Information Professionals in the Information Age: Vital Skills and Competencies

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Abstract

Until recently, information professionals did not see the need to deal with informal knowledge and intellectual capital. Their role was restricted to managing formal knowledge. As more and more organisations realise the value of informal knowledge in an increasingly competitive knowledge economy, there is a growing need for information professionals to sharpen their skills and assume the role of knowledge managers.

This paper reports on a study carried out to assess the level of understanding and degree of awareness of the importance and value of managing intangible asset by information specialists within the organisation. The study focused on the skills required from these professionals to assume the roles of knowledge managers. Issues such as creativity, analytical and managerial skills, information seeking skills, IT and communications skills, friendliness and responsiveness were emphasised by the study as important and vital skills. Participants took part in this study consist of managers, consultants, information specialists, librarians, system analysts and end users. The study identified ten important skills information professionals need to have to assume the role of knowledge manager in the information age.

Keywords

Formal and Informal Knowledge, Information Age, Information Specialists, Knowledge Management, Knowledge sharing, Knowledge Transfer, Tacit Knowledge.
Introduction

Informal knowledge is a knowledge that originates and resides in people minds. Unlike formal or documented knowledge, informal knowledge goes beyond capturing, indexing and retrieving documents. It extends to managing knowledge workers and human resource. Human resource has been long recognised by many organisations as an important component of the intangible asset within the organisation. The term "Our people is our only asset" is a familiar citation that shows the value of people in an organisation. While formal or explicit knowledge is normally expressed, documented and managed by information professionals, informal knowledge is a knowledge that is linked to experience, skills and innovative thinking. Nonaka and Takeuchi in 1995 discussed two type of knowledge; the first type Explicit or formal Knowledge. Explicit Knowledge is a knowledge that can be captured, codified and documented. These documents include company policies, manual, product documentation, patents, trade marks, trade secrets, and so on. The second type of knowledge is tacit or informal knowledge. Tacit knowledge is derived from experiences, know how based on clues, instinct and personal insight gained through years of experience. Tacit knowledge tend to exist within people minds and tends to be personal, context specific and difficult to transmit (Mackenzie, 1999; Edger, 2000). To perform a job effectively, one need to understand and posses both types of knowledge. The biggest problem that is facing most organisations today is how to keep this knowledge within the organisation and how to leverage this knowledge to gain competitive advantage. Knowledge management is an emerging concept that aims to leverage information and collective wisdom to increase responsiveness, productivity and innovations. Knowledge management can be described as a systematic process of finding, selecting, organising and presenting information in a way that improves the employees comprehension in a specific area of interest. Knowledge management is an interdisciplinary function. It includes human resource management, communications, Information technology, information management, change management, organisational cultures, and process change.

Until recently, information specialists played the role of gatekeeper in handling organisation documents and formal knowledge. Librarians primary concern were the management of book collections and journals (Cronin, 1998). Today librarians are transforming themselves and bracing for a more active and dynamic role as we move closer and closer to the information society. Other people from other occupations and disciplines such as scientists, engineers and IT professionals have found a niche in response to the fundamental need of the information society (Schement & Curtis, 1994). In this society, information specialists will encounter rapidly changing environments that require diverse skills, new thinking, and broadened perspectives. Information specialists must be prepared to develop innovative ideas, capture and source for information, process and disseminate information, and demonstrate good management practices (Smythe, 1999).

