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Knowledge management: opportunities for LIS graduates

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Abstract:

Market research has been undertaken in preparation for a new postgraduate programme in Information and Knowledge Management to be taught by the staff at the Department of Information Science at Loughborough University. The research was needed to shape the curriculum and to define programme parameters. Presented at the conference will be the findings of a study that investigated the availability and types of jobs in this field, the skills and types of personnel sought by employers and whether demand is currently being met in the UK. The study involved identifying and analysing national advertisements for Knowledge Managers over a six-month period and undertaking follow-up surveys involving the agencies and employers who placed the advertisements. Just how these results influenced the design and parameters of the programme will also presented. There is no doubt that new programmes, such as this, will open up considerable new employment opportunities for IS graduates.

1. Introduction

Management information strategies and techniques for identifying, integrating and assimilating relevant information from both internal and external sources have been used for decades by successful businesses - so what is different now and why is the emphasis being placed on Knowledge Management (KM)?

The question 'what is different now' is easy to answer. Computers that were first introduced into businesses in the 1970s now bear little resemblance either in looks or in technological power to those being used today. A huge amount of information can now be assessed in seconds 'making more information more available to more people than at any other time in human history' (Feather, 1998). Managers face the paradox of having a greatly increased volume of both internal and external business information potentially available to them from which to make decisions but far less time to make them.

Coupled with this is drive of the internet economy, the move towards the global economy and global competitiveness and the need to be constantly up-to-date with product and competitor information. Thus the use of suitable techniques to manage this information is ever more important. Without them employees will undoubtedly suffer information overload with inevitable consequences for the success and profitability of an organisation (Edmunds and Morris, 2000).

Why has Knowledge Management suddenly become a buzz word? Until recently the fascination with the capacity of the memory and processing power of the computer has over shadowed the enormous potential offered by the memory capacity and processing power of the human brain. Only in the last few years have companies begun to realise the value of what is often referred to as 'intellectual capital'. It is now becoming increasingly common for large organisations to have a KM strategy as well as an information management strategy. But what exactly is Knowledge Management and how does it differ from Information Management? The main objective of KM is to create an integrated environment in which people are enabled to apply, develop, share, combine and consolidate *knowledge* about customers, products, markets, competitors, services, procedures and practices in order to maximise organisational success. Information Management, on the other hand, is defined as 'The application of management principles to the acquisition, organiszation, control, dissemination and use of *information* relevant to the effective operation of organizations of all kinds' (Feather and Sturges, 1997).

Research by TFPL (1999) identified skills needed for creating and sustaining a knowledge culture within international organisations. In-depth case studies in organisations that were already implementing knowledge management initiatives and analysis of UK job advertisements produced the following key findings:

- Organisations that promoted the information literacy skills of creating, finding, sharing and using information and knowledge amongst employees added 'value to innovation, problem solving, strategic planning and the business processes of the organisation' (TPFL, 1999).
- New combinations of skills and new roles and responsibilities are required when creating a knowledge environment.
- Core competencies required by employers are made up of educational, professional and technical background and experience.
- The KM competency framework changes from an initial focus on change management to an emphasis on improving the knowledge process itself as the knowledge culture within an organisation matures.
- There is a need for courses to develop the technical skills required to embed knowledge processes within organisations, to promote business understanding among information professionals, and to facilitate other key skills needed in KM environments.

Since Information and Knowledge Management are inextricably linked it is not surprising that schools of Library and Information Science (LIS) are taking an active interest in meeting the demand for suitable courses. The Department of Information Science at Loughborough University is no exception. October 2002, for example, will see the start of new Masters Programme in Information and Knowledge Management (subject to approval). The TPFL research formed a basis for the early preparation for the programme. However, since the research was some 18 months old in a fast moving area a small-scale supplementary study was undertaken. The main objective of this, besides up-dating the TPFL research, was to assess market demand and to identify the skills required by employers in the KM field. This paper describes this research and its findings and discusses how it influenced the design of the Masters programme in Information and Knowledge Management in the UK.

2. Methodology

The research involved three stages.

2.1 Identification and analysis of job advertisements

A large number of UK newspapers (all non-tabloid daily and Sunday newspapers), journals and websites were scanned for job advertisements in the KM field between October 2000 and March 2001 inclusive. A job was considered to be in the KM field if the word 'knowledge' was included in the job title or if the job description showed the job to be concerned principally with the identification, capture and networking of internal sources of expertise, knowledge and information. Where possible the following information from each advertisement was extracted and recorded in Excel: Job title, role and job description; Skill and experience required including: Personality traits sought; KM skills demanded; LIS skills required; IT skills required; Sector of organisation; Salaries offered; and Geographical location.

