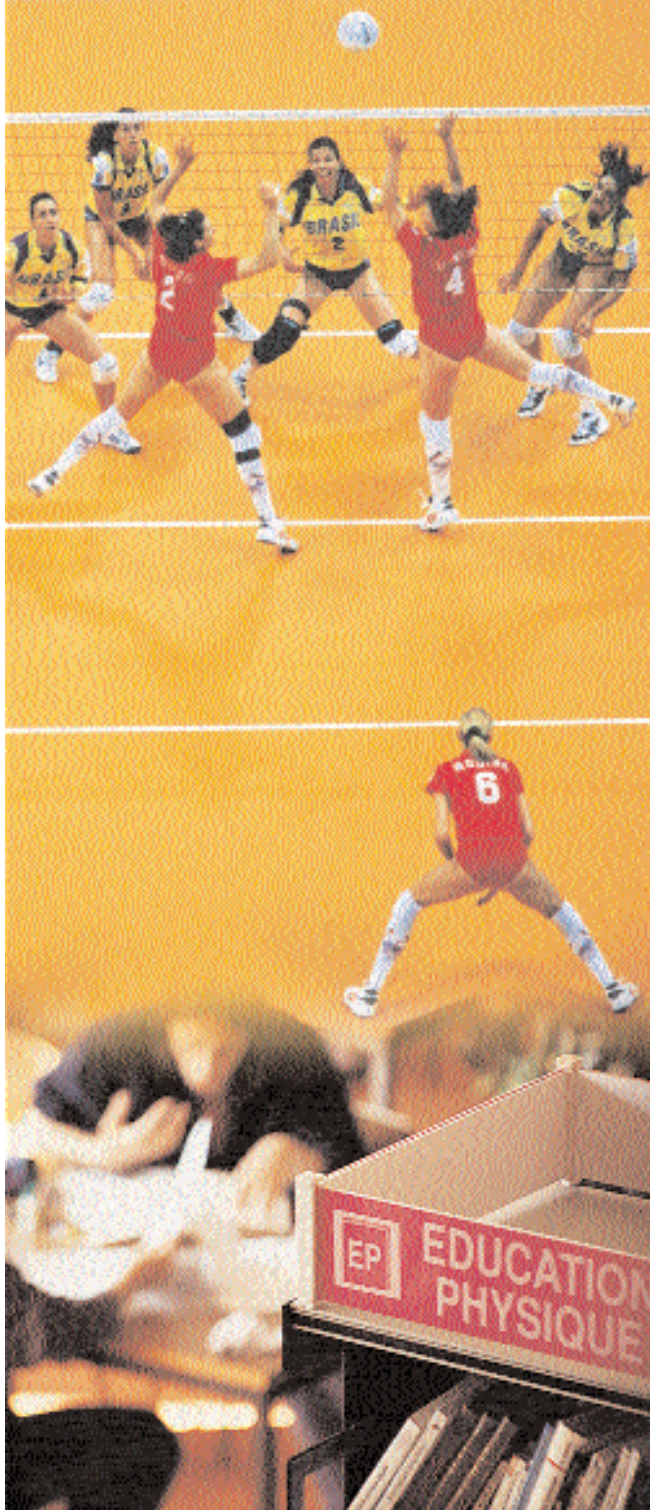


PART 2nd

**RECOMMENDATIONS
FOR THE CREATION
OF A SPORT INFORMATION
CENTRE**





2.1 ANALYSIS OF THE NEEDS

A sport library, documentation centre or information centre is generally created for the purpose of providing access to recorded information and ideas for a defined community and the individuals within that community.

A sport library, documentation centre or information centre is generally created for the purpose of providing access to recorded information and ideas for a defined community and the individuals within that community. In some cases the information centre might be serving a small community within an institution which plays a role in sport e.g. a physical education college. In other cases the information centre might be established to serve the whole sporting community of a nation as would be the case if a national sport information centre was established.

It should be noted at the outset that sport information centres or sports libraries do not exist for themselves, they are a resource to meet the specific information needs of an identified client base.

Whatever the size and scope of the community to be served it is generally necessary for sport information centres and libraries to acquire, provide access to and to disseminate library materials which may include books, periodicals, pamphlets, slides, photographs, newspaper clippings, videotapes, microfiche products, CD-ROMs and increasingly online services. These materials must be selected with specific objectives in view and should be organised for retrieval, use and dissemination by a qualified information manager.

As Penna [22] stated increasingly we are seeing the concept of libraries changing. 'Today libraries are being transformed into communication centres rather than book distribution centres and the distinction made in some countries between libraries and documentation centres has less and less meaning'.

In establishing any library, documentation or information centres for sport the most important thing to decide on is the purpose or aim of the information service to be provided. In gen-

eral a defined aim or purpose will depend on two factors:

- The needs of the organisation in which the library, information or documentation centre sits, and
- The needs of the individual people who work in or for that organisation.

The Needs of the Organisation

In setting up any library or information service it is important that the aims of the sport information service are related to those of the parent or supporting organisation, institution or agency in which the service sits. For example if the information centre is to be located in a physical education college then it is likely that the aim of information centre will be to support the teachers and trainee teachers in that organisation. If the information centre is to be in a government department then it is likely that the service will be required to provide information to sports policy makers. If however the information centre is to be located in a sports institute then it is likely that the service would be aiming to serve the information needs of coaches, athletes and maybe sports scientists or sports medicine personnel working in that institute.

How to Find the Needs of the Organisation

As a first step in planning an information centre it is necessary to read the key documents about the organisation in which the information centre will be located e.g. Annual reports, promotional brochures, and legal documents or Acts of Parliament which might have set up the parent organisation. These documents provide an indication of the main aims of the parent organisation and the type of people likely to be working in that organisation whose information needs an information centre will be required to meet.

As a second step in planning the person setting up the information centre should meet with the person in charge of the parent organisation. This person should be asked what he or she thinks is the main purpose for establishing the information centre. They should clarify how this service fits with the overall objectives of the parent organisation and should indicate who he or she thinks should be the users of the library, information or documentation centre. It is essential that the person establishing the information centre and those who the information centre will report to have a shared vision of why the information centre is being established. There is no point in setting up an information service for the public if the parent organisation does not want to allow the public into a building, which might house the library or information service.