In this paper we report on the result of a study carried to identify the competency and skill set that is needed by information specialists in order to assume the role of knowledge managers in the information age. The ability of the information specialists to change and adapt to the fast changing information society is very important if information professionals want to remain relevant.
Intellectual Capital And Intangible Assets

In a competitive global world, the measurement of the worth of the organisation lies not just in its material wealth but also in the intangible assets/intellectual capital. These are the procedures, know-how, experience and skills that propel the organisation into its highest level of proficiency and efficiency. Tacit Knowledge is normally controlled and owned by the employees in the organisation. Traditionally, an organisation responds by predicting and reacting using pre-programmed heuristics measures. Today, the organisation demands from employees to be proactive and respond to the faster cycle of knowledge-creation. The intellectual capital can consist of three different areas:

- **Human capital** consists of skills, experiences and expertise of the people in the organisation. Human capital is embedded in the organisation as tacit, complex, not articulated and not documented. It is difficult to capture or document this knowledge in a simple and articulated format. It is important for an organisation to realise the importance of human capital and make an effort to capture and maintain this type of knowledge within the organisation. Encouraging knowledge sharing and knowledge transfer between people within the organisation is one of the methods that can be effectively employed to manage human capital. Encouraging staff to participate in seminars, workshops, continuous education is another way of enhancing the human capital within the organisation.

- **Customer capital** consists of business transactions, customer satisfaction and relations. Customer capital is relatively easier to capture as opposed to human capital. Some performance indices can be used to measure the customer capital, such as repeat business transactions, market dominance due to market strategy, customer feedback and so on. In order to capture customer capital, it is a pre-requisite to have a comprehensive database to capture the business transactions. Some IT applications such as data warehousing and data mining are used to generate these performance indices or customer capital.

- **Structural capital** consists of manuals, databases, procedures, and company culture and practices. They are the technologies, methodologies and processes that enable an organisation to function. For example, a company may have a comprehensive information system that uses many computer-based applications such as financial system and material management system, etc. These applications are running on a computer system and information is transmitted over a network infrastructure.

Intellectual capital unlike tangible assets does not appear in the balance sheet of the organisation. However, it is an element in the organisation that shapes the “character” of the organisation. Intellectual capital includes inventions, technologies, ideas, general knowledge, computer programs, design, data, skills, experience, processes, creativity, publications and so on. Figure 1 shows the three different areas discussed above which contribute to intellectual capital. With Knowledge at the centre of the diagram, we can see the three components of intellectual capital and the overlap between these components. The ability to recognise and capture the know-how is
essential to add value to the organisation. One way in which organisations can manage intangible assets is by aligning performance with business strategies. This model looks at both organisational and individual factors that affect performance, and focuses on obtaining measurable outcomes that benefit the individual and the organisation. Another approach is to identify core functions in the business process. This involves the study of different aspects of the business process and identifying the critical areas that are not in any physical form but crucial to the various operations in the organisation. Collaborative tools such as Intranet, workflow, interest groups, forums and interviews can facilitate pulling experiences and insights from individuals within the organisation.

![Figure 1: Components of Intellectual capital](image)

Sharing insights and best practices is a behaviour that is critical to the success of any knowledge management system, yet getting individuals to share their knowledge is counter to the culture found in most organisations. This is the biggest obstacle to successful knowledge management. Employees are more likely to share knowledge if it is linked with common goals of the organisation and achieves clear economic value. Knowledge sharing, is about contribution, respect for others’ opinions and views, as long as all stakeholders are able to visualise the positive influences of information and appreciate the best way to practice using information; information can be effectively and profitably transferred into knowledge.
It is also important to incorporate lessons learnt from the entire chain of events that are always happening in the organisation. This could be obtained from customer feedback, product design, delivery channels and packaging, etc. An organisation can only retain its position and be strong in the competitive global market only if it corporate this into its business workflow and strives to improve on its strength continuously.

The most direct source of valuable information to the organisation is from the customers. If the customers’ feedback is captured and the necessary lessons learnt, it can be incorporated into its current business workflow. This shows that the organisation is concerned and cares about its customers. It is also important to foster a closer employee-to-customer relationship. This will eventually grow into an everlasting bond that helps the organisation to be effective in capturing its intangible asset.

