Knowledge Management: Learning for Organisational Experience

By

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ABSTRACT
Both intellectual capital and the management of knowledge are strongly emerging themes in today’s organisational world [Chase, 1997]. Many authors and practitioners [Quinn, et al., 1996] [Matinez, 1998] [Numri, 1998] [Albert and Bradly, 1997] note that the emerging patterns are that intellectual capital will replace natural resources, commodities, finance, technology and production processes as the key factor influencing competitive advantage. However, knowledge management is still in its infancy. This paper aims to identify the critical success factors and best practices of knowledge management through analysing the experiences of several organisations. The paper starts by defining what is meant by ‘knowledge’ and ‘knowledge management’, and follows on by overviewing the methodology used for identifying best practices. The second part is concerned with presenting a systematic and critical review of the published experiences of 40 organisations in knowledge management. The analysis examined the methodologies pursued, IT support used, structures employed, results achieved, and the perceived critical success factors. This analysis allowed the proposal of several ‘beat practices’ for successful knowledge management, which are presented and discussed.

1. Knowledge and Knowledge Management

The importance of intellectual capital and the management of knowledge are strongly emerging themes in today’s organisational world [Chase, 1997]. Many authors and practitioners [Quinn, et al., 1996, Matinez, 1998, Numri, 1998, Albert and Bradly, 1997] note that the emerging patterns are that intellectual capital will replace natural resources, commodities, finance, technology and production processes as the key factor influencing competitive advantage. This is because, with the exception of intellectual capital, everything else
(IT, materials, end technical information) is available to everyone on more or less the same terms. So it does not come as a surprise to find many organisations have already embarked on some form of ‘knowledge management system’. A report by Business Intelligence [quoted in Numri, 1998], claimed that successful KM programmes can produce returns of hundreds or even thousands of per cent. Still, the same report emphasised that KM is a very young discipline.

In order to successfully manage knowledge, it is prudent to clearly define it. The definition of knowledge adopted here is “information combined with experience, context, interpretation, and reflection. It is a high-value form of information that is ready to apply to decisions and actions” [Albert and Bradley, 1997]. Business knowledge generally is of two types; Codified knowledge (can be written down, transferred, and shared. It is definable and can be protected by the legal system) and Tacit knowledge (know-how, and is by nature difficult to describe. It can be demonstrated but rarely codified, and resides with its holder. It gets transferred through demonstration and on-the-job training). Within this context, knowledge management means the “strategies and processes of identifying, capturing, and leveraging knowledge to help the firm compete” [APQC, 1997]. In general, knowledge management is the process of continually managing knowledge of all kinds to meet existing and emerging needs, to identify and exploit existing and acquired knowledge assets and to develop new opportunities. It is a systematic process of underpinning, observation, instrumentation, and optimisation of the firm’s knowledge economies. Its overall purpose is to maximise the enterprise’s knowledge related effectiveness and returns from its knowledge assets and to renew them constantly.

2. Identifying best practices

The best practices presented in this paper are based on a wide literature survey, and a systematic analysis of a 40 cases of KM applications in organisations that reported successful initiatives. These cases were analysed using the format shown in Figure 1. The organizations included Ove Arup, Cap Gemini, KPMG, BT, McDonald’s, Oracle, Saatchi &Saatchi, 3COM, Nortel, Kodak, DHL International, IBM, Royal Mail, Skandia Life, Xerox, Nationwide Building Society, Rolls Royce, Honda Motor Europe, Boston Consulting Group, among others. The approach was to analyse the methodologies pursued, IT used, and results achieved in order to identify the success factors.
3. Knowledge Management Framework

In total, 40 case studies have been analysed. The findings resulted in a framework for KM (Figure 2). The four main building blocks of the framework are presented in the following sections. Each block is presented through a set of proposed best practices. These factors were common to all successful projects, but, because this was an exploratory effort, associating these factors with effectiveness in KM was hypothesised.

