and Communication Technology (ICT). Ideally, such purpose-built systems make it easier for organisations to acquire, manipulate, store or disseminate knowledge and to thus facilitate knowledge sharing. Effortless exchange of certain categories of knowledge between people at different locations is commonplace nowadays, thanks to the ubiquitous internet that continues to grow. In the

case of any organisation's own knowledge system, it is ideally tailor-made to meet a very specific set of predetermined needs. Once in operation, such a system's integrity, maintenance and availability as well as how it is worked with will determine how effective and useful it is to all who share it. Within an organisation, the process responsible for the sharing of perspectives, ideas, experience and information, and for ensuring that these are available in the right place and at the right time is referred to as Knowledge Management (KM). Though there is a lack of any common definition of KM, it is clear that the proven benefits of the concept lie principally in the support of know-how transfer, the enabling of more informed decisions and an improvement in efficiency by reducing the need to rediscover knowledge [1].

11.3.1 Data, Information, Knowledge and Wisdom

The underlying question of what exactly constitutes the knowledge assets of an organisation raises the key issue of how to differentiate between what is raw data, processed information and actual knowledge or ultimate wisdom [2]. The distinctions are made as follows:

Data: Discrete and objective facts, measurements or observations that can be analysed to generate information.

Information: Data that have been categorized, analysed, summarized and placed in context in a form that has structure and further meaning.

Knowledge: A combination of data and information, to which is added expert opinion, understanding, skills and experience, thus resulting in an asset that aids decision making. In organisational terms, knowledge is generally thought of as being know-how, applied information, information with judgment or the capacity for effective action. Knowledge may be tacit, explicit, individual and/or collective. It is intrinsically linked to people.

Wisdom: involves using knowledge for the greater good, the ability to discern and judge which aspects of knowledge are true, right, lasting, and applicable to life. It goes deeper and is more uniquely human. It requires a sense of good and bad, right and wrong, ethical and unethical (e.g. morals, ethical codes, principles)

A helpful example to further illustrate the relevant distinctions is that of choosing a car and driving it. Data would include the fuel type, engine horsepower, colour options and so on. Information might comprise a comparison of model features, statistics on colour preferences or details concerning the availability of vehicles from local dealers. How we might put the car to use and how much of the maintenance and repairs we can look after ourselves would then be within the realm of knowledge. Adding an element of wisdom to that would determine the extent to which we are conscientious and considerate drivers with concern for the environment. Knowledge is often referred to as 'know-how' and can be positioned within the four-tiered hierarchy as shown in Fig. 1 below, which summarises the components to signify 'know-what', 'know-which', 'know-how' and 'know-why' respectively.

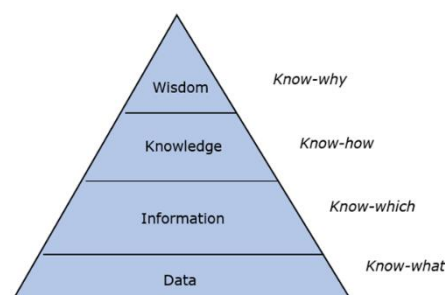


Figure 1: Data-Information-Knowledge-Wisdom Hierarchy

11.3.2 Tacit vs. Explicit Knowledge

To explore aspects of knowledge sharing within organisations it is important to distinguish between what is *explicit* knowledge that can be readily articulated and made generally

available and what is *tacit* knowledge that is stored in people's heads and derived from personal experience. Communication of the latter is logically the more challenging. It is estimated that some 80% of an organisation's knowledge assets are tacit, residing in people, while only the remaining 20% is of the codifiable kind. Fig. 2 illustrates the iceberg analogy used to emphasize the proportions of the more hidden types of knowledge that are a considerable asset to an organisation [3].

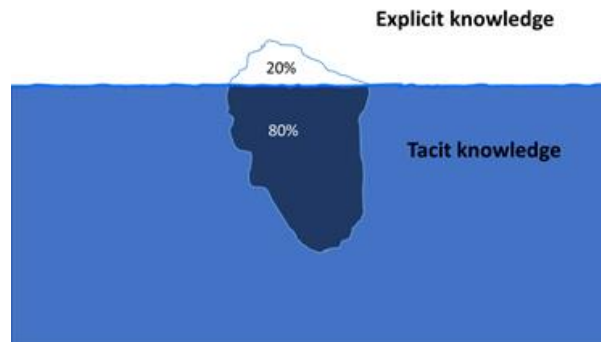


Figure 2: *Explicit vs. Tacit Knowledge – Iceberg Analogy*

Explicit knowledge is all knowledge that is easily expressed, recorded and codified. It can be made readily accessible in the form of searchable information that is simple to find and understand. Users can collaborate without much difficulty on the creation and the use of such knowledge, allowing it also to be transmitted to others. Most forms of explicit knowledge can be stored in generally-available media, such as databases, documentation archives, reports, memos, notes, etc. The information contained in wikis, handbooks and textbooks are prime examples of this type of knowledge.

Tacit knowledge, on the other hand, is knowledge found in people's heads that is often difficult to share with another person by writing it down or verbalizing it. More specifically, it can be defined as skills, ideas and experiences that people have but that are not codified and may not necessarily be easily expressed. Examples of it in everyday life are: driving a car, speaking a language, inline skating, playing a guitar, interviewing job candidates and deciding how an urgent problem is to be resolved. With tacit knowledge, we are often unaware of both the fact that we possess it and that it could be valuable to others. Effective transfer of it generally requires extensive personal contact, regular interaction and trust. This kind of knowledge can only be revealed through use in a specific context and is transmitted through a community of practice. Often captured by gradually building up expertise, it can then be shared with others through techniques, such as training, learning-by-watching on the job or mentoring. When shared in context, with explanations and the opportunity to let consequences be observed, appropriating tacit knowledge stimulates creative thinking and leads to innovation and change. Any learning experience is augmented when the subject matter being imparted is aligned with the curiosity and interest of the person under instruction [4].