The Role and Skills of Information Professionals

Information centres and corporate libraries are normally given the task to collect organise and manage information within the organisation. Managing knowledge (formal and informal) within the organisation is a challenging task. Informal knowledge management is more complex and different form that of formal or explicit knowledge. It requires dealing with human elements and closely related to human resource management, appraisal system, organisation’s culture and business practices. As organisations become aware of the value of keeping knowledge within the organisation, they will require knowledge managers to manage knowledge within the organisation and prevent knowledge flow. Thus, knowledge management goes beyond information management to include capturing skills, experiences and other type of informal knowledge.

The main question raised in this study is whether information specialists are ready to take on the role of knowledge managers and deal with formal as well as informal knowledge. To answer this question, 75 participants from government and private sector participated in this study. These participants are all currently undergoing the Master of Science in Information Studies programme in Nanyang Technological University. They included managers, users of information, information professionals, consultants and system analysts. The objective of this exercise is to determine firstly, the level of understanding and the degree of awareness of the importance of managing an intangible asset within the organisation. Secondly, to understand the issues related to knowledge sharing and knowledge transfer among the people within the organisation, especially when dealing with knowledge cultures and styles; and thirdly, to get their ideas about the role that information specialists should play in managing knowledge within the organisation.

Each participant was given two open-end questions to answer. The open-end questions allow participants to express and incorporate their ideas and knowledge and experience in dealing with information specialists. It allows them to express their opinion with regard to the role and skills of the information specialists in the knowledge organisation. The two questions are:

- What is the role of information professionals in knowledge organisations?
How would you define the skills of an information professional? What are the ten most vital skills an information specialist should have?

The first question is designed to define the role of information specialist in the knowledge organisation. The second question is to identify the skills needed for the information specialists to assume the role of knowledge managers. Participants were asked to form smaller groups and discuss the two questions. Each participant subsequently submitted a write-up summarising the discussion as well as expressing their own opinion if it different from those raised in the discussion. Results and answers gathered from participants were analysed and tabulated according to the questions listed above.

Findings

All participants agreed that the term information professional could refer to any one who is responsible for the transfer of information and knowledge in the organisation. They might hold diverse titles such as Project Manager, Database Manager, Customer Relation Manager, Information Specialist, Documentation Specialist, Information Manager or Chief Information Officer. Information professionals will apply their knowledge to create value for the organisation. They are responsible for managing the creation, capture, synthesis, sharing and application of the collective intelligence of their organisations. They will manage the process and ensure that business needs are served. Develop high-level knowledge management strategies and create a knowledge management infrastructure.

Figure 2 shows the ten most vital skills as highlighted by the 75 participants. We can see that the 75 participants have agreed that information-seeking skills are a must for information specialists. This includes the ability to capture, index, retrieve and disseminate information. The second most important skill as highlighted by the study is the social and communications skills. Seventy-two participants or 96% of the participant emphasised the important of social and communications skills. Most participant see the role of information professional as a mediator who must possess the skills of active listening and have the ability to clearly convey ideas and information to others.
As information professionals need to work with almost everybody in the organisation, they should have very good social and communication skills. They have to serve as a link between different groups of people in the organisation and identify the necessary value and assets, which could be captured and improved.

Managerial and leadership skills are essential for information specialists to handle projects that involve multiple departments within the organisation. Sixty-eight participants or 91% of the participant agreed that managerial skills are essential in dealing knowledge worker in the organisation. Surprisingly, this is higher than the information Technology (IT) skills in which 89% of the participants agreed that IT skills are essential. Some of the participants emphasised the need for information professionals to demonstrate self-confidence and leadership. This will empower them with the necessary authority to identify and direct the capture of the required capability and intelligence of the organisation. Turning information into solution, information specialists piece information together and reflect on their experience, generate insight and use this insight to solve problems (McDermott, 1999).

Sixty-five participants or 86% of the participants enveloped in the study agreed that an information specialist should be friendly, open minded and able to adapt to changes and relates to new ideas. An information specialist should be able to work with people in the organisation regardless of their diverse subject background. He must be able to motivate and convince people to share information and knowledge. Maintaining a good relationship with everyone in the organisation is a challenging task that requires a pleasant personality and patient.