2.2 A follow-up survey of employers

Employers who advertised directly, and not through an agency, were interviewed by telephone or sent a questionnaire via email. The intention was to collect information about the number of people who had applied for the post and were interviewed; the approximate number of candidates who had the appropriate skills and experience; whether they appointed anyone and, if they did, whether the successful candidate possessed the right skill mix; and if they used tactics other than advertising to procure personnel.

2.3 A follow-up survey of agencies

All the recruitment agencies who sought KM personnel in the six-month period were sent a questionnaire via e-mail. The information requested included: the number of KM staff they were asked to recruit over a period of one year; whether they had sufficient candidates on file to fill posts; whether the response to their first advertisement generally yielded sufficient candidates; how often they resorted to head hunting; what skills were required and what were missing from candidates; and whether they saw the market growing.

3. The vacant posts

3.1 The number of posts available

Some 134 job advertisements were placed in newspapers or journals or offered by agencies on their websites in the time period. This represented a minimum of 113 posts; some advertisements occurred more than once in different sources, but several advertisements were trawling for an unspecified number of 'Knowledge Managers'. This was particularly true in the case of agency advertisements, which comprised some 77% of the total. If the questionnaire survey or telephone contact did not yield any more specific data these types of advertisements were regarded as representing one post. Consequently, the number of posts actually advertised could be higher than 113. As expected, the job market in the KM field has expanded since TFPL undertook their survey 18 months ago, when 80 job advertisements were found over a similar time period.

Some of the questions directed to the recruitment agencies were also designed to elicit information about market demand. Agencies were asked, for example, how many KM posts they were asked to recruit in a year and if they generally had sufficient candidates on file to fill posts. Of the eight agencies that responded one said they were asked to recruit 'hundreds' but most of the others said between 10 - 30 a year. Although most of the agencies said that they didn't always have sufficient candidates on file nearly all of them said they managed to find enough suitable candidates from the first advertisement or else used the practice of 'headhunting'. Generally an appointment was made from the candidates put forward by the agencies to their clients. Almost of the agencies said that they thought the market was growing; one said substantially.

Further evidence of market demand was sought from employers who placed job advertisements. Of the seven employers interviewed, two did not receive any applications for their posts, one received 14 and the remaining had between three and eight applications. Because of the lack of suitable applicants only four of the seven posts were filled. It is difficult to say exactly why the advertisements produced so few applicants but all of the posts offered salaries at the lower end of the spectrum, £18,450 - £31,000, suggesting they were more junior posts. It would appear, therefore, that the UK market for KM roles is still relatively small, but is growing.

3.2 Job title, role and job description

Roles in the KM sector are wide ranging with many different job titles being identified. To enable comparisons to be made, the generic classification of roles used by TPFL (1999) was adopted. Job descriptions were used to classify the roles rather than job title.

Chief Knowledge Officer. A person in this role would be the Senior Executive of the initial strategy team who assess the potential of KM within their organisation, act as champions and is responsible for strategy, leadership and co-ordination. Job titles found in the advertisements that fell into this category were 'Chief Information Officer', Director of Knowledge Management' and 'Director of Strategic Intelligence'.

Chief Knowledge Team Manager. This type of person would be regarded as Senior Management with responsibility for KM development and training, strategy, IT infrastructure, business processes, change management and so on. Job titles alluding to this role in the advertisements included 'Knowledge Manager', 'Knowledge Leader', 'European Knowledge Manager' and 'Head of Knowledge and Information Management'.

Implementation Manager. This type of person would be regarded as Senior/Middle Management and be part of a team required to take responsibility for KM implementation and monitoring and overseeing the development of processes, infrastructure and information resources. The most common job title found in the advertisements for this role was 'Knowledge Manager'. However, a variety of other titles were also used: 'Change Knowledge Manager', 'Knowledge/Intranet Manager', 'Knowledge Portal Co-ordinator', 'Global Exploitation Manager', 'Knowledge Interrogator' and 'Head of Delivery - KM'.

Knowledge Centre - Based Employee. Staff with this role would primarily work in centralised knowledge centres within the organisations and act as a focal point for knowledge initiatives. They would be responsible for facilitating acquisition, dissemination and access to internal and external information and knowledge sources. Typical job titles found for this type of role were: 'Knowledge Manager or Co-ordinator', 'Knowledge Assistant or Officer', 'E-librarian', 'Information Specialist', 'Intranet Content Manager', and 'Knowledge Analyst'.

Knowledge Networker. A person with this role would be responsible for facilitating KM activities within a specific network and community and may be required to abstract, synthesise current or new industry, subject or client knowledge. Again the term 'Knowledge Manager' was frequently used for this type of role. Other job titles found were: 'Knowledge Analyst', 'Knowledge Engineer', 'Competitive Intelligence Officer' and 'Network Co-ordinator'.