How to Find the Needs of Individuals in the Organisation

In addition to ascertaining the broad needs of the organisation it is also necessary to consult with a broad range of people who will use the information service to see what their information needs are likely to be. Clayton [09] suggests that consultation with users or potential users is essential because:

- users are self-evidently the best group to identify their own needs, and to set priorities amongst these

- users who have a genuine involvement in the planning process are very likely to support proposals which arise from planning
- proposals, which result from consultative processes of this kind, are also more likely to be supported by administrators and by funding bodies.

This consultation with users and potential users may be through discussions with individuals, through focus groups and meetings where individuals will put forward ideas as to how the information centre might meet their information needs. Needs might also be assessed through a survey process where a questionnaire will be distributed to potential users and then analysed. In each of these forums it is essential that notes are kept and that a list of information needs are compiled which can then be looked at in detail and examined for incorporation into the information centre's goals and objectives.



In conducting a user needs analysis it is really important that users have the opportunity to state their needs and that they are not guided to express needs which have been suggested



by an information service manager or librarian. This is why discussion groups or focus groups are particularly useful because they generally do not require users to complete a questionnaire or survey form, which has been compiled by an expert, based on his or her perceived notion of user need.

It should be noted that user consultation is not merely a public relations exercise. If the information centre decides that it cannot meet some of the stated user needs then the reasons for this have to be explained to the information centre users or else these users and potential users may develop unrealistic expectations of the information service.

Of course there are difficulties in ascertaining user needs when some potential users may have had little experience with the possibilities which an information centre service could offer them and it may be necessary in this case for the information expert to stimulate their thinking as to the possibilities. In some cases the information manager may have to search for lists of books, journals or videos and present these as possibilities for users to decide if they think they will need these types of resources. In undertaking a needs analysis it is also important to consider those potential users of the service who may be in remote locations e.g. regional officers as their needs may be slightly different from those who are located in a central office. Ideally the information manager setting up the information service should visit these people to understand their needs and the particular circumstances in which they work, however if this is not possible then a needs assessment might be carried out by telephone or by surveys distributed by mail or electronically.

In modern management practices it is essential to gain customer input into the development of services. In the world of information

services a user or potential user of an information service should be viewed as a customer or potential customer and the service should at all times be developed with the aim of meeting customer needs.

In undertaking a planning process it is important that the strategic plan is developed within the context of the environment within which the information centre will operate. The plan should be developed taking account of the values of people within the organisation and the overall values of the organisation itself. The aim should be to develop a plan where the goals of the individuals and the organisation are in harmony. For example it would be incongruent for an information service to develop a plan which aimed to provide sports science services for athletes if there were no individual staff in the organisation who had expertise in sports science.

Needs analysis should not be considered a once-off exercise. In order to maintain an information service, which is relevant to users of information there should be a constant reassessment of need. Sometimes the information centre will become aware of a new need by talking to the users of the information service, e.g. the need for information to support a new research project or a new policy. However this is not always the case and from time to time it may be necessary to survey users or to hold discussion forums to make sure that the information service is meeting needs. It is also necessary for the information service staff to be proactive in finding out about any strategic changes in the organisation, which the information service serves. For example a change of government or a new Minister in government or a new principal in an educational institution can result in changes in policy direction which may impact on the information needs of people working in that organisation.

Once a needs analysis has been completed then the information service should prepare a document which states who will be served (and in some cases who will NOT be served) by the information service. It should also state which information needs will be met bearing in mind any budgetary constraints and practicalities involved in delivering the required resources and services. For example every sport scientist may require a particular journal but only one copy might be bought and this might be shared through a circulation process managed by the library or information centre.

Whilst needs analysis generally operates at the group level within an organisation in order to set broad policies as to who will be served with what information there is also a need for the information service to take account of individual information needs within the client group it will serve. With technological developments such as online SDI (Selective Dissemination of Information) services it is now possible to tailor the delivery of specific information to a specific user in accordance with his or her predetermined information profile. The same sorts of services are also available for the delivery of contents pages electronically to users through services such as CARL Uncover which operates on the Internet. Even without sophisticated online systems information managers should consider developing manual SDI services which deliver to specific clients information which meets their specific needs. Obviously this is far more practical in a small specialised organisation where there is likely to be a greater level of personal contact between the information centre staff and the user, than it would be in a library or information service which was designed to meet the information needs of the public or a large student population.

