

WILL THE KNOWLEDGE MANAGEMENT SPECIALIST PLEASE STAND UP! EXPERIENCES FROM THE UK CONSTRUCTION INDUSTRY AND BEYOND

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Recent research undertaken within the UK construction industry has revealed a growth in the appointment of knowledge management specialists in response to two principal drivers: the UK government's prerequisite to achieve industry-wide improvements and the desire of individual organisations to seek competitive advantage. Interviews with twenty knowledge management specialists from across the construction sector reveal various spheres of activity, frequently dependent on the knowledge management specialists' background and training. In common is a desire to exchange and manage knowledge better (whether internally or externally derived) through the introduction of new and innovative ways of creating, securing, distributing and retrieving knowledge using IT tools and better person-to-person communication. In this paper the authors examine the skills and attributes that currently make for a successful knowledge management practitioner within the UK construction industry. In addition the authors compare the results of this research with previous research undertaken in other sectors over the past five years and identify where they believe organisations operating within the construction industry can learn from other sectors to improve dialogue and facilitate the advantages of enhanced communication.

Keywords: Communication, knowledge management, skills and attributes, training.

INTRODUCTION

The last decade has seen an increased interest in knowledge management by organisations in a variety of sectors, and by academia (Despres and Cheuvel, 1999; Grant, 2000; Ives, et al, 1998; McAdam and McCreedy, 1999a; von Krogh and Grand, 2000). There is strong and compelling evidence that the effective management of an organisation's knowledge sources and capabilities is vital for improving organisational competitiveness (Cross, et al., 2001; Egbu and Botherill, 2001; Kamara, et al., 2002; Quintas, 2002).

It is argued that the main drivers behind the increased interest in knowledge management amongst organisations operating in the UK construction industry are the Government's prerequisite to achieve industry-wide improvements and the desire of individual organisations to seek competitive advantage.

The industry has begun to recognise that knowledge is an asset, just like the physical assets of an organisation (Ives, et al., 1998; Wiig, 2000). Thus, the initial approaches

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to knowledge management, which focussed on managing and making more efficient use of an organisations' 'intellectual capital'. However, the current focus appears to be in developing knowledge management initiatives which take account of both the existing knowledge assets and, the processes and capabilities of an organisation. This has lead, in recent times, to the appointment of knowledge management specialists, individuals charged with implementing these initiatives.

It is important for knowledge management initiatives to aim to tap into the existing knowledge in an organisation. Competences and capabilities (unlike resources) are unique to each organisation, and so are the sources of competitive advantage (Grant, 1991). In addition to generating new knowledge, these knowledge-focused activities aim to tap into an organisation's existing knowledge by introducing new systems which exploit and enhance the processes and capabilities already in place in order to gain competitive advantage. In this paper we look at those individuals who are charged with developing knowledge-focused activities within organisations operating in the UK construction industry and examine who they are, what they are doing, and where the support for and resistance to their task is generated.

KNOWLEDGE-FOCUSED ACTIVITIES

Previous research undertaken by Ruggles (1998) determined 8 categories of knowledge-focused activities:

- Generating new knowledge;
- Accessing valuable knowledge from outside sources;
- Using accessible knowledge in decision making;
- Embedding knowledge in processes, products and/or services;
- Representing knowledge in documents, databases and software;
- Facilitating knowledge growth through culture and incentives;
- Transferring existing knowledge into other parts of the organisation; and
- Measuring the value of knowledge assets and/or impact of knowledge management.

Ruggles obtained these eight categories in 1997 by interviewing 431 US and European Organisations from an assortment of industry sectors, asking them what they were doing to manage knowledge, what they could be doing to manage knowledge and what were the greatest barriers to managing knowledge.

He identified the four principle examples of knowledge management efforts underway:

- Intranet development;
- Data warehousing – the creation of knowledge repositories (an organisation's "what we know");
- Decision-support tools; and
- Groupware (to encourage/enable collaboration).