3.1 Set strategic priority and management commitment for KM

Overall, most of the successful cases analysed gave an urgent strategic priority to KM by tying it to something which will benefit from, and give leverage to, the knowledge effort (e.g. the aim might be to take an existing strength and build it into a strategic competitive advantage or to share learning around a group’s subsidiaries by building a best-practice database). Thus, the framework proposes this strategic urgency as a
best practice and starting point. From the cases analysed, ‘giving KM a strategic priority’ was embodied in three main areas:

[1] Aligning KM’s goals and practices with organisational business strategy - KM solutions involve long-term, strategic commitment, and must be linked to organisational goals and objectives in order for long-term value to be realised. The practices to achieve this alignment included:

• Formally define knowledge and its role in business and industry.
• Assess their competitors’ and suppliers’ strategies and knowledge assets and identify gaps with own.
• Assemble the new knowledge portfolio in an intellectual capital addendum to the annual report
• Continuously assess the development of intellectual capital.

[2] Link KM to value creation - The aim of any KM initiative should be value creation. Successful organisations focus their KM activities on enhancing the ability of their human resource to increase either or both their rate of knowledge creation and the fit of their new knowledge to the firm’s needs. The case study analysis clearly identified the fact that if KM initiative was not started with clear goals for bottom line value creation, it will be a waste of money and time (although it might produce very impressive databases). Ernst & Young [Davenport et al., 1998] spends 6% of its revenues on KM and actively attempt to demonstrate economic returns by measuring the amount of knowledge reused in the form of proposals, presentations, and deliverables and the contributions of its knowledge repository to closing sales.

[3] Senior management support - This is a common cliché for all change and improvement programmes, but still not common practice. Again, most of the cases analysed cited this factor as crucial for KM success. The types of support needed include [Caulkin, 1997][Ives and Gersting, 1998] sending messages that KM and organisational learning are critical to the company’s success, providing funding and other resources for infrastructure and direct modelling of the desired behaviour.

3.2 Define and understand organisational knowledge

For a successful start to KM, an organisation should engage in a clear understanding of how, and where, knowledge is developed in the company. Organisations like Skandia and Dow Chemical have pursued this step and gone as far as developing their own models for defining organisational knowledge. Other organisations can learn from these best practices (to avoid re-inventing the wheel) and start by clearly defining what knowledge means to them. This can be achieved by studying the definitions and mapping the organisational knowledge. An organisation must identify its knowledge assets as a first step to develop plans for acquiring, retaining, building, and leveraging those assets on a continuous basis. All organisations that valued knowledge saw it imperative to know how and where to access it, and successful attempts so far have started by classifying intellectual portfolio by producing an organisational ‘knowledge map’ [Bontis, 1996]. Organisations like Chevron and Hughes Space & Communication, undertook knowledge mapping and
produced guides to in–house experts (a ‘yellow pages’ directory that directs the user to the people in the firm who know about particular topics of interest). Knowledge mapping could result in immediate benefits. In the case of Dow Chemical [Caulkin, 1997] [Davenport et al., 1998], just by arranging such a ‘knowledge map’ and understanding where all their patents lay, they saved $4 million during the first year, expected to generate more than $100 million in the second.

3.3. Managing Knowledge

Once an organisation’s knowledge assets have been identified, it can engage in managing that knowledge. Regarding the KMS itself, at first glance, such a system appears disarmingly simple. Construct a knowledge database of useful information already present somewhere in the organisation, make it available, perhaps via intranet, and stand back and admire the results. BT [Caulkin, 1997] claimed a first year cost saving of £150 million from compiling an electronic internal telephone directory. As expected, the reality is more complex.

It is believed that for organisations to master KM, “they must possess all the extraordinary ‘-ing skills’ [Roos and Von Krogh, 1996], like capturing, combining, retaining, repeating, rehearsing, connecting, destroying, distributing, and sustaining knowledge”. Clearly what is required is a comprehensive KMS which has been divided into two main areas in the proposed model. Hard issues in KM include: collect, share and present, and measure knowledge, and soft issues knowledge environment which include: creation, development, and sharing. Both aspects are equally as important and should be treated as so.