Business Unit - Based Employee. A person with this type of role would work in self-contained units with specific functions such as marketing and would be responsible for facilitating the development and implementation of KM activities with the help of the implementation team in their unit. 'Knowledge Manager or Officer' was a common job title found in the advertisements. Other terms used included: 'Business Intelligence Manager', 'Primary Care Knowledge Manager', 'Knowledge Interrogator', and 'PMKS Practice Manager'.

Over three-quarters of the posts, 89, had sufficient details in the advertisement to categorise them into the generic roles as detailed above (see Table 1). The results showed that almost half of the jobs advertised could be regarded as more 'junior' posts and may be suitable for new graduates or people with one or two years experience.

Table 1 Number of jobs for different types of roles

Generic role	**No of jobs**	**% of jobs**
Chief Knowledge Officer	4	5
Chief Knowledge Team Manager	5	6
Implementation Manager	28	31
Knowledge Centre - Based	33	37
Employee	9	10
Knowledge Networker	10	11
Business Unit - Based Employee	**89**	**100**
Total		

3.3 Skills, competence and experience required

What key skills, competence and experience are considered important by prospective employers in the knowledge management field? The short answer to this is that they vary between post to post. In broad terms, however, they can be divided into six main groups: Experience and general skills, Educational requirements, Personal attributes, Knowledge management skills, LIS/IM skills, IT skills.

3.3.1 Experience and general skills

A large number of the advertisements, particularly in the commercial sector, specified that some experience, or extensive experience in the case of top senior management posts, was desirable (see list below). In 27 of the 113 posts the employer wanted relevant industry experience while others specified the need for marketing experience and/or strategic planning experience. Not surprisingly the need for interpersonal and good communication skills, such as presentation and report writing skills were mentioned in many advertisements. Other common required skills included those associated with project management, being a team player, and the ability to facilitate change management. These findings were similar to those obtained by TFPL, and echoed by the agencies and employers interviewed.

Ranked list of experience and general skills (more than five occurrences):

1. Relevant industrial experience
2. Interpersonal skills
3. Highly developed oral/written communication skills
4. Project management skills
5. Team player
6. Change management
7. Analytical skills
8. Ability to work to strict deadlines/prioritisation skills
9. People management
10. Training skills
11. Negotiating skills

3.3.2 Educational requirements

Approximately a quarter of the advertisements specifically stated that a first degree was required, although several mentioned such phases as 'sound educational background' or 'highly educated'. Interestingly, the degrees of primary interest to employers were those in an information or library related subject, which did not appear to be the case in the TFPL study. Does this mean that employers are at last waking up to the fact that the LIS profession has much to offer in the KM field? Comments from agencies seem to bear this out. It is generally thought that the easiest new graduates to place are those from a course with an electronic content (databases, intranet, online skills) and those including modern management skills - which are included in most LIS programmes today. One agency said that 'for an SME or even some of the blue chips, a KM appointment is often the first information professional that is brought into the business, so skills in managing information as well as knowledge are often thought as revolutionary'. Another said that '..organisations may not realise that a KM person is likely to be drawn from an LIS background'.

3.3.3 Personal attributes

Many personality attributes were mentioned in the job adverts as being desirable. However, the most common ones in order of frequency of occurrence were: Proactive self starter; Enthusiastic; Highly motivated; Innovative; Leadership ability; and Dynamic.

The trait 'proactive self starter' was top of TFPL personal attributes list too, but the other attributes mentioned were slightly different. For example, they found employers were looking for people who were flexible/co-operative, persuasive, tactful and creative. The agencies stressed that they were looking for flexible and adaptable candidates.

3.3.4 Knowledge management skills

Like the TFPL findings many of the job advertisements expressed the need for candidates to have practical experience in knowledge management or awareness of the importance of knowledge to the development of an organisation. Experience of using KM development tools was also considered to be important.

3.3.5 LIS/IM skills/experience

Many of the skills listed in the advertisements were LIS related. The most demanded in rank order were: Ability to develop the knowledge transfer/capture process; Information Management experience; Research skills; Ability to access/source external information resources; Content management skills; Classification, cataloguing, codification, taxonomy skills; Online searching skills (Dialog.CDRoms/Profound/RBB/FT Profile/Investext); and x-years experience in a research or information role.

The findings show that a broad range of LIS/IM skills are sought by employers. This is in contrast with the TFPL study which identified online searching as the skill most commonly sought.

3.3.6 IT skills

The most demanded IT skills specified in job advertisements and by agencies were those needed for intranet development, internet use, use of Lotus Notes and for database management. A few advertisements merely specified the need for a solid technical background in IT, and/or experience of Microsoft Office, Word or Powerpoint. The most interesting finding here in comparison to the TFPL study is the rise of importance of intranet development skills.