Ruggles (1998) also identified a should-do list (intended knowledge management initiatives still to be put in place):

- Mapping sources of internal expertise;

- Creating networks of knowledge workers; and
- Establishing new knowledge roles e.g. Knowledge Management Specialists or Chief Knowledge Officers.

In this paper we also present results of research undertaken to determine what the construction industry in the UK is currently doing to manage knowledge; the nature of knowledge management initiatives adopted. In doing this we establish to what extent the knowledge management specialists interviewed have worked with their organisations to develop the four principle examples of knowledge management identified in other industries, and also determine whether these organisations are anywhere near implementing the ‘to-do’ list Ruggles identified in 1997.

THE INTERVIEWS

Knowledge management specialists from twenty organisations operating in the UK construction industry were interviewed for this research. These twenty interviews took place over a three month period between December 2003 and March 2004. The interview followed a set of pre-determined criteria. In this paper we look at outcomes relating to the knowledge management specialists’ background training and education; key skills and attributes; challenges and opportunities; and perceived importance attached to their position within their organisation and the industry as a whole.

KEY OUTCOMES

Background training and education

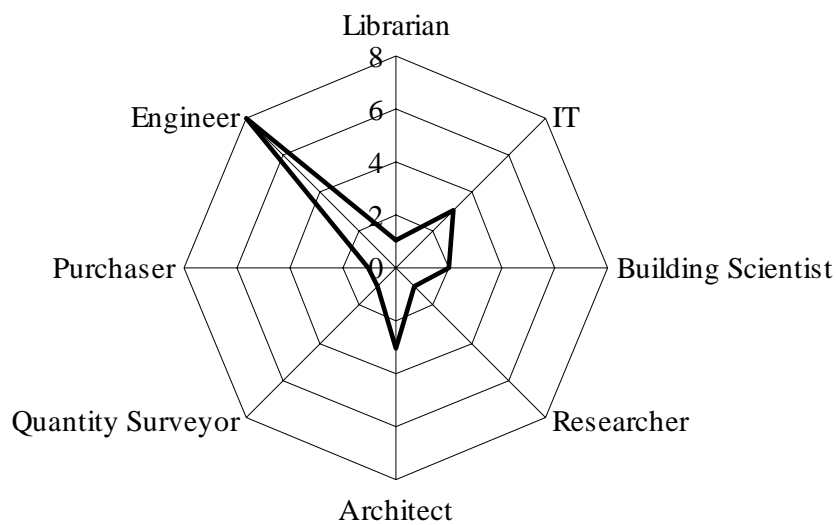
85% of all knowledge management specialists interviewed were professionals, the majority of whom were educated to degree level with some post graduate training for example engineering, architecture, project management, most of who had worked their way up through their respective organisations, having gained skills and contacts along the way.

As a result the following benefits were identified:

- Awareness of organisational structure and practices; and
- Seniority and respect help to get the job done.

The other 15% were less senior, with limited knowledge of the industry, but some experience in the application of knowledge management tools and techniques. Figure 1 shows the variation in backgrounds that construction knowledge management specialists have. Of the 20 interviewed, 40% were engineers by training (principally civil and structural, although mechanical and electrical engineers were also represented).

Figure 1 Knowledge management specialists' backgrounds



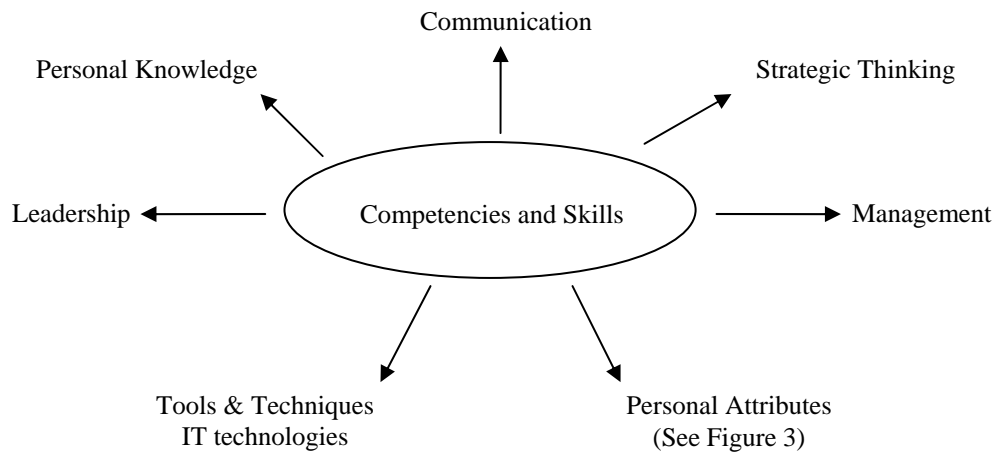
Key skills and attributes of a knowledge management specialist

