(SPECIAL) LIBRARY SERVICES OF THE FUTURE

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Abstract - The future of library services must be considered against the background of a new self-conception of libraries and their definition and of a changing information society. In future, traditional library services will no longer be sufficient to ensure the survival of libraries. They will be required as a basic routine, but the proactivity of the library and its contribution to the overall enterprise or institution will be defined by a wide range of new activities still to be established. The following paper describes, on the one hand, the changing boundary conditions and, on the other, the current status of the reputation and image of libraries. The second part of the paper deals, in detail, with the opportunities arising in new fields of application. As examples, distance education and e-learning for libraries will be discussed, and the significance of knowledge management in and for libraries will be illustrated. Furthermore, consideration is given to the staff qualifications necessary in these new fields of activity.

Keywords - Knowledge Management, Library of the Future, Information Society, New Activities, Distance Education.

INTRODUCTION

Special libraries all over the world today fulfil a whole variety of different services at a wide range of locations. This diversified spectrum of activities is, by no means, a recent development. At the time that the Special Library Association (SLA) was founded at the 1909 conference of the American Library Association (ALA), special libraries already had little to do with traditional library tasks. The services performed by special libraries in the early 20th century could be regarded as documentation.

At the 1912 meeting of the SLA, the special librarians took stock of their own self-image and came to the conclusion that a special library always had to be concerned with documentation [1]. At that time, no differentiation was made between documentalists and librarians. For special libraries, especially in companies, activities usually comprised the enterprise's entire information management. Functions and tasks went far beyond traditional basic library work. 'The special library as an information bureau' was already a topic at the SLA meeting in 1915. Just three years later, the SLA established the 'clearing-house concept'. This almost apparently postmodern concept of the library as a clearing house for information is not only on everybody's lips, with the flood of information on the internet, but has almost become a matter of course in order to cope with the volumes of data involved.

CHARACTERISTICS OF THE INFORMATION SOCIETY

Nowadays, one hesitates to use the expression 'data flood' since it has become completely hackneyed. Nevertheless, there is no escaping the fact that there is a flood of data, information and knowledge. Each year 80,000 new books are published, more than the almost unimaginable number of 150,000 different journal titles are available worldwide and no day passes without a new Internet portal being set up. It is a sign of being well read today if you know what you don't have to read. In the European Community, the number of PCs is increasing by 10% each year. In the second half of the year 2000, more than 100million people in the Community had a PC. The number of Internet hosts has increased annually by 30% in the past three years. At the end of the year 2000 there were more than 11 million Internet hosts in the EU alone, and more than 95 million worldwide. More than 40% of the workforce in the EU make use of a PC. At the same time, the turnover on the IT market has been increasing by more than 20% from 1997 to 1999 alone, of which just under half is accounted for by computer hardware [2]. These figures alone show that, on the one hand, the whole world is in danger of drowning in the data flood, and that, on the other, the application, acceptance and use of information and communication technology has been increasing at breakneck speed. It is important and necessary to handle data and information and the knowledge arising from them constructively and productively, to sift the information, discard nonsense and junk data, and to create valuable knowledge for society from the important and high-quality information. In modern industrialized nations, knowledge has long been taking over the position of the labour force and natural resources as the central production factor. Handling knowledge has become a central management topic in modern industrialized nations (Figure 1).

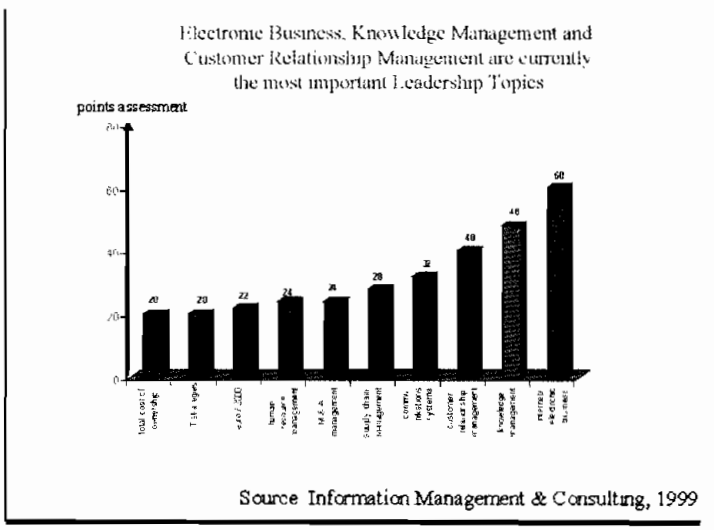


Figure 1: Knowledge management as a leadership topic [3]

