

## ***Strategic Model for Implementing Knowledge Management in Libraries and Information Services***

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### **Abstract**

In most fields of activity one can notice the trend towards knowledge-based organizations and towards flexible organizations that encourage innovation and change. In this context, knowledge management has become a fundamental process for all types of organizations in society. Libraries and information services are integral part of the knowledge system, these organizations being one of the forms that contribute to knowledge development. This article presents a strategic model for implementing knowledge management in libraries and information services, created on the basis of the results from theoretical researches and practical applications of this process in organizations from different countries and different fields of activity and keeping in mind the specific characteristics of libraries and information services. The model is based on five fundamental elements from which one should begin implementation of a knowledge management function in the organizations engaged in information transfer.

**Keywords:** Knowledge Management, Libraries and Information Services, Strategic Model, Implementation of Knowledge Management

In order to survive in a rapidly changing globalized economy with its competitive environment and in order to be important players in the knowledge market, libraries and information services must continuously

redesign their management systems. This involves promoting flexibility, transparency, organizational learning, improving efficiency and effectiveness, permanent training of staff, reassessment and adaptation of working methods to contemporary requirements. At the same time, major importance should be given to the policy of competence and co-operation and to have a modern approach to project management, that is results-orientated and centered on the capitalization of the major strategic resources of the current society – information and knowledge – that define and shape actions, interactions, human activities and institutions.

Within libraries and information services, the identification and development of better ways to manage and exploit knowledge assets can lead to higher levels of performance and provide continuous innovation.

Despite some common elements and depending on their particular field of activity, organizations present a number of features including the nature of the products and services they produce, their clientele and the public. They therefore require appropriate ways of implementing the new functions of management corresponding to specific conditions found in each organization.

Starting with these issues, based on theoretical research results and practical applications of knowledge management in organizations from different countries and industries, and bearing in mind the characteristics of the institutions involved in the information transfer, we believe that in order to obtain optimal results in the implementation of this new function in libraries and information services, managers must focus on creating a specific model, adapted to the needs and conditions of their structures. The model should be based on an in-depth analysis of the organization and the relationships within it, and those with the external environment.

We will outline the elements of such a strategic model and formulate a few basic ideas which should be the starting point in implementing knowledge management in libraries and information services.

The value of products and services provided by libraries and other information services has always relied not only on tangible resources, but also on the intangible ones, their knowledge assets. And today, these organizations may have a higher performance compared to other structures that appear in the market of information transfer, because they have a better knowledge of the ways in which they can create and provide quality information products and services, to meet user needs. And this is thanks to their long institutional experience and also to their staff and their specialist training. The organizational knowledge, both in its practices and procedures and which the specialists possess, is difficult to imitate, it is unique and can be transformed into strategic benefits in the long term.

Therefore, the fundamental idea from which our model starts is that in contemporary society, the essential skills, based on knowledge, underlying the few activities which libraries and information services do best, are their key organizational assets. Developing unique products and services or developing them at a lower cost than competitors is based on superior knowledge of these processes. In the case of libraries and information services these activities are knowledge organization and preservation, information search and retrieval, information dissemination and development of added value information products. To know how to carry out these activities effectively and efficiently, in ways that other organizations cannot copy is a primary source of value that cannot be purchased from external markets. Therefore, firstly libraries and information services should identify and focus on those few processes which they do best, developing and improving them all the time. Through a variety of mechanisms of organizational learning, libraries and information services can create, collect, and use the knowledge necessary in these processes. Based on this knowledge, they can develop new operating procedures and improve the existing ones. Organizational learning is essential and it must be fostered and enhanced continuously.

We move on to the second fundamental element of our model which is the people, the human resources and the organizational culture. The chances of success in the implementation of knowledge management is almost non-existent in any kind of organization, including libraries and information services, without development of a collective culture open to change. Here learning, creativity and quality are valued and sought, where the acquisition of new skills and knowledge is an ongoing process, where investment in human capital, in the further training of employees, is essential. Developing a better strategy for communication, creating a coherent context for the systems and the people in the organization are steps that necessarily must be taken. The existence of a unified culture will reduce the barriers of communication and will lead to closer cooperation within the organization. There must be, therefore, a framework created whose components (vision, strategy, values, etc.) recognize the benefits that derive from supporting organizational learning and knowledge sharing. Communities of practice (an important source of expertise for the organization) should be encouraged, as should communication and a team culture where exchange of ideas and information leads to the creation of added value. For an increased efficiency in knowledge management an online discussion forum may be created, which certainly will improve the processes of organizational learning, sharing of knowledge and expertise. Managers must take appropriate measures so that knowledge sharing takes

place, perhaps leading to the establishment of organizational changes to encourage greater use of this forum. Changes could include, for example, recording weekly statistics indicating the system users by employee. Non-users could be penalized, frequent users rewarded. Internal procedures could also be changed to ensure the immediate capture and use of information during the various projects undertaken by the organization. A system must be set up for periodic evaluations and rewards to encourage people to contribute with their knowledge and to use the knowledge of others.