3.3.1 KM – Hard aspects

This area focuses on presenting the best practice in building an infrastructure and tools that would ensure the success of KM. From the case study analysis undertaken, the following best practices are proposed:

[1] Establish a process to transfer learning within the organisation (best practice database) - Sharing insights and best practices is a behaviour that is critical to the success of any KMS, yet it is counter to the culture found in most organizations [Torrey et al., 1998]. Within this area of knowledge transfer, two aspects emerged as patterns for success from the case study analysis: creating knowledge repositories, and creating transfer and access channels. A study by Davenport et al [Davenport et al., 1998] found three basic knowledge repositories

- External knowledge (competitive intelligence) – by definition, the easiest to acquire and organise.
- Structured internal knowledge (e.g. research reports, marketing material, and methods)
- Informal internal knowledge – the most important area, and most difficult to manage. It mainly deals with tacit knowledge. To transfer tacit knowledge from individuals into a repository, organisations usually use some sort of community based electronic discussion and ‘lessons learnt’ databases.
In case of creating transfer and access channels the case study review has highlighted the following best practices for designing an effective system for knowledge connectivity, access, and transfer:

- Minimise the number of transmissions of knowledge between individuals to achieve the least distortion.
- Provide 24 hour access to every employee from any location.
- Allow and encourage each person to contribute and make the system easy to use.
- Design a system that is flexible and automatically updated as questions and answers are given.
- Design multiple channels for knowledge transfer, ranging from intranet to face-to-face. Each has its benefits and techniques and times to be used.

[2] Utilise Information Technology capability [databases, intranets, etc] - Relying on IT as a driver and tool for most organisational work is becoming common practice. The IT available to support KM is vast and growing rapidly: internet, intranet, LAN, expert systems, artificial intelligence, voice recognition, laptops, palmtops, mobile phones, etc. Among the case studies, the most common uses of IT for KM included: holding face-to-face meetings for knowledge exchange across geographical distances, electronic data interchange, databases of best practices and knowledge warehouses, integrating an organisation’s communications and computing technologies, creating a presence on the internet [reach a huge customer base and service them], and linking new locations [and businesses] into the network. However, it has been stressed here that although IT is a crucial enabler, it should be designed and used for connecting, not collecting. KM should always be 90% people and 10% technology.

[3] Employ a special team to design and manage the overall process - A process like KM is too crucial to be left unmanaged or even managed by several distinct functions. Its success requires having a central authority (team, individual) to manage the overall process. Companies serious about KM often created formal KM functions. A Chief Knowledge Officer [CKO] or Chief Learning Officer [CLO] is not rare, but still not common. For example, a job function at Philip Morris [Allee, 1997] is Knowledge Champion, Monsanto [Allee, 1997] has a Director of Knowledge Management, and Andersen Consulting has a centralised KM unit.

[4] Developing techniques for valuing intellectual capital and KM - Despite the strategic importance of intellectual capital, accountants, analysts, markets, and managers, still do not adequately value and measure its worth. “At present, investment in fixed capital equipment is valued more highly than investment in human capital and networks. This means that intellectual capital leading to development opportunities is often overlooked and/or under-exploited” [Albert and Bradley, 1997]. However, for more and more companies the value of intellectual capital (the gap between book value and market value) is now simply too large to be categorised as ‘goodwill’. Still, a KM project’s benefits for the business are usually indirect, and establishing the link between knowledge and financial performance is, at best, tricky. Economic returns on knowledge are difficult to quantify and compare across organisations. Organisations have so far looked at certain indicators of success and tried to tie them with the new discipline. Again, this is an area still under
study and one cannot predict if these indicators will persist, they include [Davenport et al., 1998] [Bontis, 1996][Caulkin, 1997]:

- Growth in the resources attached to the project, including people, money, and so on.
- Growth in the volume of knowledge content and usage.
- Human capital development - Skandia [Bontis, 1996] tracks the development of its human capital by using indices such as an empowerment index that taps into its employee’s motivation and competence.