If knowledge is 'the new competitive basis in postcapitalist society[1], not only management but also productive handling and permanent acquisition of knowledge are central components of working life and science. It is almost a matter of course that life-long learning will become an imperative condition of a knowledge society, which at the same time, as a learning society, requires the productive handling of knowledge in all

its forms. Against this background, the dramatic development in the field of ICT, such as distance education and e-learning, will become natural aids in a learning society.

With progressive complexity, increasing speed and the existence of new technologies, the learning and training world must comply with new rules in the knowledge society. The development of a complex and efficient telecommunications infrastructure is a special characteristic of the transition from an industrial to a knowledge society[2].

TRADITIONAL FIELDS OF LIBRARY WORK

Library facilities have existed for thousands of years as collections of literature and knowledge per se; as places of reading and academic investigation of contents; and sometimes as museums in which books of all sorts are collected. The definition of a library as a business and, thus, the necessity of adequate control and corresponding management is relatively new.

The traditional tasks of a library can be described as the creation, processing, harnessing and maintenance of library holdings for assigned users. In traditional libraries, this usually involves collections of monographs, series and journals in a printed, or more rarely handwritten, form. To achieve this central core function, the classical tripartite structure distinguishes between acquisition, cataloguing and user services. The establishment and formation of holdings is the central goal of acquisition, irrespective of whether the literature is acquired by purchase, donation, exchange or in some other form. The tasks arising are essentially identical and are characterized, on the one hand, by the traditional mechanisms of purchase (ordering, procurement) and, on the other, by accession. In traditional libraries, accession is part of cataloguing and, thus, characterizing the holdings as the library's property, and consequently serves the user as an identification in the catalogue. Cataloguing is, therefore, an important step at the interface between internal handling of literature and the users' access to the holdings. Cataloguing enables users to retrieve the literature by listing the materials according to subject and topic. How well the holdings of a library are catalogued, finally becomes apparent in the user section. At the interface between the library and user, it becomes clear whether the literature has been correctly selected; whether the formal and subject cataloguing is adequate and in accordance with the users' needs, and whether the condition of user friendliness has been properly considered. Conventional definitions of a traditional library as a collection and repository for books represents a locally oriented approach [4] as well as a function-oriented definition of a library. For example, a recommendation by UNESCO presumes holdings of traditional, print, media and standard services[3].

SPECIAL LIBRARY SERVICES IN THE BUSINESS ENVIRONMENT

POSITION OF (SPECIAL) LIBRARIES IN SOCIETY AND BUSINESS

Special libraries almost always fulfil the classical functions of general libraries. Over and above this, special libraries also make a decisive contribution to the respective supporting organization, whether it be a company, a research institute or some other type of organization.

The permanent development, adaptation and optimization of the customer- and/or institution-oriented service portfolio is also necessary in order to legitimate the library's work, especially against the background of a still rather poor image of libraries and library work. An IFLA study confirms this negative image [5]. The following quotation concerning the image of libraries and librarians worldwide was taken from a 1995 IFLA study:

> The public's general image of the profession and practice of librarianship is poor. The reputation of the profession is low and, as a consequence, the status of workers in it is also low. The situation is not exactly the same all over the world, but it does exist everywhere to varying degrees, and the picture is a fairly accurate one for most countries [6].

Below a number of reasons are given for this situation [7].

-Library Work Invisible to Users

The librarians'active work is not concretely visible to the majority of users, nor can they distinguish it from other tasks in the library. A great deal of important work central to the library's tasks, such as collection building and catalogue updating, takes place behind the scenes. In the same way, most users are unaware of management responsibility, for example for the acquisitions budget.