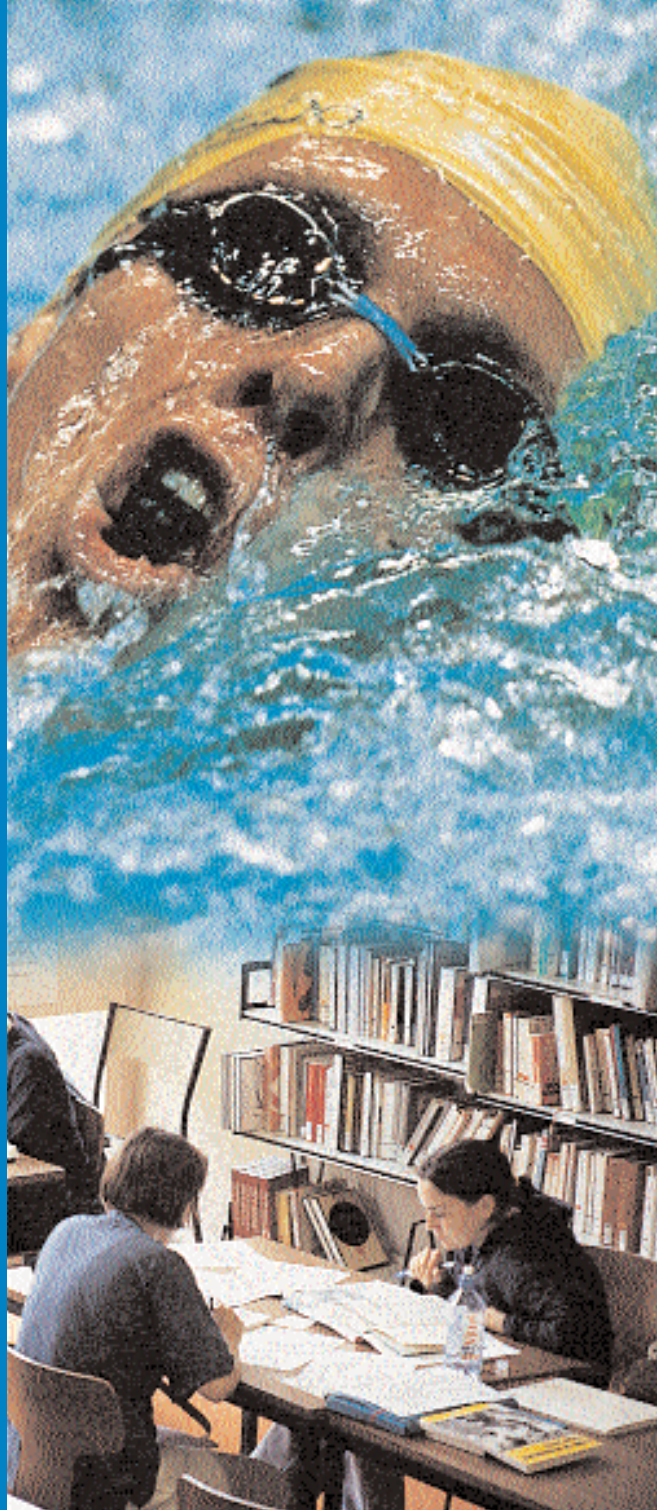
At all times it should be the aim of the information service to meet the information needs of the users to ensure that they are effective in

meeting the overall aims of the parent organisation in which they and the information service sit.



2.2 THE PREMISES

Before planning the information dissemination services of an information centre it is necessary to consider what space or premises the information centre will occupy.



Before planning the information dissemination services of an information centre it is necessary to consider what space or premises the information centre will occupy.

The facilities of an information centre include the premises, the furniture, the equipment and the fitting out of the space in order to carry out the varied tasks associated with information management and information service delivery to users. Finding a suitable place for the information centre is essential if the information centre is to achieve its full potential and is to serve the needs of users.

With regard to the building, the choice may be the construction of a new building or the renovation of an existing one. These two situations are different, but in both cases the manager of the information centre should prepare a schedule of requirements including all financial and technical requirements.

The choice of the premises allocated to the sports information centre will depend on a number of factors including the structural capacity of the building to hold the load of heavy paper resources, accessibility for users (including disabled users), security, power supply etc. Other factors such as budget and the willingness of management to allocate space to an information centre will also influence the amount and type of space allocated to an information centre.

Ideally the information centre should be placed in a prominent position which is easily accessible to users.

The program or brief for the premises

The program or project brief defines the tasks, objectives and functions of the centre, as well as the infrastructure required for the services to be provided. This program or brief should be prepared by the manager of the sport information service in consultation with

the architect or builder who should then prepare the project plan in response to the specific requirements of the information centre manager and staff.

The architect or builder should be provided with numerical data including the amount of shelving space required in meters, the numbers of staff to be accommodated in the centre and the number of current and potential users of the centre. Thus, the information resources and the users should be the key elements in the structural plan of any library or information centre.

The program or brief should also consider the various working areas in order to distribute the available space:

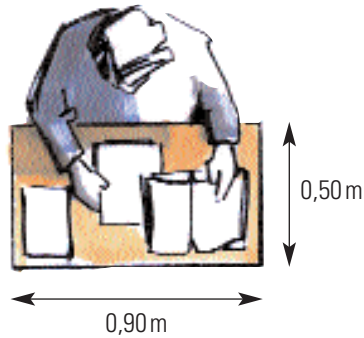
- reception and loan areas
- reference area
- searching area
- multimedia searching area:
 - databases
 - microforms
 - audiovisual means
- working area for the centre staff
- photocopying area
- open access area
- storage area
- reading and study areas.

Space organisation

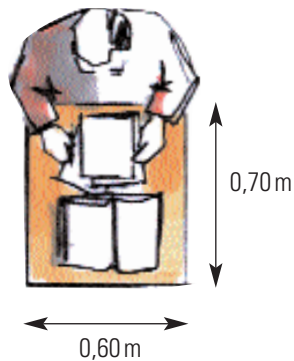
With a functional plan, the program or brief should allow for the proper layout of the space [18].

WORKING TABLES

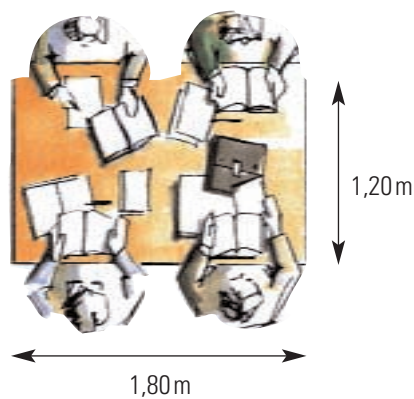
(reading room or reference works searching area)



*Necessary space for a reader
Arrangement of document in widthwise*



Arrangement of document in depth



Necessary space for 4 readers

J. Gascuel. *Un espace pour le livre*. Paris: Editions du Cercle de la Librairie, Promodis, 1993, p. 55

There are two basic space requirements to be considered when organising the information centre: one for the documents and information resources which will be in a variety of formats from print to electronic and one for the user. Provisions should be made for circulation patterns, which will allow users and staff to move from the outside of the centre to the chosen workstation in with ease and logic.

It is important that in planning space allocation that the needs of different users are identified. These needs may be different according to the type of service and resources users wish to access. The information centre should be planned for the researchers who want to undertake in-depth study, for casual users who require quick factual answers and for those who wish to browse in the information centre and casually read resources like newspapers. At times these different users need to come together to in certain spaces to consult staff, to borrow materials, to photocopy resources and to enter and exit the premises.

In order to achieve the maximum utilisation of space, it is advisable to adapt the arrangements for the reading room, combining the shelving areas with other service areas. Reference and research resources are generally placed on open access shelves; the estimate space requirement for 35-40 books is 1 linear meter and 2,5 m² for a reading place.