The knowledge management specialists were in agreement that the following competences, skills and attributes are essential:

- Interpersonal skills (particularly effective communication); and
- IT literacy.

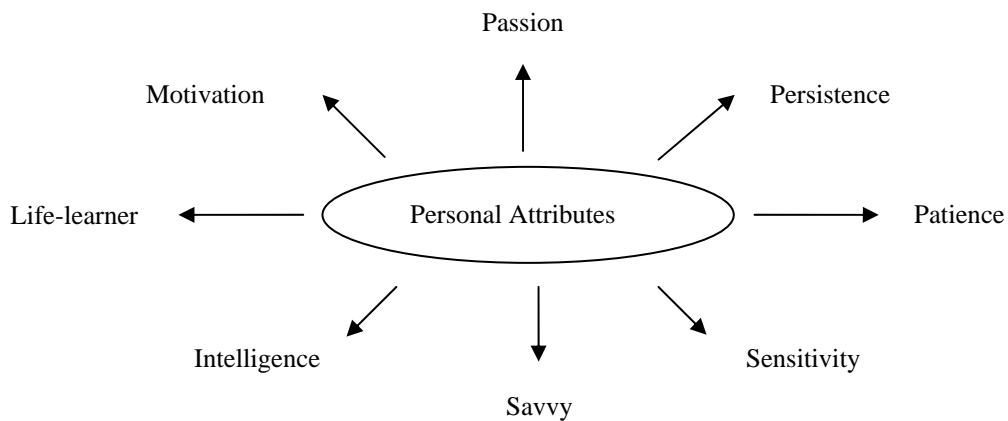
These can be further broken down into key competences and skills required (Figure 2) and personal attributes desired (Figure 3) in order to do the job. Figures 2 & 3 therefore outline what many interviewed believed to be essential for successful knowledge management.

Figure 2 Key competences and skills



Knowledge of the industry and preferably in-house experience were frequently seen as an advantage by some and essential by others.

Figure 3 Personal attributes



However, it is believed that, regardless of the knowledge management specialist's background and training, it is essential that they exhibit a good number if not all of the personal attributes, skills and competencies identified above in order to excel and overcome the challenges they face.

Challenges and opportunities

The interviewees were asked to describe challenges they faced, the factors that may work against them. The following summarises the key challenges presented:

- Colleagues reluctance to contribute – KM needs 'buy-in' across the organisation;
- Time and cost constraints;

- Old culture - being afraid to ask and seek information;
- Tangible demonstration of value during the early days/months;
- Failure of colleagues to see beyond individual project;
- Failure of colleagues to see the benefits of knowledge sharing (as individuals, as an organisation and as the industry as a whole); and
- An organisation's aging workforce, somewhat reluctant to embrace change.

The knowledge management specialists were also asked to consider the future in terms of their contribution and how they saw things developing as a result of KM tools and procedures being increasingly utilised over the next five years.

All those interviewed see knowledge management as continually evolving to meet the changing needs of the industry. Most knowledge management specialists would see knowledge management as 'people supported by IT'. There is a clear shift in focus from IT tools which have now been implemented, to direct conversation and just-in-time information. This includes the introduction of communities of practice and knowledge brokers in some organisations alongside the introduction of more innovative continuous improvement tools and techniques as they come on the market.