The social and democratic dimension of library work, which may be defined as 'free access to information and literature', also remains practically hidden from the public.

- Economic Dimension of Libraries

Libraries are not assumed to make an economically measurable contribution to society, the company, or the scientific institution. In balance sheets, libraries are only mentioned as causing costs and expenditure. An economic contribution by the library to the success of the overall concern is hardly ever found. Cuts in the acquisitions budget and the comparatively low salaries of library staff further contribute to the poor image of libraries.

- Quality of Service

The quality of the various services provided by libraries can neither be perceived nor assessed by the vast majority of users. The quality of library services, therefore, tends to be assessed as below average. The internal assessment of library quality has too long been oriented to 'inside' values, and libraries and librarians (especially in Europe) have ignored the user as the direct recipient of service quality for much too long. The standardization of service quality in libraries has only begun to take shape in the past few years.

- Quality of Training

On the whole, training in librarianship has a rather poor image throughout the world. Doubt is cast both on the quality of the training courses and the teachers, as well as on

the quality and motivation of the students. Criticism of the traditional syllabus of librarianship courses is particularly widespread. There is generally considered to be a lack of service-oriented training at schools of librarianship worldwide.

- Professional Image

The professional image of a librarian is very diverse and tends to be rather diffuse. The essence of a library profession is difficult to identify. There are too many tasks performed by librarians, which could also be undertaken by other occupational groups. The spectrum of library activity ranges from support work in the stacks up to management and the political representation of a library. It is not possible to clearly define the job profile as is the case for a doctor, lawyer or engineer. This all has a negative impact on the status and image of a librarian.

- Fragmentation of Knowledge [8]

Libraries can no longer be regarded as the repository of world knowledge. Due to the pluralistic (knowledge) society, libraries are no longer able to offer all the theories, opinions and ideas that exist in all fields of knowledge. The flood of information and opinions has caused libraries to fall behind and has seriously damaged their image.

- Legitimation of Special Libraries

Special libraries have particularly close relationships with their customers and occasionally rather complicated interconnections with their funding bodies. These libraries are rarely prescribed by law so that their existence is not guaranteed by the government. They, thus, have to legitimate themselves anew each day so that special libraries, in particular, have to achieve a good standing with users and funding bodies. They are directly dependent on their funding bodies, make a direct contribution to the corporate goal and are usually completely responsible for a broad range of activities. The impacts of work in special libraries are much more directly visible and noticeable for users.

LIBRARY ACTIVITIES TODAY AND TOMORROW: SELECTED EXAMPLES

Special libraries are frequently termed the avant-garde of librarianship. This is correct to the extent that special libraries usually do not merely react to changes in their (information) environment, but already foresee and influence developments in a proactive and anticipatory manner. Such libraries are, therefore, rarely passive, rather they are frequently decisive and actively shape trends and developments. Active library work, thus, continually creates new services for the users. Innovative actions by special libraries and their librarians, thus, represent proactive innovations involving imaginativeness and conscious risk taking.

In the following, a few examples are given of other infrastructural services that can be provided in the science sector:

- integration of the translation and language services of a university or research establishment into the organizational and structural responsibility of the library
- publishing functions pcrformed by a library
- establishment of a proof-reading servicc for scientific manuscripts
- organization and permanent installation of exhibitions and lectures on the sole responsibility of scientific libraries
- establishment of a new acquisition management involving suppliers and document dclivery systems
- outsourcing of functional areas with staff participation
- cstablishment of new collection fields such as the integration of software collections into a library's holdings
- performance of archiving services by the library sector
- cataloguing of archive materials and making finding books and databases available to users
- establishing a dossicr service for company executives or university management with respect to political and historical issues
- maintaining a database of publications by an institution's staff
- undertaking a semi-qualitativc and quantitative assessment of lists of publications submitted to appointments committees
- responsibility for Knowledge Managemcnt
- organization of document management systems into the company

THE ROLE OF LIBRARIES IN DISTANCE EDUCATION - NEW PARTNERS FOR DISTANCE EDUCATION AND E-LEARNING ?