### 3.3.2 Knowledge environment

“One of the most important factors for a KM project’s success, and most difficult to create, is organisational culture” [Davenport et al., 1998]. The case study analysis has revealed that for best results, the organisational culture must have most of the following ingredients:

- Employees are bright, intellectually curious, and, willing and free to explore.
- Senior management encourages knowledge creation and use, and demonstrates commitment.
- People are not inhibited in sharing knowledge, and do not fear that it will cost them their jobs.
- People have a positive orientation to knowledge; In certain cases, culture seemed to inhibit the project’s objective (e.g. some engineers saw the use of an existing design as a sign of weakness).

To establish such a culture, a few best practices have been concluded and suggested as follows:

1. Knowledge Sharing - Information sharing is critical because intellectual assets increase in value with use. Properly stimulated, knowledge and intellect grow exponentially when shared. However, competition among professionals often inhibits sharing. The reasons for this reluctance originate from old habits of hoarding knowledge. Possible reasons are:
   - Fear of layoffs - reluctance to share information about mistakes.
   - Competition among professionals and the difficulty of assigning credit to intellectual contributions.
   - Reluctance to share positive knowledge, believing that employee’s value and, therefore, job security was tied to their personal expertise.

Getting people to share their knowledge requires not only new processes but also a new covenant between employer and employees [Hibbard and Carrillo, 1998]. This requires an overhaul of the old knowledge equation: knowledge = power, so hoard it. The new equation is knowledge = power, so share it and it will multiply. Organisations have experimented with a few approaches like making knowledge related employee behaviour a specific target of their projects. A large consulting firm [Davenport et al., 1998] in trying to change their employee’s perceptions of their jobs from deliverers of consulting services to creators and distributors of management knowledge and made contributions to the firm’s structured knowledge base a significant factor in compensation.
[2] Align reward system (rewards for systemising/advancing KM) – successful organizations overhauled the job descriptions and performance review forms so that they are explicit about contributing knowledge and its value to the company. Successful knowledge sharing must be linked to a company’s reward system, such as Federal Express pay-for-knowledge programme [Allee, 1997]. At Ernst & Young and McKinsey and Co, part of each consultant’s compensation is based on knowledge sharing activities.

### 3.3.3 Knowledge Creation and development

[1] Recruit the best people - Most of the case studies analysed have made this area a central aim for their recruiting activities. In order to recruit top talent, Genetech [Allee, 1997] lets its scientists publish their findings immediately in leading journals. In the past, the usual two year delay made it impossible for the scientists to be the first in their field, which is important for career recognition.

[2] Intensive development for new recruits: On-the-job training, mentoring. Theory [Quinn, et al., 1996] suggests that professional know-how is developed most rapidly through repeated exposure to the complexity of real problems (preferably customer driven). On-the-job training, mentoring, and peer pressure can force professionals to the top of their knowledge potential.

[3] Constantly increase professional challenges - This practice is essential for knowledge creation and development since heightened professional challenges act as the main motivator for continuous improvement. In most of the cases analysed, leaders tended to be demanding, visionary, and often set almost impossible “stretch goals”.

### Conclusions

The success of a corporation lies more in its intellectual and systems capabilities than in its physical assets. It is believed that in this evolving knowledge environment, both individuals and organisations will have one source of competitive advantage: intellectual capital. This represents an individual’s (or organisation’s) accumulated knowledge and know-how, coupled with the ability to decant this into a system to create value. The paper has presented a study that analysed the experiences of organizations who had successes with their KM initiatives. The analysis resulted in a high level framework for KM implementation, and a culmination of best practices. It is noted to remember however, that successful KM is 10% systems and IT and 90% people and culture, and the statement so often articulated ‘the most important resource of an organisation is its people’ is increasingly meaningful, not merely as rhetoric but also in practice.
References