If a magazine rack is used for periodicals, where the resources are hung horizontally before being bound, the estimate is 4 titles per meter.

Videotapes are ideally viewed in individual spaces where users are provided with headphones although it is often useful to provide a meeting room facility within the information centre where a group of people could view a videotape and hold a discussion without dis-

turbing other users. Tapes should be displayed in their boxes close to the equipment for playing them.

The program should provide an adequate number of seats for the estimated current and future user population.

More and more frequently the centres allocate a specific space for researchers and those who wish to undertake quiet study. In general this space consists of a number of desks in a row with partitions separating each desk to allow for privacy in study. Nowadays there is an expectation that these desks will be provided with power so that personal computers can be used.

When the information centre offers a loan service, the potential number of users should be calculated so that the loan area can be located close to the exit and away from the searching and reference facilities which may be disturbed by noise of staff and users talking.

In an information centre there should be few «blind spaces» where staff are not able to oversee the activities of the information centre. It is essential that staff are able to watch the users' movements and behaviour so that assistance can be given when needed and so that users are aware that they can call on a staff member for assistance in finding or using resources.

If a storeroom is to be used for the storage of information resources that are not directly accessible by users it is useful if this can be placed in close proximity to the information centre. It may be situated on the same floor in a nearby room or in the basement. A closed storage area should be 5.5 m² for every 1000 volumes. It is necessary to ensure that any storage facility is suitable for the storage of material, such storage facilities should have temperature controls, should be dry and free

of insects which might harm the contents of the storage area.

With new information technologies, libraries and sports information centres will be using very different information means. Any centre wishing to integrate new technology into its operations should in planning its space take into account the requirements for computerisation from the administrative and user point of view. Provisions should be made for the location of computers and other accessories, for wiring and for telephone connections.

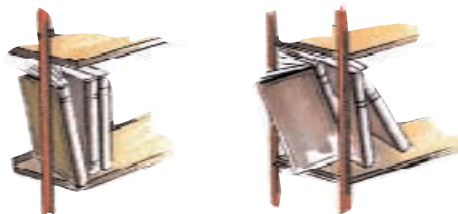
The furniture

Besides the furniture for the staff, there must be also the necessary furniture for the users: working tables, chairs, armchairs, coffee tables, display shelves, show cases, audio visual viewing facilities, changing room, etc. [18]

HANGING THE SHELVES UP AND VOLUMES IN LATERAL POSITION



Satisfying solutions



Unsatisfying solutions

J.Gascuel. *Un espace pour le livre*. Paris: Editions du Cercle de la Librairie, 1993, p. 85



The equipment

Shelving is important to any information centre; this may be fixed or movable, wooden or metallic. It is important that shelves are movable and are adjustable to accommodate resources of varying sizes and formats.

In the storage area, and depending on the size of the centre, movable ranges (compactus) of shelving with manual, semi-automatic or automatic operation are useful to gain the maximum storage in the space available.

The different media, like posters, photographs, slides and microfilms require special storage facilities.

There are also storage facilities designed to protect the most fragile or valuable material from fire, heat and dampness.

Other program elements

Whilst the numerical data (surface square meters, shelving linear meters) is of great importance in planning an information centre any plan should concentrate also on those factors which contribute to the well-being of users, such as the furniture, silence, the elimination of architectural barriers and the temperature [13].

The quality of lighting -natural or artificial- is one of the most important conditions for comfort. There are several standards concerning light optimisation that include the type and intensity of lighting to be used in the different areas. Though natural lighting is more comfortable, it is important that sunlight does not damage the resources of the centre. Paper turns yellow with time if exposed to too much sun and inadequate lighting may affect the colours of photographs.

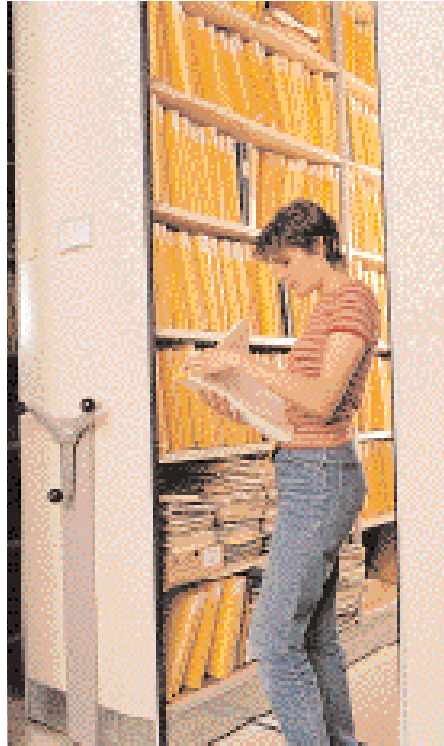
Acoustic conditions are also important. When organising space, account should be taken of

the sources of external noise (cleaning, air-conditioning etc.), the noise produced in the reading room by users standing at the loan or information areas, and the noise produced by photocopying equipment. It is possible to reduce and even eliminate these noise nuisances by means of several systems. Though soundproofing requires expensive and sophisticated procedures, there are simple solutions that can achieve satisfactory results, such as displaying shelves so that they act as acoustic screens. Also, and given that books are made of heavy and spongy material, they may absorb a significant range of sound frequencies [13].

Dampness level must be taken into account for document preservation. Too high a level of dampness favours the appearance of fungus and mould, spoiling paper and dampness can have an adverse effect on media such as videotapes. It is essential to have systems for dampness absorption. Though there are standards providing for recommended temperature and dampness levels, it is advisable to request information on the various systems available, since climatic conditions vary from country to country.

A high attendance centre will require an electronic system for security to protect open access documents. Besides security systems and fire alarms, provisions should also be made for adequate technical equipment (electricity, air conditioning, etc.).