This brings us to the third fundamental element of our model, namely the technology that can underpin the process of knowledge management by improving the methods of organizational learning and knowledge sharing. Technology plays a fundamental role in creating a culture and an infrastructure to stimulate and enable access to knowledge and expertise existing in the organization.

Knowledge management systems based on the new technologies may collect the relevant knowledge and experience in an organization and may make it available anywhere and anytime, thus supporting the processes taking place and decisions that are taken within the library or the information service. They can also connect these institutions to external sources of knowledge. Knowledge management systems support the processes of identification and codification, sharing and distribution of knowledge, and also the processes of generation of new knowledge and integration of this into the organization. Applications of knowledge management support libraries and information services in creating knowledge maps, registers of the collective knowledge of employees, indicating specific areas of their expertise. It also provides support in identifying and sharing best practices, in encoding experts' knowledge so that it can be registered on the information system and used by other members of the organization.

Information systems can promote organizational learning. With these systems, knowledge can be preserved in the organizational memory for the training of future employees and for helping them in making decisions. People can be directed to specific areas of expertise, can get in touch with those who possess knowledge, can easily identify experts and tacit knowledge can be shared.

The role of information technology underpins the ability to raise and improve collaboration and communication among employees, and between them and practitioners and experts from outside the institution. This helps enormously in the innovation process. Technology makes available the organizational knowledge. But precisely the type of system that can facilitate information flow and knowledge management in libraries and information

services must be identified. Specifically systems that help these organizations understand and respond better to the requirements of their environment.

External and internal networks, databases, techniques for extracting data, and other applications based on the new technologies of information and communications can also help libraries and information services in capturing, organizing and using the knowledge base they possess.

Here we introduce the fourth fundamental element of the model, networks, the partnerships between other structures of the same type or between structures with similar activities.

Libraries and information services should be organized in networks, which through all the human, information, knowledge and technology resources they possess, will have more ways to use human knowledge productively and thereby will be more efficient and more competitive.

By applying information and knowledge they will be able to generate new knowledge, will be able to process information and develop advanced communication tools. Also, as part of a network they will be able to focus on creating and improving the facilities and infrastructure that encourage and support learning.

Designing, implementing and managing partnership programmes with other public or private organizations are necessary actions to stimulate research, innovation and new knowledge generation. Libraries and information services have to be constantly in search of new opportunities for collaboration. They must identify, develop and use the best practices in scientific co-operation, exploit the potential of information and communication technologies to help develop strategies and activities in co-operation with other organizations. Expanding partnerships, involvement in international research programs, development of modern applications for their actions, the interconnection of all their departments, will enhance the quality of activities of libraries and information services and of the products and services they provide to users.

Through partnerships and networks, libraries and information services will have more knowledge assets, and although many difficulties can appear in sharing these assets, information and communications technologies can provide solutions to overcome these difficulties.

A fifth key element for the success of the knowledge management project is the creation of the position of the Chief Knowledge Officer (CKO), a knowledge manager position. Its holder will deal with all that makes up the knowledge strategy for that organization. They will coordinate the technological infrastructure, human resources, the processes of creation, use and sharing of knowledge, the co-operative relationships of the

organization. (Figure 1) They will be responsible for the smooth running of the process of knowledge management within the library or the information service, will co-ordinate the design and implementation of knowledge management programs and systems, will find new sources of knowledge and will identify new ways of effective use of knowledge in the organization.

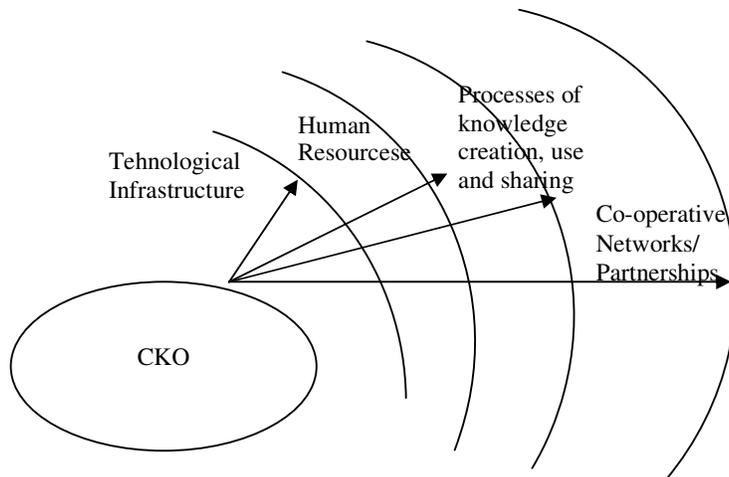


Figure 1 The role of Chief Knowledge Officer

Our model centrally places the knowledge assets of the organization (which are in the minds of people, in the organization processes, practices and activities) and those from the external environment, at organizational level where there are co-operative relationships, and is designed to support the expansion and improvement of those main activities deployed by libraries and information services:

- the acquisition, organization, processing, and preservation of documents
- information search and retrieval
- information dissemination
- development of information products
- provision of information services for users, etc.

The principles underlying the model are:

- the principle of co-operation
- the principle of knowledge sharing
- the principle of interconnection
- the principle of systematization.

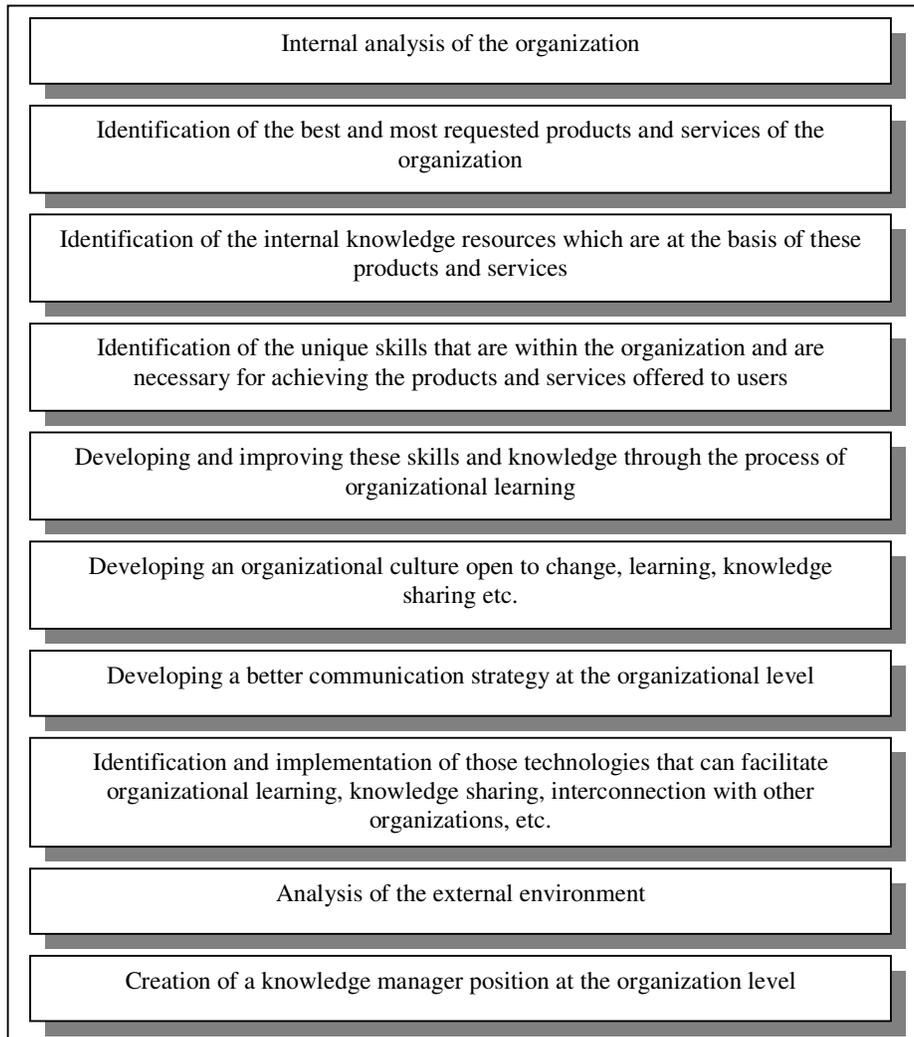
The model includes the following steps:

- Internal analysis of the organization

- analysis of the main activities within the organization
- analysis of the results of these activities
- analysis at the level of human resource management
- analysis of internal relationships
- analysis of the technological infrastructure.
- Identification of the best and most requested products and services of the organization
- Identification of the internal knowledge resources which are the basis of these products and services
- Identification of the unique skills that are within the organization and are necessary for achieving the products and services offered to users
- Developing and improving these skills and knowledge through the process of organizational learning
- Developing an organizational culture open to:
  - change
  - learning
  - knowledge sharing
  - co-operation
  - team work
- Developing a better communication strategy at organizational level
- Identification and implementation of those technologies that can facilitate:
  - information flow
  - organizational learning
  - knowledge sharing
  - strengthening of an open organizational culture
  - interconnection with other organizations
  - identification, collection, encoding, distribution and integration of knowledge in the organization
  - creation of knowledge maps and records in the organization.
- Analysis of the external environment:
  - identification of the organizations with which agreements could be established for co-operation, organizations with which they could come together in order to:
    - productively use the knowledge
    - generate new knowledge
    - develop advanced tools for communication and learning
    - develop the best practices of co-operation.
- Creation of a knowledge manager position for sole action at organizational level about:

- co-ordination of a knowledge strategy
- co-ordination of partnerships with other organizations

These phases are represented schematically in Figure 2.



*Figure 2.* Phases in implementing knowledge management in libraries and information services

The phases of the model are not necessarily dependent on each other, so that we need not complete a stage and only then move to the next. They can also be addressed in a different order, not only in that set out above.

These steps should rather be seen as some steps to be taken, regardless of the path chosen, each library or information service setting out on an individual basis, depending on the specific functions and resources (human, financial, time, etc.) available, the importance of these stages in order to achieve the goals and the order in which these steps must be completed. For example, developing an organizational culture open to sharing knowledge can be the first action that a library initiates, as is perhaps the most important step, but the most difficult in any project for implementation of knowledge management. Also, creating a post of knowledge manager may well be a decision that is put into practice as soon as a documentary organization has decided to implement knowledge management.

The model includes a series of relationships which should be established at library or information service level, but also at the level of the partnership established with other organizations. The relationships within the partners should be at the knowledge managers' level for effective coordination and functioning of co-operation or directly between specialists in the libraries and information services who can co-operate in various activities in which they are engaged. These relationships are represented schematically in Figure 3.

A very important approach which managers of libraries and information services should recognize is that action must be simultaneous at multiple levels, namely the basic elements of the model should not be addressed separately.

Modes of action must be decided at organizational level by each manager because each institution has a specific environment, the characteristics of organizational culture being different in all structures. As a whole each organization will react in a specific way differently from other structures, even if they are the same type. For example, for operational changes to the organizational culture, each structure must identify the best ways to motivate people to share and use knowledge.

The consequences of the implementation of a knowledge management project can be manifested in different ways. Results of actions may occur faster or slower depending on the circumstances in each library or information service. Acting in the same way in two different organizations, we will not achieve the same results. Therefore, it is important to start with small scale projects. For example, creating a database of organizational best practice. Initially the most important and most useful practices should be identified and recorded under labels such as: description of the practice and of the problem solved, improvement measures, contact information for the people involved. Then, after a period of time in which the database is used by the specialists in the libraries and information services or within the partnership, the database can be expanded to include further entries. (Figure 4)