11.4 Management of Knowledge Assets within Organisations

An organisation needs to look at the forms in which its knowledge assets exist and at the different ways in which they can be accessed, shared, and combined, to make best use of them. With a deeper understanding of its knowledge requirements an organisation can implement a KM system optimised for its own specific applications.

11.4.1 Core Knowledge Activities

Activities involved in KM can be described in relation to many different disciplines and approaches but almost all of them focus on the five basic activities shown in sequence in Fig. 3: *identify*, *create*, *store*, *share* and *use* [2]. The KM process is initiated with the activity *identify*, which corresponds to making an inventory of all people and all system-based knowledge within the organisation. This is followed by the step *create*, which entails the actual gathering of that knowledge from the people or systems that hold it. During the *store* stage, the knowledge is organised into codifiable and non-codifiable categories and preserved appropriately. Ultimately, knowledge assets can then be passed between people and systems in a *share* phase, prior to fulfilling their function of *use* and bringing benefit to the organisation. A feedback loop allows for continuous maintenance and updating of the system.

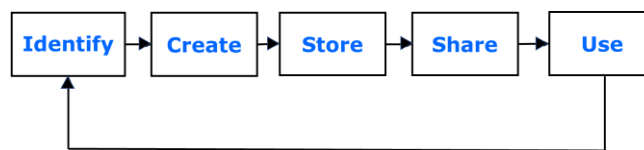


Figure 3: Core Knowledge Activities (Source: [2], p.297)

11.4.2 Tool support of knowledge sharing

KM tools include any methods and techniques that are used to support or deliver practical knowledge management. These can be information-technology systems, including e.g. databases, data warehouses, intranets, extranets, content management systems, wikis and portals. Other dedicated tools within the system may offer enhanced functions like data mining, decision support or simulations. An organisation may furthermore build its own Body of Knowledge (BoK) collecting material on methodologies, best practices and lessons learned. In the purely human dimension, there will be methods involving such techniques as mentoring programmes, communities of practice and the use of narratives. All of these and many others are examples of tools used to share knowledge.

For the sharing of knowledge to be efficient, a KM system and the tools supporting it need to be available company-wide with suitable security in place to protect access to this crucial resource. To promote use, it should be easy for staff to update the content and to add information. A system that can deliver accurate and appropriate answers with low response times will best serve not only employees but potentially customers as well. Identifying the right size of knowledge granules or basic elements in the system is a further critical factor. This allows the creators of the knowledge content to best re-use smaller components and to more exactly get what is needed to the individual users. Further valuable inputs for training, coaching and FAQ can be found in the analyses of search patterns and of use history.

11.5 Inherent challenges in knowledge sharing within an organisation

To successfully create and implement a KM system, it is essential to manage the environment where knowledge is exchanged and to build a culture that values expertise [5]. The following list outlines the main motivators that facilitate the sharing of knowledge:

- KM system is reliable, up-to-date and easily accessible
- Top management commitment to KM
- Communication channels and documentation management in place

- Content readily understood, creators of knowledge supported
- Face-to-face dialogues enabled and encouraged
- Knowledge sharing is part of the job and relevant to appraisals
- Time specifically scheduled for training and learning
- Training-on-the-job, job rotation instituted
- Use of newer media to communicate/collaborate/animate/inspire
- Create opportunities for employees to inform colleagues about their work, with room for healthy competition and perhaps offering rewards
- Positive experiences: time and costs saved, intellectual capital retained/accessible, avoiding reinventing the wheel

It is also worth highlighting what ought to be avoided at all costs in the realm of KM within an organisation [6]. Below are some of the recognised deterrents that often creep in gradually, hindering the sharing of knowledge and hampering the efficiency of KM systems:

- When KM fails to add value to the organisation, it is only cost intensive or counterproductive.
- No time allowed, nor importance attached to sharing experience or knowledge
- Sensing that work done is not worth sharing, of limited use
- Inefficient, cumbersome knowledge system and processes
- Little motivation, least glamorous part of job
- Lack of job security and attempts to compensate with knowledge hoarding
- High staff turnover, aging workforce with loss of know-how due to retirement

A positive example of how to very constructively share knowledge is given to us in 'NASA Lessons Learned' [7]. After some notable mission failures, NASA identified its need to make a strong commitment to becoming the best learning organisation it could be, making knowledge central to its new vision [8]. As part of this move, their database of lessons learned was made accessible to anyone over internet. An outstanding feature of this resource is that whether the content is dealing with rocket science or is more akin to common sense, it clearly aims to facilitate and teach the user of it. The stored knowledge is carefully rendered intelligible and very readable. By communicating effectively, the creators are ultimately showing the user that they care about the knowledge stored and that it is used.

11.6 Conclusions

Knowledge and the management of it is considered to be an important factor in organisational survival. KM helps to share valuable organisational insights, to reduce redundant work, to avoid reinventing the wheel, to optimise training, to retain intellectual capital and to adapt to changing environments and markets. Successful organisations now understand why they must manage knowledge and that to do so effectively they must pay attention to three key components: people, processes and technology. Implementing solutions to the inherent challenges of sharing knowledge requires the investment of time, resources and energy but is, nonetheless, essential and stands to yield significant benefits. Although great emphasis is often put on technology in managing knowledge and in the sharing of it within organisations, we may never lose sight of the discerning question: 'why is this important and to whom?'

11.7 References

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