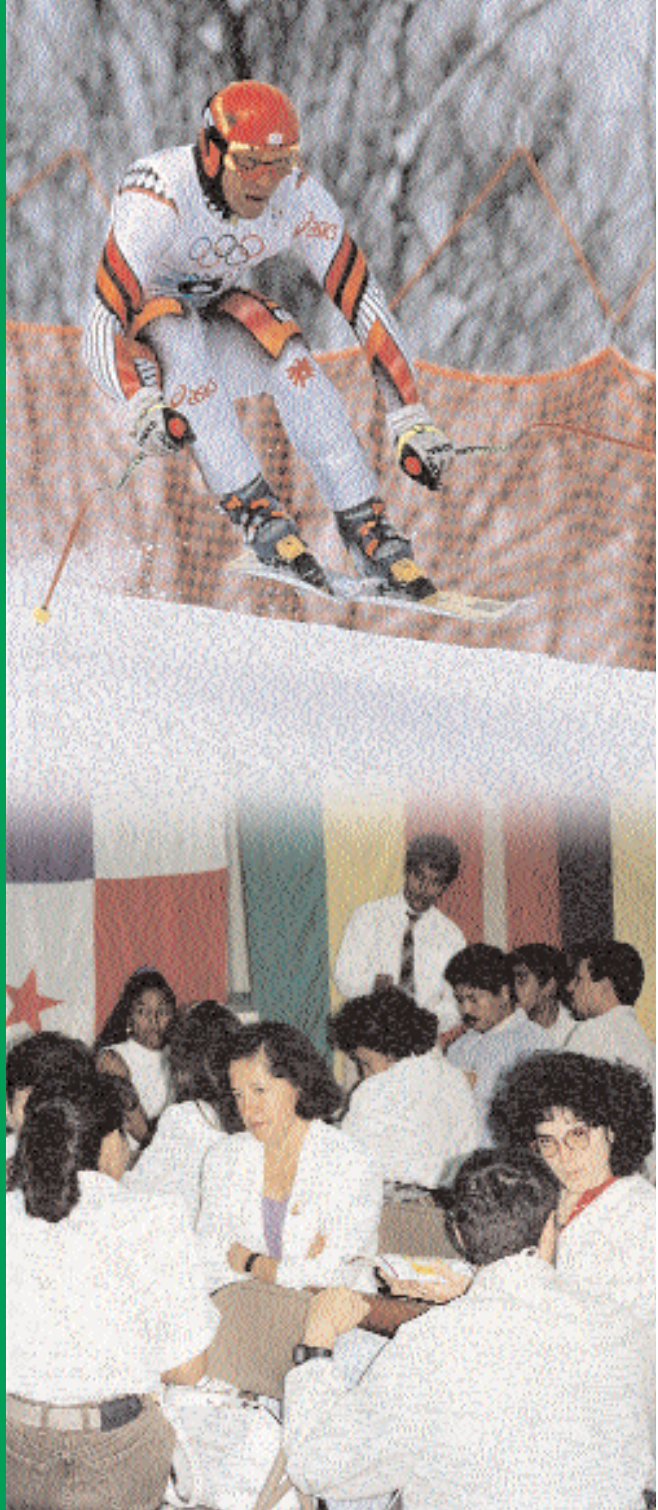
Smoking, drinking and eating should not be allowed in the reading room to prevent fire risks, users discomfort and document deterioration caused by smoking and food stains.



2.3 THE STAFF

With regard to the staff of a sports information centre, three essential points have to be taken into account:

- functions and tasks to carry out
- required qualifications
- appropriate manpower.



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Functions and tasks

For the management of an information and documentation service, the type, the volume and the distribution of functions and tasks depend on a number of factors including:

- the scope of its mission: e.g. national or international centre, institutional centre, service of an administration unit
- the users' profile: athletes and coaches, researchers, students and teachers, administrative officials, etc.
- the main objectives of the service: preservation and consultation, research and selective diffusion, questions-answers, etc.

In general, the information service will have to provide for the following functions:

- direction
 - organisation and strategic orientation
 - administrative and financial management
 - external communication
- promotion
 - project follow up and development
- information and documentation
 - setting up of documentary funds
 - funds preservation
 - document processing
 - documentary research
 - diffusion of local and remote information
- information surveillance
 - sites location and surveillance
 - provision of information to a target public

- secretariat

- technology logistics
 - choice and implementation of equipment
 - material maintenance.

Each of these functions may correspond to one or several specialised workstations. However, most often they are composite workstations including several functions derived from different professions. This often happens during the creation phase of the centre, when a short number of people have to carry out a great deal of different activities.

All these functions, in turn, give rise to tasks the aim of which is to perform all the operations required for the smooth running of the centre, i.e., for a full and efficient coverage of its mission.

These tasks are featured by their level of complexity, by the general and technical knowledge they require and by the responsibilities they involve. Traditionally, several professional ranks correspond to different levels of task execution:

- execution professional rank: to carry out material and basic tasks which do not require a high professional qualification, but just some basic knowledge of documentary techniques (e.g. book preparation, classification of documents in the library, etc.)
- intermediate professional rank: it constitutes the core of the centre manpower for the development of technical tasks. This staff may assume responsibilities and take initiatives. It implies a certain level of general and professional qualification (e.g. cataloguing, indexing, documentary research, selective provision of information, etc.)
- higher professional rank: to carry out creative tasks, to organise and manage the various functions making up the documentary

chain. It requires a sound general and professional qualification and a specific experience of several years.

Whilst these levels would tend to merge in small-sized centres, in middle-sized ones the tasks may be shared, thus contributing to strengthen team spirit. Large units may apply an analytical distribution of tasks and call on specialists to carry them out.

Qualifications

Ideally, the staff of an information centre should possess a triple competence:

- competence in the sports domain in order to better understand the users' needs, to choose the adequate sources, to execute the wisest operations and to make selective diffusion of effective information
- competence in the domain of information techniques and technologies, in order to correctly process the information collected, to proceed to a fast and accurate searching and provision of information, and to ensure information diffusion and exchange with other centres
- competence in foreign languages, in particular English, which has become the common language for sciences and techniques, thus ensuring the external contribution necessary for a complete documentary fund.

It is quite unusual to find all these competences in a single individual, since in most countries they correspond to very different and unrelated professional trainings and environments. This is why the notion of team is most meaningful in this context, in view of ensuring the presence of these three essential competences in the creation and running of a sports information centre.