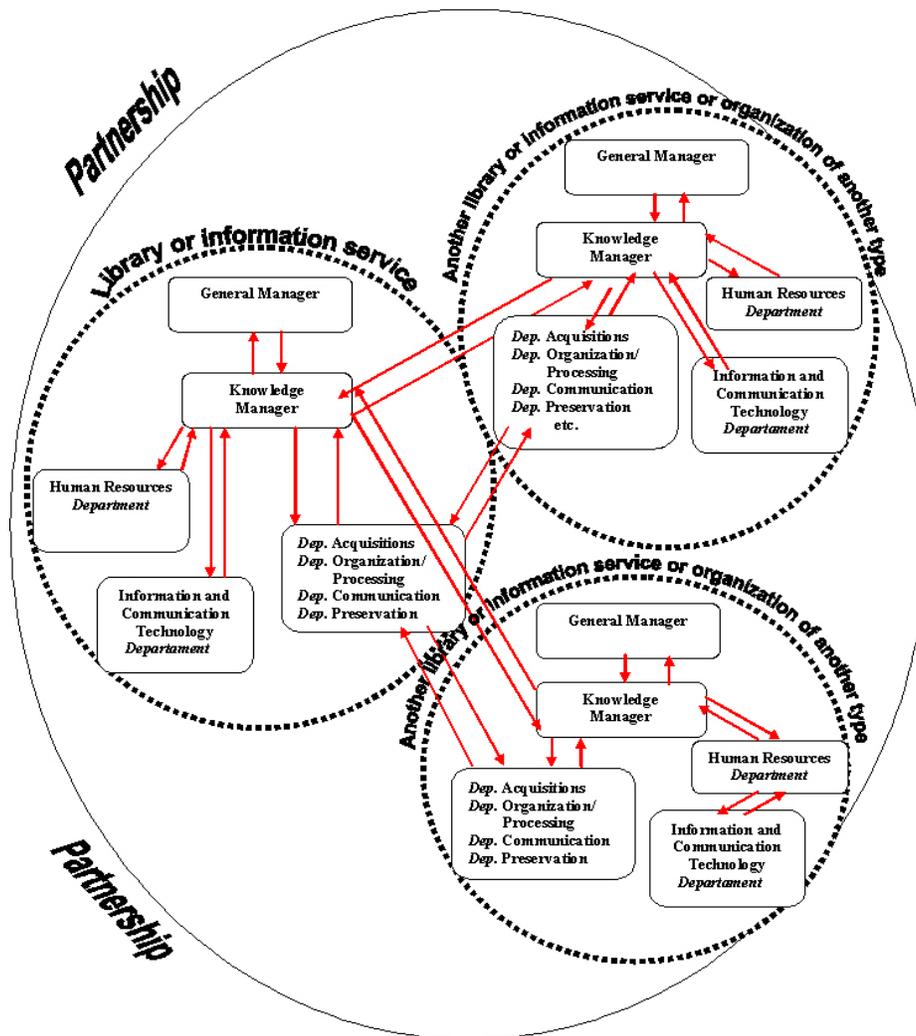


Figure 3. Relationships at the library or information service and at partnership level

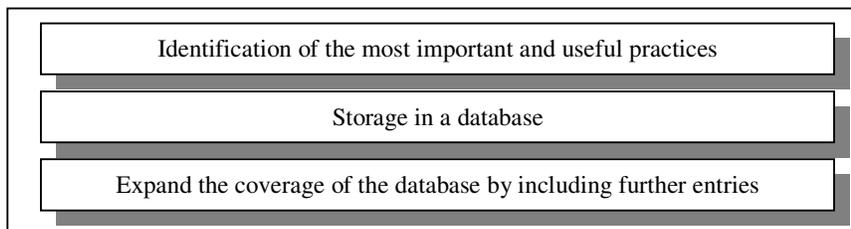


Figure 4. Steps for creating a database of best practices

Within the partnership there may be a common database created by all the libraries and information services accessible to all employees of the partner organizations. In time, the database can be updated and expanded. (Figure 5)

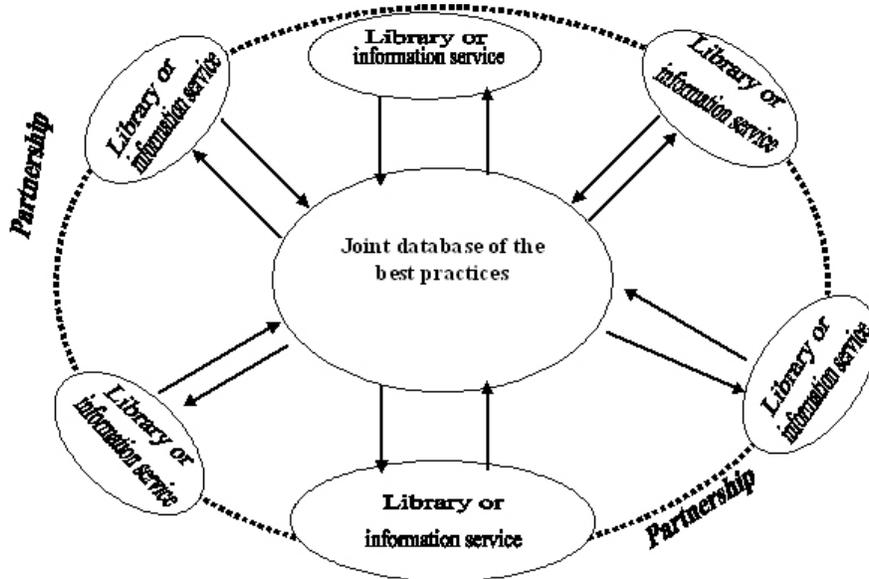


Figure 5. Joint database of best practice at partnership level

Another example would be to create a map of knowledge that could initially include minimum details covering an area of clearly defined knowledge, and subsequently, depending on use, be expanded to cover a broader area of knowledge. (Figure 6)