At first sight, distance education and e-learning do not havc anything to do with libraries. If you narrow your vision and don't let your gaze wander, distance education may indeed be regarded as a phenomenon for sociologists and educationalists. There does not appear to be any connection with libraries. E-learning cannot initially be related to the classic mission of a library. The production of electronic learning materials, whether on solid media such as CD-ROMs, floppy disks or DVDs or available on the Internet is not dependent on the existence of libraries. These materials are produced by commercial publishers of school and text books or by the didactic media centres of thc universities and other educational establishments. Howcver, a knowledge society is always a learning society and a learning society needs permanent life-long learning. Against the background of e-learning, it is electronic teaching and learning materials that are being increasingly used for this life-long learning. If one assumes a convergence of libraries, computer centers and didactic centers in the medium term, then the connection to libraries is already quite apparent. The German Universities Rectors Conference, for example, recommends exploiting thc synergies between the above-mentioned central facilities at universities. The German Science Council recommends a better integration of electronic learning media into the university curricula [9]. The lightning development of ICT and the establishment of new learning structures and learning materials both cnable and indeed compel an ever greater

and more differentiated range of services to be provided by libraries for the educational sector and for industry. The development of the various e-learning media is based on library and documentary know-how. Metadata have to be gathered and recorded, databases structured and information environments organized [10]. 'More than half of the colleges and universities in the U.S. are offering at least some of their classes over the Internet' [11]. If primary and secondary training is to be increasingly provided via distance education and e-learning, then libraries must more than ever play an active role in this field. Especially, the trend towards blending distance learning with traditional educational methods means that the importance of libraries in conveying, providing and archiving e-learning materials should not be neglected [12].

Distance education at universities has many dimensions. It means learning outside the lecture room and having access to centralized, Internet-supported information and teaching services from any place whatsoever. Distance learning at the universities also means using digital course reference libraries and having access to all sorts of electronic information services, which enhance, support or indeed control the learning process as primary, secondary or tertiary services. New learning and teaching products such as multimedia services and the use of video and audio sequences not only make teaching and learning more interesting and comprehensible but they also enable teachers and students to determine their learning speed and learning progress. In view of the multiplicity of different computer-supported information and teaching media, no one will be able to do without a central repository for these media. Individual activities by particularly dedicated and able professors and lecturers remain an exception and are not appropriate for mass use. A central facility is required to collect these services, structure them and make them available to both teachers and students. This facility has to be a library, as a media center, in an extension of its own self-conception.

The Association of College and Research Libraries defines distance-learning library services as referring to:

> ...those library services in support of college, university, or other post-secondary courses and programmes offered away from a main campus, or in the absence of a traditional campus and regardless of where credit is given [13].

For example, when e-learning in companies is no longer merely a topic for the personnel department but has become a 'corporate topic', then information specialists and libraries will have to become involved in this mission. This function involves a whole range of challenges. The provision of electronic teaching and learning materials requires consultation with the faculties and university lecturers. It also makes coordination and communication, possibly also cooperation, with media centers and/or didactic centers necessary. Computer centers must also be included since e-learning is only meaningful with extensive computer capacities and a perfect ICT infrastructure. On a higher level of communication, synergy effects must be exploited over and above the individual institution. The universities of the Federal State of North Rhine-Westphalia in Germany, for instance, cooperate closely in developing and disseminating e-learning materials and structures [14].