Some relevant personal qualities should complete these professional skills:

- the work of information professionals implies communication and contact, as they act as intermediaries between producers and users. Therefore, they should have a mastery in personal relationships
- when serving the users, they should be alert and always willing to lend a sympathetic ear to their demands
- since often they must share their tasks, they should have a good teamwork spirit
- they should be well organised, have good judgement and an aptitude for decision-making to be able to classify and to choose the best one among diverse and often contradictory solutions
- they should be interested in others and in information, techniques and organisations, permanently looking for the improvement of their performance
- they should adapt to the evolution of knowledge, needs and technologies, being able to master it
- they should be persevering, since most often they work in continuity, and modest, since they are just information intermediaries, without taking advantages or merits from their function
- finally, they should work with discretion and self-discipline, following an –implicit or explicit– ethical or professional code commonly accepted by all professionals by consensus [18].

Without specific studies on the subject, it is most difficult to describe the origin and professional characteristics of the staff presently working in sports information centres all over the world. However, it is possible to distinguish four large categories, which may be more or less important depending on the sites and countries:

- information professionals. They have been trained in centres specialising in information sciences, sometimes following a training in other disciplines. They make up the professional basis for the activities of the information centre by means of their mastery of documentary methods, techniques and technologies. Their presence is essential to ensure a rational and durable framework for the good running of the centre. In return, they have to get to know the environment, the users' needs and the relevant information sources

- sport professionals. They may come from different backgrounds: coaches, teachers and even researchers. Often –though not always- they are at the end of their careers, when for various reasons they wish -or have- to change from their first profession. They contribute their experience and specialised skills. They are able of establishing a «natural» contact with the users, because they are aware of their needs. Their position, frequently hierarchical, is of great help for the service, though they have to get an appropriate training in information sciences and techniques

- professionals from other information fields. They are reprography experts, computer engineers or audiovisual experts. Their skills may be useful in the field of the technologies developed by the centre. An additional training in information sciences and techniques will allow them to better integrate their specialised activity in the general work. They will have to get on the spot specific knowledge concerning the environment and the users

- administrative staff: secretaries, junior civil servants, generally appointed to provide administrative assistance in the running of the centre. They are essential to carry out a number of specific material



tasks. An additional training may be useful to apprehend the specific nature of a sports information centre.

Manpower

When determining the manpower required for a sports information service, a parallel relationship should be established between the offer capacity (in accordance with the wage costs budgeted for the service) and the quantitative and qualitative level of the demand.

An analysis of needs has to be gone through before determining the objectives, functions and tasks a service will have to develop to meet those needs, though this assessment would be useless without taking into account the availability of means and especially of staff.

Thus, there is no general rule, each situation requiring specific adaptations. Some centres employ only three persons whilst others employ more than sixty.

In the first case, they are most often institutional services aimed at an internal and not very diversified public, providing just a few services basically intended for consultation of a specialised fund, loan service and provision of information derived from local sources.

Though rarely, they may also be highly specialised services for the maintenance of information and its provision to a specific target public, making the best use of new information technologies and of the Internet. This constitutes an efficient way of optimizing the human resources of the service.

In the second case they are long existing national centres that have developed all information functions, and by all means, to serve a very large and diversified public. Usually they count on translation units to give access to international literature in the national lan-

guage and they perform publishing activities to allow for the production and distribution of original knowledge in the sports domain.



2.4 INFORMATION

SOURCES IN SPORT

In establishing a sport information service there are numerous sources of information some of these are in printed format and increasingly a number of these sources are becoming available through electronic means in CD-ROM format or directly online through the Internet.

In establishing a sport information service there are numerous sources of information some of these are in printed format and increasingly a number of these sources are becoming available through electronic means in CD-ROM format or directly online through the Internet. What sources an information service decides to acquire depends on a number of factors including:

- the needs of the users
- the financial resources available to acquire the information sources
- the technological infrastructure of the information service for the management and dissemination of the information source.

Whilst this chapter will give a broad overview of information sources in sport it is recommended that anyone establishing a sport information centre reads the book by Michele Shoebridge entitled '*Information Sources on Sport and Leisure*' [28] which details all the major sources of sport information.

In general it can be said that there are 4 core sources of information on sport:

- printed Sources including books, journals, conference proceedings, newspapers, pamphlets, posters
- audio visual sources including videotapes, CD-ROMs, photographs, video discs, audio cassettes, models
- online and Electronic sources including the Internet, CD-ROM Data Bases, online data bases
- personal and Institutional networks.

Printed Sources of Sport Information

In any library or information centre provision is to be made at the outset to acquire on a continual basis, books, journals and scientific documents.

BOOKS

Books usually form the main core in any library or information centre and should be purchased according to the needs of clients. Some books may be reference books like encyclopaedias and dictionaries while others may be textbooks and reports.



Whilst it is not possible to create a definitive list of all of the types of books which are likely to be included in a sport information centre it is likely that books covering such topics as physical education, philosophy, facilities management, physiology, sociology, coaching motor-learning, biomechanics, history, management sports medicine and psychology might well be included in a sport information collection. Reference books are generally books, which do not leave the information centre and are consulted for quick facts. These books are likely to be rulebooks, dictionaries, and directories of organisations, biographical and statistical handbooks.

It is possible to identify lists of sports books for purchase by using tools such as Books in Print and British Books in Print, and specific country bibliographies which comprehensively list books which are in print under a subject category system. The *Library of Congress* in the

USA, which has its catalogue online through the Internet, is also a useful source for the identification of sports books. Generally these location tools which can be expensive are available in large university libraries or major public libraries and can be consulted there. Sports databases like *Sport index* books or monographs and these can also be used to identify books for purchase.

There are numerous suppliers of sports books throughout the world and a list of them is available from *IASI*. For any new sport information centre it is advisable to write a letter to these suppliers asking for the centre to be put on their mailing list for catalogues and updates on new publications. It may also be possible to gain books without charge through other library duplicate lists and through exchange agreements.