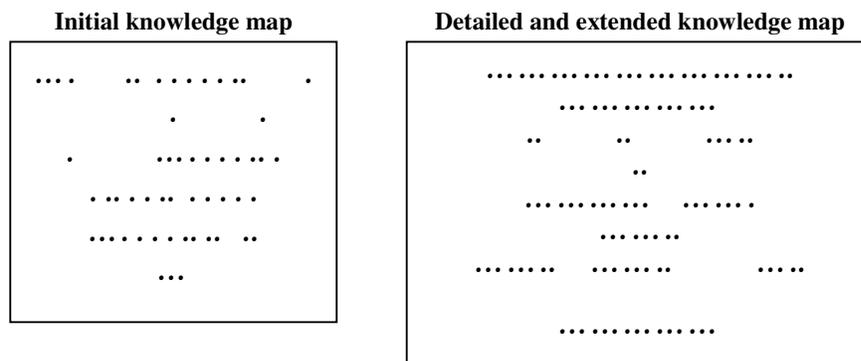


Figure 6. The creation and expansion of a knowledge map

The specialists in the library or information service as users of the map make a request (they indicate the subject of interest) and a specially designed programme processes this request and directs it to a point on the map corresponding to that area of knowledge, the user being able to access the contact details and get in touch with the expert in that area of knowledge to help them. (Figure 7)

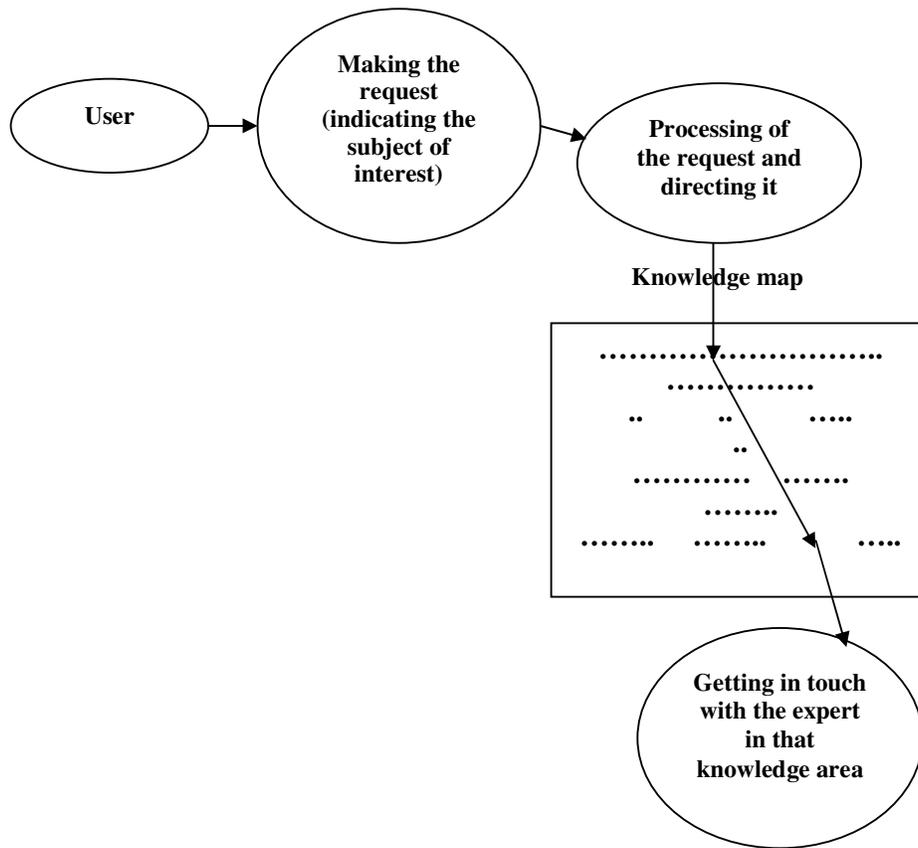


Figure 7. Access to and use of a knowledge map

Within the partnership, such a knowledge map could provide additional access points to knowledge that exists in the organizations participating in the co-operative agreement. (Figure 8)