The integration of content, media, teaching and literature means not only new and more products but also a new quality. Technically upgraded books and computer systems are ready-made, static learning materials and do not represent real e-learning. The advantages of e-learning in universities are quite obvious: no physical presence in the lecture theaters and tutorial rooms; access for an almost unlimited number of participants; readily updateable at any time and finally its being cost-efficient. The disadvantages of e-learning are: restricted interactivity; direct dependence on technical equipment and also a frequent tendency of the products to be technology-oriented. There is also a danger of hyper-abstraction through the exclusive use of e-learning systems [15]. E-learning leads to a whole new interplay between libraries and academic teaching staff, on the one hand, and library users and the multimedia products, in the literal sense of the word; on the other. Against this background, the following central tasks arise for libraries in their involvement with and handling of e-learning products:

- identifying the e-learning products and their sources
- cataloguing the sources by metadata and subject headings
- quality control and quality assurance of all external e-learning products
- ensuring the technical availability of the products
- upgrading and structuring the electronic environment for e-learning products
- central purchasing and central funding
- coordination of production, processing, application and protection of the e-learning programmes

The Association of College and Research Libraries in the U.S.A. has published, '*Guidelines for Distance Learning Library Services*' and has formulated the following special tasks [16]:

- reference assistance
- computer-based bibliographic and informational services
- reliable, rapid and secure access to institutional, and other, networks including the Internet
- consultation services
- a programme of library user instruction designed to install independent and effective information literacy skills while specifically meeting the learner support needs of the distance-learning community
- assistance with and instruction in the use of non-print media as equipment
- interlibrary loan services
- prompt document delivery
- adequate service hours
- promotion of library services to the distance learning community

KNOWLEDGE MANAGEMENT AND LIBRARIES

In developing a comprehensive model of 'the library', *Peter Brophy* considers that the library has always been a growing organism and, together with *Licklider*, postulates that

a library is defined by the tasks of analysis, provision and reorganization of primary information for the user and not by the classical tasks of storage, indexing, the search for and delivery of documents [17].

Other authors speak of a service mix for readers and other persons entitled to use the services, or indeed conjure up the breakdown of traditional services and attempt to make a comparison of library and economic processes [18]. However, in identifying new fields of action, it must be permitted to ask the question of 'concentration on core competences versus diversification of the service portfolio' [19].

Against the background of the boundary conditions just described, completely new potential is developing in universities, research establishments and companies, as well as the mission of transforming this potential into accessible knowledge. Knowledge management, therefore, becomes a central management task for enterprises. This, then, gives rise to possible new fields of action and expertise for libraries.

Is knowledge management a possible mission for libraries? Can libraries and librarians cope with this task? Have they got the know-how? Do they want to provide this service? Are they qualified to do so? Where are the realistic possibilities and limitations to be found?

Before answering these questions a brief introduction to the complex issue of knowledge management must be given.

WHAT IS KNOWLEDGE MANAGEMENT?

Today, individuals make use of only about 5% of their knowledge. As yet, there is no optimal possibility of sharing and communicating knowledge. Enterprises also lose knowledge in the form of individual or organizational knowledge. At the same time, an immense potential is not being exploited.

Nonaka and *Takeuchi,* two economists from Japan, explicitly formulated for the first time the fact that implicit knowledge, i.e. that which is stored in people's heads, is the key to innovation. The great age of knowledge management begins with this theory[4], which has now become one of the most important management topics.

THE ROLE OF LIBRARIES IN KNOWLEDGE MANAGEMENT

In the literature, there are a number of indications of how libraries, librarians and information specialists, in general, can contribute to knowledge management. There is apparently general agreement that, in the future, the greatest added value in the service sector will be achieved by providing contents, e.g. know-how, software.

In a review article summarizing the outcome of the Annual Conference of the Special Libraries Association in Philadelphia, in June 2000, concrete indications are given concerning the practical integration of knowledge management in enterprises. Furthermore, the role of information specialists in the introduction of knowledge management is also discussed [20]. According to the report, it is rather rare for information specialists to be involved in strategic planning or directly as the CKO, Chief Knowledge Officer. In contrast,

support for this process with all the means available to librarians and libraries should not only be welcomed but indeed encouraged. Thus, for example, information professionals have access to all relevant databases in research, production, sales, marketing and finance. The more intensively a company approaches knowledge management, the more important does the management of databases, documents, e-mails, presentations as well as virtual discussion groups and specialized chat groups become. The following skills are, therefore, expected of an information professional. To thrive in a knowledge environment, information professionals must:

- start to value their own skills and have the confidence to apply them in new and unfamiliar situations
- understand their organization, strategies, challenges, and where knowledge and information can add value
- develop an understanding of the vast and complex array of knowledge and information within, and available to, their organization
- develop the new skills required to play an effective part in a knowledge team
- acquire the attributes needed to succeed in a knowledge culture [21].