In maintaining a collection of books it is important to continuously review the contents of the books to ensure that they are not out of date or misleading, for example techniques and rules in sport change and old books can sometimes lead to the teaching of wrong techniques. Old material should be discarded or put in an archive.

JOURNALS

Journals or magazines are the source of current sport information and are generally purchased on an annual subscription basis. Literally hundreds of sport journals are being published all over the world containing recent and much sought after news and scientific articles. A listing of all major sporting journals published and indexed for the international database *Sport* is available from the *Canadian Sport Information Resource Centre*. *Ulrich's International Periodical Directory* is a comprehensive listing of journals published throughout the world and this directory can generally be accessed in large university libraries or large public libraries and is now available on the Internet.

The journals subscribed to by a sport information centre will very much depend on the clients to be served and in many cases will be a mixture of sport specific journals e.g. *Rugby World* or *Swimming World* and more scientific or general titles like the *Journal of Sports Science*, *Olympic Review* and *Sports Illustrated*.



A large number of sporting journals are available from the publishing company *Human Kinetics*, however it is also possible to obtain journals through subscription agents and in many cases directly from the publisher. In some cases journals may be received free of charge from organisations such as international federations for particular sports although the number of free journals appears to be decreasing as the cost of printing and paper increases throughout the world.

In subscribing to journals it is often important to see if the journal is indexed for databases like *Sport*, *Spolit*, *Heracles* or *Atlantes* because in the long term having journals indexed means that specific information contained in the journal can be retrieved. Increasingly the contents pages and in some cases abstracts and the full text of journals are becoming available through the Internet which means that information centres can access the contents of the journals without subscribing. These services are extremely useful in countries where the overseas mail services are slow and journals take a long time to arrive.

CONFERENCE PROCEEDING MATERIAL

This material is generally of a scientific nature and is much sought after by researchers. It is normally presented in the format of a «paper» and is delivered at national and international sports conferences. Papers presented at conferences come from a variety of sports disciplines and are generally bound together in a volume by the organiser of the conference and is made available some months after the conclusion of the conference.

To acquire these publications, it is important to take note of the venue and time of such conferences by scanning international events calendars and then writing to the organisers for a copy of the proceedings or details on how to purchase the proceedings. An increasing trend is the publication of conference proceedings on the Internet which eliminates a great deal of the delay which has occurred in the past in publishing proceedings which in some cases are quite substantial works.

A list of forthcoming conferences in sport is listed on the Internet at the URL: <http://www.sirc.ca/calen.html>. Because conference proceedings are often difficult to locate sport information centres are advised to try and collect and index the papers of all conferences held in their country and if possible have them indexed for databases.

NEWSPAPERS

It has been said that the newspaper as a mirror of public feeling and society at large has no equal and therefore, is an indispensable source not only for information needs but also for research purposes. Additionally the newspaper could be considered the 'minute book' of daily happenings and events in sport. In many cases information centres clip or cut newspaper articles, which relate specifically to sport and make these, available to the users of their

centres. Whether an information centre acquires international newspapers will largely depend on the needs of the users. Increasingly international newspapers and national newspapers are being distributed in electronic format either as CD-ROMs or through the Internet.

Audio-Visual Sources of Sport Information

Today videos, interactive CD-ROMs, photographic resources videodiscs and audiocassette resources are in great demand because they are excellent resources to show movement, which is such an integral part of sport. Obviously these types of resources are critical to coaches and athletes who spend a great deal of time in performance analysis. Many interesting talks, speeches and seminars on sporting topics are also nowadays placed on audiocassettes and are of interest to administrators and researchers.

Videotapes, videodiscs and CD-ROMs are usually of two types, those, which are principally for entertainment such as the Olympic Games, Commonwealth Games or National Sports Festivals (although these can be of educational value for athletes and coaches who can analyse the performances of athletes on these tapes). The second type are those which are produced for educational purposes and relate to a teaching or coaching situation where methodology plays the major role.

With all of these resources there is a requirement for specialist equipment and many information services dedicate an area of the information centre to the utilisation of these resources by groups and individuals.

Audiocassettes available on the general market can also come in a variety of formats. Those that are presently readily available can be ordered internationally and mostly relate to

papers presented at national and international conferences.

As a rule no one supplier can provide information centres with all their needs for videotapes, video discs audiocassettes and CD-ROMs. These sources need to be ordered independently and in many cases from major suppliers in overseas countries with the disadvantage that foreign currency transactions are involved and that the material cannot be viewed prior to purchase. As with books it is wise for sports information centres to write to suppliers and asked to be put on their mailing list for catalogues and lists of new audio-visual resources. Videotapes and CD-ROMS are also often listed in sports magazines and can be ordered by mail. *SPORT Discus* also lists videotapes, audiocassette tapes and CD-ROMS and gives details of the availability of this material.

A number of organisations such as the *American Alliance for Health Physical Education, Recreation and Dance (AAHPERD)*, the *American Swim Coaches Association*, *American College of Sports Medicine*, the *National Strength and Conditioning Association* produce audio cassettes of major conferences. These may be purchased directly from these organisations, however cassettes are also often advertised in sporting journals and can be ordered by mail.

In some information centres for sport facilities are provided for the creation of audio-visual resources like coaching videotapes and for the recording of material from television, satellite and cable TV broadcasts.

Online and Electronic Sources of Sport Information

Obtaining electronic information from all over the world is today becoming an absolute necessity for any sports information centre.

Online sources of information are often more up to date than printed sources however access to these resources does require a technological infrastructure which not all sport information centres will have. The use of these sources has in some cases changed the role of information workers in that now rather than acquiring resources for permanent collection in information centres they are now working as guides and navigators to find resources in the online environment which can be directly accessed by users.

SPORT DATABASES

Two vitally important sources of sport information are the *Sport Discus* and *Medline* data bases, although it should be noted that depending on language some countries may wish to subscribe to other data bases, for example the German data base *Spolit*. Data bases are continuously updated and allow searching for specific information usually by keyword and by a number of other parameters such as subject, date, author, date of publication etc.