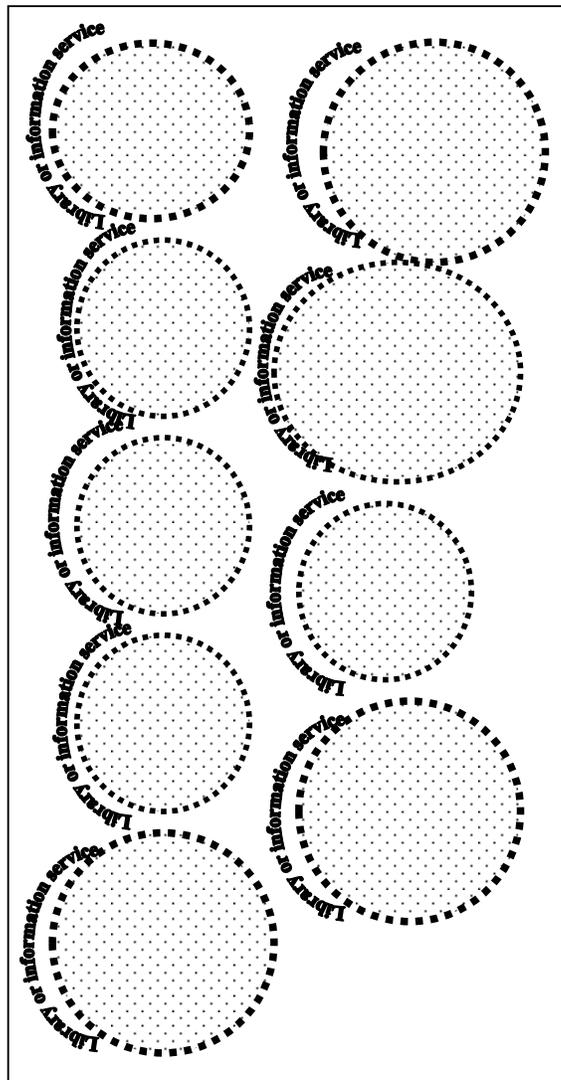


Figure 8. Map of knowledge at partnership level

In the case of libraries, partnerships for knowledge management can be established through existing networks at public, school and university level by the interconnection of all these institutions, then a partnership at national level could be constructed through the participation of these structural networks, but also of others. In the case of academic libraries, for example, (Figure 9) co-operation at the level of the field / discipline can lead to expansion both in breadth and depth.

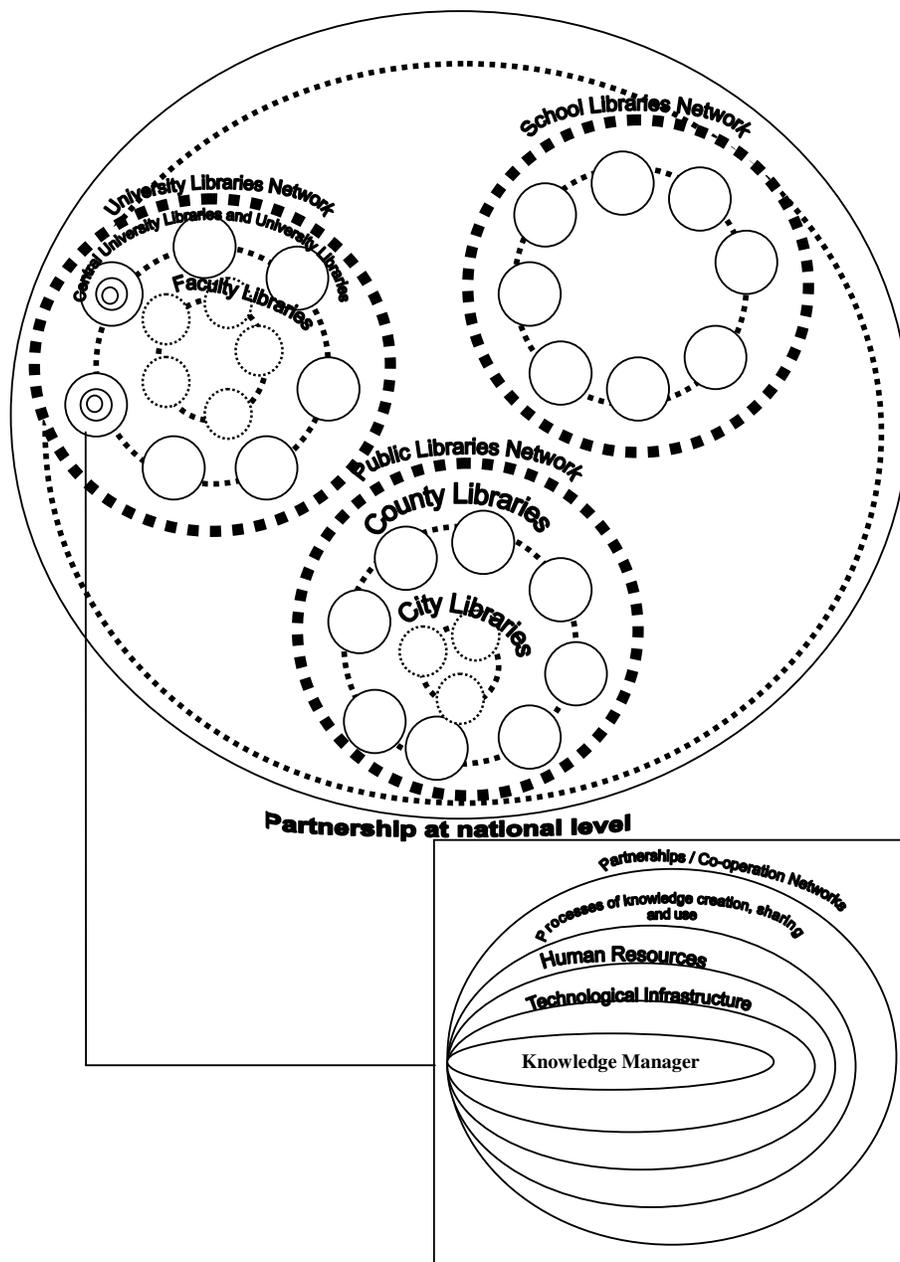


Figure 9. Partnership for knowledge management at national level in libraries and information services