3.4 Sector of organisation

In total, 97 of the 113 posts could be identified with a particular industrial sector. As Table 2 shows almost a half of these (49%) were being sought by either consultancy companies or the finance sector. The only other sectors to advertise more than three posts in the six-month period were IT/Communications, the NHS and the Government. In the TPFL survey, the majority of the job vacancies were from Management/Business Consultancy companies; two thirds of the posts were being offered by this particular sector. The only other sectors in the TPFL survey to have more than three posts were the legal and finance sectors.

Table 2 Industry sectors

Sector	**No of posts**
Consultancy	29
Finance and Legal	19
IT/Communications	10
Health Services	8
Government	6
Professional Body/Services	5
E-commerce	3
Energy	2
Distribution	2
Media	2
Recruitment	2
University	2
Other	7
NK	16
Total	**113**

3.5 Salaries offered

Graduates are often attracted to particular fields in the first instance by the salaries that are offered. Table 3 shows the range and frequency of salaries on offer as given in the job advertisements. Only four posts were advertised below £20,000, the lowest salary on offer being £17,000. Three of these mentioned the need for professional qualification in librarianship or information science. At the top end two posts were advertised as offering £100,000. These were for very high level appointments, one to provide leadership and vision in the field of information services to take advantage of e-commerce, the other to have overall responsibility for KM, strategic management

and knowledge delivery in the finance sector. Almost a third of the advertisements did not state a salary; just said 'excellent salary offered' or 'very competitive salary offered' or that it was negotiable. Where salaries were stated, the most common salaries on offer were between £20,000 - £45,000. KM salaries therefore appear to be higher that equivalent library posts.

Distribution of salary on offer was fairly even across sectors, although the Health Service jobs were among the lowest, with 7 of the 8 posts being offered with salaries of £20,000 - £30,000.

Table 3 Salaries

Salary	Number of posts
<20,000	3
£20,001 - £30,000	34
£30,001 - £45,000	27
£45,001 - £65,00	13
>£65,000	2
Negotiable/Not known	34
Total	**113**

3.6 Geographical location

Graduates are also interested in the location of jobs. In the UK almost all of the KM jobs advertised (81%) were based in London with a further 13% being based in outer London or Southern England. Only 5% of jobs were based elsewhere: one in consultancy, one in the leisure sector, two in health and one in distribution. No KM jobs were on offer in Scotland or Wales.

4. Information and Knowledge Management Masters

The results from the survey and the earlier TFPL research provided the framework for the design of the new Information and Knowledge Management Masters Programme at Loughborough University. Commencing in October 2002, subject to approval, students will be able to take a series of modules aimed at providing them with the necessary skills for a career in KM. The structure is based on a semester system with six modules worth 10 credits being taken in each Semester. Students will also be required to write a dissertation, worth 60 credits during the summer months. The core modules are as follows:

Design and Authoring for the WWW
Information Retrieval
Informatics and Knowledge Management systems
Principles of Knowledge Management
Organisation of Information
Database Structure and Design
Competitor Intelligence & Business Information
Legal and Professional Issues
Management of Innovation & Entrepreneurship
Management Techniques & People Skills

In addition to the core modules students will be required to select options worth 20 credits and undertake a Research Methodology course in preparation for their dissertation. Further details about the programme will be available from October 2001 at http://www.lboro.ac.uk/departments/ls/.

5. Conclusions

Knowledge Management is linked to Information Management because knowledge is communicated and managed through information infrastructures that are used to locate, create, distribute, store and eventually discard information. Focusing more on utilising intellectual capital within organisations, KM is nevertheless, a distinct discipline and one that is growing, substantially according to one agency. Information professionals already have the essential theoretical and practical skills to provide the IM element of KM. However, there are also opportunities for information professionals to use their skills in creative and imaginative ways to influence information strategies at boardroom level and corporate decision making. Up until now, employers have been slow to recognise that information professionals could have the potential to move into senior management positions. Abell and Oxbrow (2001) blame lack of expectations on the part of the both the information professional and the employer for this. They point

out that employers tend to perceive information professionals as backroom office workers who provide services to real managers. Although employers recognise that information professionals have valuable skills, employers, according to Abell and Oxbrow, perceive them to have a lack of business acumen, and poor management/leadership/team skills. There are signs that employers' perceptions are changing, judging from the increasing number of advertisements for KM posts stipulating the desirability of an LIS/Information Science degree, but expectations on both sides still need to improve. Graduates also need to be provided with the right skill mix of management, business, ICT and information skills, to enable them to take advantage of the emerging roles in the knowledge economy. The new Masters degree in Information and Knowledge Management at Loughborough University aims to do just that. The future is exciting; it has never looked so promising for information professionals. The opportunities are there and are expanding; these must be taken, if not, they will go to other disciplines.

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