When asked to comment on factors shaping the future of their role within the construction industry in the UK, the following were frequently referred to:

- Increasing need for improved dialogue and communication within and between organisations;
- Increasing cross-fertilisation of ideas;
- E-commerce;
- Improved IT literacy with a new generation of workers; and
- Culture change – collaborative working/partnering/PFI/PPP which require this paradigm shift.

Importance attached to position within organisation and industry

As a result of board level support in every instance, it is clear that there is support at the top. However in most cases it was reported that encouraging those lower down in the organisation to work differently provides more of a challenge. There are a number of opportunities / factors assisting knowledge management specialist activities:

Support at board level;

IT literate graduates coming through who are used to sharing knowledge and are not afraid to ask questions;

Gradual realisation of the value of knowledge to an organisation;

Culture change – promotion of best practice and business improvement by for example DTI, CBPP and Constructing Excellence;

Realisation of corporate benefits from individual learning (knowledge acquisition and sharing); and

In-house incentives – linking sharing of knowledge with performance reviews and potentially pay reviews.

IS CONSTRUCTION LEADING THE WAY?

Comparing the results of this current study with that of Ruggles (1998) and subsequent studies undertaken by Lesser & Prusak (2001) and McKeen et al (2003) we find that the construction industry and its use of knowledge management

specialists appears to be on a par if not ahead of other industries in the implementation of knowledge management initiatives such as intranets, knowledge repositories, decision support tools and groupware.

For example McKeen et al (2003) used Ruggles (1998) as a reference point to determine whether aims and challenges of knowledge management specialists' efforts have remain consistent and to determine whether any progress has been made. Ruggles (1998) established the four most common knowledge management projects underway in 1998 to be intranets, knowledge repositories, decision support tools and groupware.

Of those 41 organisations interviewed by McKeen et al (2003):

- >90% had intranets;
- 80% had knowledge repositories;
- 50% decision support tools; and
- 56% groupware.

Of those twenty organisations represented in our study:

- 100% had intranets;
- 100% had knowledge repositories;
- 80% had decision support tools; and
- 70% groupware.

These results may reflect the nature of the construction industry, the need to learn from projects and the way in which construction is heading, including the growing importance of IT in the procurement and management of projects; also the time of the studies may impact on the results as IT and technological advancements have continued to develop exponentially over the past five years.

Also, when looking at the to-do list created by Ruggles:

- Mapping sources of internal expertise;
- Creating networks of knowledge workers; and
- Establishing new knowledge roles e.g. Knowledge Management Specialists or Chief Knowledge Officers.

McKeen et al (2003) report that by 2001, Lesser et al had established that:

- 55% completed expertise maps;
- 68% developed internal networks of knowledge workers; and
- 54% established new knowledge roles.

Our sample of 20 construction organisations shows that since 2001:

- 70% have completed expertise maps;
- 15% developed internal networks of knowledge workers;
- 100% of organisations had established knowledge roles; and

- 60% of organisations (not including those knowledge management specialists interviewed) have established additional knowledge roles to assist the principle knowledge management specialists.

This reveals that the industry has been quicker to put IT in place than it has to develop the 'people' aspect of knowledge management. Ruggles (1998) cited IT taking centre stage too much, despite the fact that the 'should do's were non IT specific. It appears that it is an evolutionary process, and it has been necessary to put IT supported networks in place before building up 'communities of practice' and people-centred networks.

DISCUSSION

Five principal assumptions can be taken from this study; these relate to the characteristics of the knowledge management specialist, colleague buy -in, the stimulus of IT and training, financial restraints and the culture change required. Each has been outlined below:

The competencies, skills and attributes of the knowledge management specialist

Most knowledge management specialists operating within the UK construction industry have similar competencies, skills and attributes. These are as follows:

- First generation of knowledge management specialists;
- On the whole in senior management positions where their appointment was made by the CEO;
- Established construction professionals with seniority and respect help to get the job done;
- Have a working knowledge of the organisation in which they are employed (its structure and practices), established over a decade or more
- Motivated by challenge not formal push-factors; and
- Possess a desire to exchange and manage knowledge better (whether internally or externally derived) through the introduction of new and innovative ways of creating, securing, distributing and retrieving knowledge using IT tools and better person-to-person communication.