The model of implementation of knowledge management in libraries and information services allows:

- identification of the most important processes, products and services of libraries and information services and their evaluation;
- identification of knowledge resources and skills in the organization in order to exploit these resources;
- identification of the potential external partners for collaboration.

Among the main results of the implementation of the model there should be:

- achievement of a more extensive collaboration in order to use the knowledge in the most effective and creative way;
- achievement of a national database with as many libraries and information services as possible, regardless of type, which would allow a permanent and full access to the stock of knowledge stored;
- establishment of partnerships for knowledge management at an international level.

Summing up, the five basic statements underlying our model for the implementation of knowledge management in libraries and information services are:

- The knowledge and expertise on which activities such as knowledge organization and preservation, information search, retrieval, and dissemination, development of value-added information products and services are based are essential organizational assets for libraries and information services.
- Human Resource Management (including here a number of elements such as communication, organizational learning, knowledge sharing, communities of practice, organizational culture) is a fundamental element for the process of knowledge management.
- Technology plays a key role in creating a culture and an infrastructure to promote and support access to and sharing of knowledge.
- Networks and partnerships with other public or private organizations are a solution for creating extended access to knowledge, for a more creative use of knowledge and for

increasing the quality of products and services which libraries and information services make available for users.

- The creation of a knowledge manager position of the CKO type considerably increases the chances of successful implementation of this new feature in libraries and information services.

Figure 10 illustrates the strategic model for knowledge management in libraries and information services.

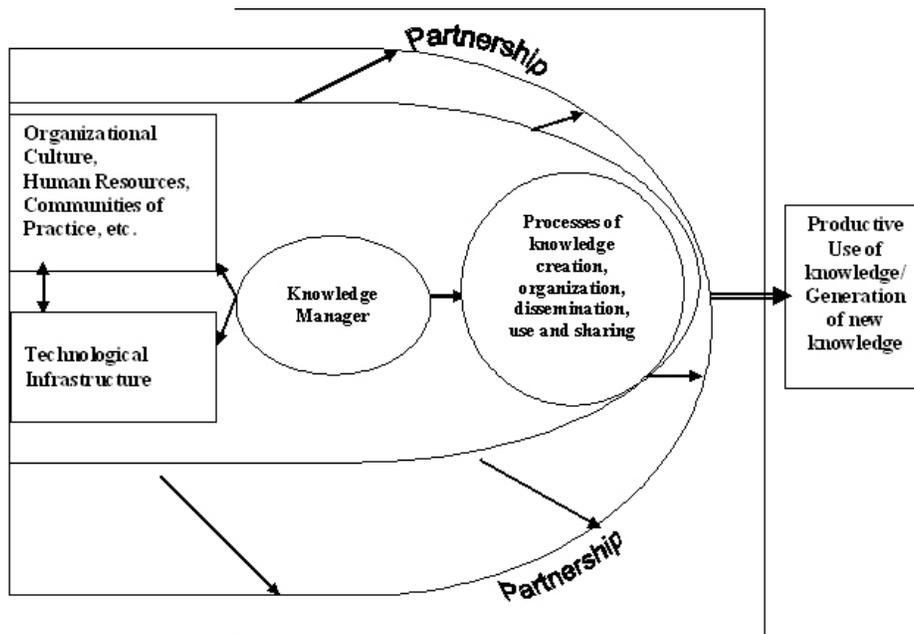


Figure 10. Strategic Model for Knowledge Management in Libraries and Information Services

Implementing knowledge management in libraries and information services will lead to the improved ability of these organizations to learn, identify and use knowledge from internal and external resources in their processes and activities. It will also lead to the generation of new knowledge, to the development of new procedures and practices to optimize integration and sharing of knowledge within organizations. A knowledge management programme tailored to the specific conditions in libraries and information services, once put into practice, can reduce costs, increase revenue, increase

staff efficiency, improve the activities, products and services offered to users, in short improve the performance of libraries and information services and secure a position for them in the knowledge market.

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