Wittwer also sees here, particularly for special libraries, new tasks as necessary for survival in the 21st century. He mentions internal information organization, the gathering and sifting of external information to avoid redundancy, e.g. for research and development, as well as the creation of internal databases and the organization of access [22].

CHANCES AND LIMITS OF LIBRARIES' INVOLVEMENT IN KNOWLEDGE MANAGEMENT

We have seen the background, of library policy, against which knowledge management has been implemented and introduced in many enterprises. The question of the participation of libraries has been raised implicitly and explicitly time and again. It is undoubtedly an exaggeration to assert that all knowledge management could be performed by the library. We have seen above that knowledge management describes a management method which encompasses the entire enterprise and therefore can not be performed 'by' the library. Nevertheless, it is by no means absurd to consider whether the CKO, (Chief Knowledge Officer) could not, or indeed should not, be a member of the library staff or even the chief librarian. As members of a cross-sectional infrastructure, information specialists should be well informed about the overall enterprise and its sectors. They should be personally acquainted with a number of decision makers and familiar with their areas of responsibility, tasks or research projects.

The competences available in a library are frequently very well suited for supplying appropriate support for the concerns of knowledge management or even for functioning as 'pushers' of this method. Since knowledge management is far more than a purely technology-oriented approach, libraries have several simultaneous opportunities of supporting knowledge management levels in the fields of IT, organization, strategy and human resources.

Libraries make all types of knowledge resources available. As information professionals,

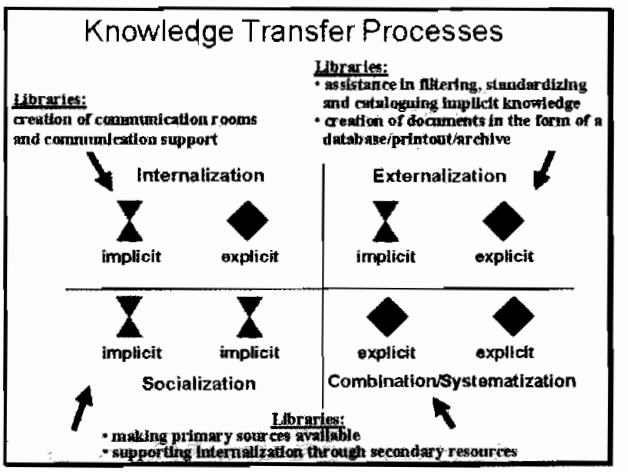
they arrange access to information and knowledge and provide all the required materials, data and documents. They support members of staff in creating new knowledge by procuring material, information and knowledge. This function leads to the traditional library tasks of acquiring, cataloguing and supplying of literature.

The structuring of knowledge by standardized procedures, the standardization of the entries; a meaningful and intelligent documentation of the explicit knowledge and the establishment of an efficient but pragmatic retrieval system is indispensable for knowledge management.

However, libraries are also able to make a contribution and provide communication structures on the level of 'human resources and organization'.

Proactive involvement in the creation of knowledge can be found, for example, in the establishment of knowledge communities; in making information available via specialized chat groups and in setting up appropriate access. The creation of concrete and virtual rooms for knowledge transfer can support the socialization, i.e. the transfer of knowledge from person to person, from implicit to implicit.

A possible moderation of virtual or real discussions or chats by information specialists is also conceivable. The neutral and interdisciplinary status of libraries is especially appropriate for this purpose. Libraries can also support the creation of knowledge by establishing a creative 'space'. The environment and atmosphere of a 'knowledge-saturated' space generate inspiration and creativity. In this way, libraries assist in internalizing as well as in combining and systematizing by making primary sources and suitable secondary resources available as shown in Figure 2.



Fiure 2: Library participation in the knowledge transfer processes

When companies complain that they reinvent the wheel everywhere, and there is no way to pass on success stories [23], then, the library can and must be the interdisciplinary interface, the neutral space for communication throughout all sectors of the enterprise.