Creativity and analytical skills are seen as equally important skills. Fifty-nine participants or 79% of the participants highlighted the need for information professionals to be creative and possess analytical skills. They should have the analytical skills as to be able to capture and analyse information related to the
organisation operations and goals. They should have logical and thoughtful thinking, be resourceful and should have a macro view of the entire organisation. They should know how to draw, capture and share related information. The knowledge economy imposes the need for variety and complexity of interpretations of information. Information professionals need to deal with the non-linear changes and devise non-linear strategies in dealing with the increasingly complex environment. They need to have an overall understanding of the business of their organisation and how they should fit into the overall structure in the organisation. This is because their active involvement would contribute to the organisational learning processes. They can help the organisation to move forward and be instrumental in orchestrating the organisational ‘best practices’ in a competitive global business world.

Information professionals need to be proactive, responsive and have diverse subject background. They need to be knowledgeable and flexible in adapting applications of new technologies to their organisation. This is necessary so that they can delegate technical tasks to technologies and concentrate their time and efforts on value-adding activities that demand creativity and innovation. To remain aligned with the dynamically changing needs of the business environment, information professionals need to continuously assess their internal procedures and guidelines that helps prepare people to face challenges when they arise. For example, when the Asian economic crises happened in 1998, most companies were not prepared to face the challenge. There was clear lack of knowledge infrastructure that supports quick and decisive decision-making.

Figure 3 shows an alternative presentation of these competencies and skill sets (in addition to those not discussed previously) of information specialists in the information economy. This has been grouped into the six categories of skills that comprise Tools and Technology Skills, Information Skills, Social and Communication Skills, Leadership & Management Skills, Strategic Thinking & Analytical Skills, and Personal Behaviour and Attributes. These competencies can serve as a useful basis for curriculum design for educating and transforming information professionals in the new workplace.

These competencies and skills are similar in many ways to those proposed for a Chief Knowledge Officer in a public sector organisation by Neilson (2001) that includes the six main categories of Tools and Technology Skills, Communications, Leadership & Management, Personal Knowledge and Cognitive Capability, Strategic Thinking and Personal Behaviour. Competence in these skills allow the CKO to fulfill a number of roles in the organisation including: creating and using a taxonomy (common language), securing resources, providing leadership and strategy, measuring outcomes, promoting “Best” Practices and Processes, creating knowledge-sharing culture, championing Communities of Practice, using incentives and rewards, providing tools & technology, and championing education in the organisation.

This in some ways indicates that information professionals are already educated and trained to exhibit a number of such important skills. With the appropriate mix of additional emphasis on the missing skills set, they are poised to take on the expanded role of knowledge work and play a key role in the emerging information and knowledge intensive organisations.
Figure 3. Competencies and Skills Set of Information Professionals
Conclusion
In the information age, organisations will start to recognise the value of knowledge and see the need to manage both formal and informal knowledge. Until recently, information professionals played a passive role and did not try to deal with other types of undocumented knowledge. This is now changing and information professionals will soon find themselves on the cross-roads. All participants in this study have agreed that information professionals need to transform themselves from document managers and gatekeepers to knowledge managers. For this transformation to take place, participants agreed that information professionals will have to be creative, resourceful, enthusiastic, have analytical and interpersonal skills, versatile, open minded and be able to adapt to the continuous changing environment. Most of the participant agreed that beside information seeking skills, information specialists need to possess good social and communication skills in order to deal with the knowledge workers in the organisation. Managerial skills are also highlighted as an important and essential for information professionals to acquire when dealing with diverse and complex working environment. Information professionals bridge many channels of information in the organisation. They should be able to interact with the knowledge workers in the organisation, encourage knowledge sharing and provide critical information to the decision making process within the organisation.

References