Buy -in

Despite seniority and board level support, knowledge management specialists report that it is difficult for the 'trickle down effect' to take place and colleagues to buy-in to some knowledge management initiatives.

This is an important issue and there appear to be mixed messages. CEOs of construction organisations believe enough in the value of knowledge management to take an active role and interest in creating these positions, but frequently do not see tangible returns that justify more significance cash investment. It appears that although these executives understand that knowledge is highly people-based, they are stuck with an investment model that is geared primarily towards technological implementation. The main challenges remain much the same:

- Changing people's behaviour; and
- Finding ways to measure the value and performance of knowledge assets.

This may change as word gets out; people attend meetings such as 'Doing the Knowledge' where other organisations share experiences and the benefits of initiating,

supporting and implementing sometimes costly (initial outlay) knowledge management initiatives.

IT and training

Determining what knowledge should be managed has become less of a concern. Indeed attempts seem to be in place to manage any and all knowledge, with the assistance of IT. As a result, resources are allocated to IT initiatives, which it is found still drive knowledge management within UK construction, in order to out bid competitors and win work. Training materials should include an overview of computer packages available e.g. groupware and decision support tools.

However awareness not training appears to be the key. A greater understanding of how the business works coupled with an understanding of how knowledge (both IT and person-centred) can be used and manipulated to gain competitive advantage.

Interestingly there is a shift by some of the foreword-thinking organisations and identified by McKeen et al (2003), in using knowledge to an organisations advantage by packaging it and turning it into goods and services for other organisations to buy. It will be interesting to see whether this shift, also identified in this current work within the UK construction Industry, is set to continue.

Finance

Calculating the impact of these changes also remains a problem. Many of the knowledge management specialists interviewed cite long-term organisation wide goals as methods of measurement. Knowledge management specialists are unlikely to get the resources they need until they can persuasively demonstrate the return in investment.

The survival of knowledge management specialists within UK construction may depend on making that economic case, assisted by organisations exhibiting competitive advantage through such investment.

In any event, the most talented and dedicated knowledge management specialist is unlikely to make much headway in a large organisation without resources at his/her disposal. However, convincing others of the value of sharing knowledge probably depends more on powers of persuasion than on big budgets and thus again relies on the skills and attributes of the individual.

Culture change

Results of this survey suggest that people within the organisations studied have frequently shown a reluctance to change their ways of work, not embracing knowledge management and this change of culture to facilitate its full effect. Employees are still reluctant to use these new products to share what they know with each other, with their colleagues (despite financial incentives) or to obtain new knowledge themselves that they can profitably apply to their work.

Effectively changing people's behaviour and calculating the economic benefits of knowledge work – challenges identified by Ruggles (1998), Lesser et al (2001) and McKeen et al (2003) are important unfinished business for the knowledge management specialists.

CONCLUSIONS

The following conclusions can be made:

- It is agreed that knowledge management is part of the culture change taking place within the industry and will not be an overnight success, but take time.

Introduction to knowledge management within the university and college syllabus will help speed up the process;

- Recent encouragements (the UK government's prerequisite to achieve industry-wide improvements and the desire of individual organisations to seek competitive advantage) will support and go some way to making the case for knowledge management;
- The twenty knowledge managements specialists interviewed for this study demonstrate both the diversity of backgrounds from which knowledge management specialists come and the wealth of experience many knowledge management specialists bring to the job;
- The competencies and skills required to undertake such a role demonstrate the invaluable contribution of both acquired knowledge and personal attributes necessary to fulfil the requirements of the job; and
- Changing people's behaviour is cited as the biggest impediment to knowledge transfer within organisations. Ironically, it is only after the technology exists and the IT is in place, that many organisations realise how vital the people factors are.

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