THE LIBRARIAN AS A 'KNOWLEDGE WORKER'

It may be said, as mentioned above, that the training of librarians has rather a poor reputation throughout the world. Doubt is cast both on the quality of the training institutions and the

lecturers, as well as on the quality and motivation of the students. Criticism of traditional library curricula is particularly widespread. The librarian's job profile is also rather miscellaneous, not to say diffuse. It is difficult to identify the essence of the library profession. For much too long, libraries and librarians were preoccupied with 'inner' values and they also ignored the customers as direct recipients of service quality and did not take an entrepreneurial approach.

The quality and scope of librarians' know-how is, therefore, less and less appropriate for the tasks assigned to them. Undertaking missions in knowledge management requires broad-based qualifications on the part of library staff. Whereas a CKO develops strategies; establishes standards and processes; takes the initiative and has to change the atmosphere and culture, the colleagues involved with knowledge management have to fulfil a number of special supplementary and supporting measures.

All these missions can be undertaken in most libraries, but staff qualifications have to be appropriately altered and supplemented. A knowledge manager is by no means a wunderkind, but with the comprehensive and well-founded basis of know-how available in many libraries, considerable success can also be achieved in knowledge management.

The creation of basic management skills in libraries is, however, urgently required in order to understand the overall system. In this regard, the following general key qualifications are necessary:

- comprehensive knowledge of the supporting organization, the overall enterprise and the corporate strategy
- familiarity with the areas of responsibility and tasks of the company executives
- cross-cutting approach
- flexibility in the respective field of work, readiness to take on new activities
- entrepreneurial approach
- rigorous customer orientation
- demand orientedness
- cost consciousness
- process orientation
- eagerness and ability to implement innovations
- ability and readiness to cooperate
- life-long learning

OUTLOOK

In future, special libraries will react even more flexibly and will have to provide a service for their funding bodies and users which is not only perfectly tailored but also proactive. They must be prepared to share responsibility or actively shape changes ranging from permanent change management, knowledge management, distance e-learning up to reengineering processes. Continual optimization of services as well as sensible information management are required to make an optimum contribution for the company or supporting institution.

In our media society, whoever is uninformed and unable to communicate no longer

exists. A presence in the public eye and the propagation of a positive image are basic prerequisites for operating successfully in all sectors of the market. Users and funding bodies are no longer prepared to accept and finance institutions whose performance and efficiency are no longer adequately in evidence. Particular significance is, thus, attached to image building as a long-term instrument for public relations. Only a positive image will ensure that services remain useful and successful in the long term and will, at the same time, provide libraries with new opportunities of doing even more for their users.

ENDNOTES

1. Peter Drucker, "The basic economic resource is no longer capital, nor natural resources, nor labour. It is and will be knowledge". Quoted after Teresco, J. Information rich, knowledge poor? In: Industry Week, 248 (1999) 3, pp. 19-24.
2. "We can speak of a knowledge society or a knowledge-based society if, on the one hand, the structures and processes of the material and symbolic reproduction of a society are so pervaded by knowledge-dependent operations that information processing, symbolic analysis and expert systems take precedence over other reproduction factors. An additional decisive prerequisite for the knowledge society is that knowledge and expertise should be subjected to a process of continuous revision so that innovations become an everyday constituent of knowledge work" [Willke 2001, p. 291].
3. "Any ordered collection of printed books and periodicals or other graphical or audiovisual media, as well as services by a member of staff ensuring the convenient use of the materials which the reader requires for the purpose of information, research, education or leisure". Empfehlungen zur internationalen Vereinheitlichung der Bibliotheksstatistik. In: Zentralblatt Bibliothekswesen 85, 1971, p. 596.
4. A collection of reviews of a number of basic and also introductory works on knowledge management as well as a general summary of the basic theories can be found in Aulinger, A., Fischer, D., Einige Daten und Informationen zum Wissensmanagement. In: DBW, 60 (2000), 5, pp. 642-667.

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