SPORTDiscus

This database, updated monthly contains some 400,000 indexed articles, conference papers, video tapes theses, dissertations and research reports covering multidisciplinary aspects of sport, fitness and recreation related is managed by the *Canadian Sports Information Resource Centre (SIRC)* and is endorsed by UNESCO as the international database for sport. A number of countries contribute data to this database e.g. Australia, France, Spain, China etc. Every bibliographic citation added to the data base is indexed using specific subject-related keywords (descriptors) taken from the *SPORT Thesaurus*. The thesaurus is available online and as a printed resource. A printed copy of the thesaurus may also be purchased. Documents



listed in the database can usually be obtained through an information centre's own collection, through inter-library loan or through a service like *SPORTEExpress*, which is operated by SIRC. The database also includes the French language database *Heracles*, the online catalogue of the IOC Library and the Spanish language database *Atlantes*. In recent times the details of electronic publications are being added to the database with hyperlinks to their sites on the Internet.

The *SPORTDiscus* data base can be accessed anywhere in the world through online vendor systems such as: *Compuserve* (Through *Iquest* as SFDB or *Knowledge Index* as SPORT), *Knight-Ridder Information Inc*, *Data-Star* (SPORT), *Dialog* (File 48), *Ovid Technologies* (SFDB), *Sticnet* (Taiwan).



SPORTDiscus is also available on a convenient, easy to use CD-ROM with quarterly updates from *Silver Platter Inc* and *Ovid Technologies*. For more information on these suppliers contact: SIRC, 1600 James Naismith Drive, Gloucester, Ontario K1B 5N 4, CANADA. Fax: 613 748 5658, E-mail - moreinfo@sirc.ca

MEDLINE

Medline is the *US National Library of Medicine's* bibliographic database containing over a million citations. This database is available on CD-ROM and free of charge on the Internet. *Medline* is an important tool for researching biomedical literature containing complete references to articles from more than 3200 journals. Approximately 75 % of the citations are published in the English language. Furthermore, *Medline* contains complete references to articles from journals covering such topics as: microbiology, nutrition, environmental health, pharmacology, and delivery of health care.

This CDROM with monthly updates can be acquired on a subscription basis from any Silver Platter agent in a number of countries. However, should there be problems in this regard, it is also possible to write or fax Silver Platter's office in: *Silver Platter Information Inc.*, 100 River Ridge Drive, Norwood, MA 02062-5043, USA. Fax: +617-769-8763.

INTERNET

The Internet with its over 70 million worldwide users has become the pivotal on-ramp onto the global information superhighway. 'Surfing' the Internet is the popular term for navigating the Internet using a computer, gaining almost unlimited access to a huge repository of largely free information and services through the use of hypertext links.

Whilst it is impossible to quantify the exact amount of sporting information on the Internet there is no doubt that it is a valuable source of information on all aspects of sport. Increasingly international sports federations and organisations are using the Internet to disseminate information such as rules, calendars, results and rankings and there are an increasing number of full text journals and publica-

tions becoming available. An increasing number of sports libraries are today making their catalogues available through the Internet. Pictorial and video information is also increasingly being delivered through the Internet and with the development of Web/TV where television sets become Internet terminals this development will continue.

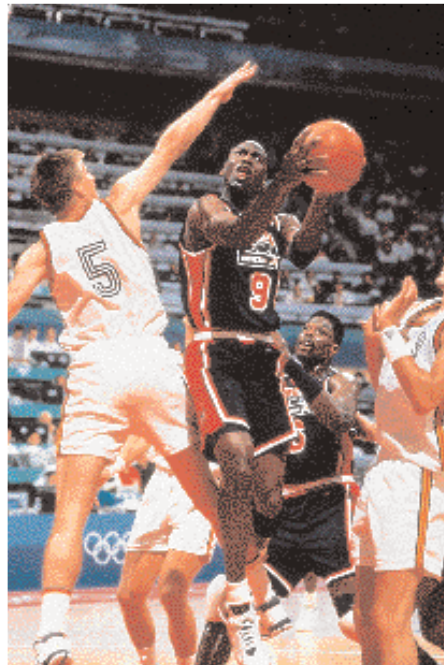
With so much information available the hardest thing is knowing where to start. There are several search engines such as *Yahoo*, *Excite*, *Alta Vista*, *Lycos*, *Webcrawler*, etc. which can lead to links all over the world in every imaginable sport. A specific searching tool for quality sport sites on the Internet is *Sportquest*, which is run by the *Sport Information Resource Centre* in Canada, the URL for this is <http://www.sportquest.com>.

Personal and Institutional Networks

Whilst most information centres will access the traditional sources of information described above it is important not to discount the personal and institutional networks which information centre staff can utilise to source sport information. In many cases sport information centre staff will utilise information networks within their own cities and countries calling on other information workers in universities, in general libraries and in sporting organisations to assist in satisfying needs. Working on the basis that no one information centre can hope to maintain a collection of every piece of information relevant to every user's needs there will be the necessity for sport information service providers to utilise services such as inter-library loan services and photocopying services provided by different organisations. In many cases sport information centres will also utilise international networks of sport information providers such as the International Association for Sports Information to assist in sourcing sport information to meet the needs of users.

Increasingly members of IASI use the IASI listserv or electronic discussion group to ask colleagues for assistance in the identification of sources of information on all aspects of sport.

To find relevant sources of sport information those who work in information centres need to be constantly vigilant in identifying new resources, new technologies and networks, which can assist in the delivery of sport information.



2.5 DOCUMENTARY TECHNIQUES

In establishing any sport information service it is first of all essential to accurately define what sort of resources are going to be acquired for the library or documentation centre.



Acquisition of documents for funds constitution

In establishing any sport information service it is first of all essential to accurately define what sort of resources are going to be acquired for the library or documentation centre. An acquisition policy has to be set down. In forming this policy consideration has to be given to the general objectives of the documentation centre, to the target public, to the available budget and to the availability of human resources to process documents and to manage them in the centre's documentary environment. In establishing the acquisition policy all types of information resources (books, subscriptions to periodicals, videotapes, thesis on paper or microfiche, CD-ROMs, software, etc.) should be considered taking account of the available budget. The ever-increasing amount of scientific and technical periodicals and their generally increasing cost requires a rigorous selection of subscriptions following a careful analysis of specific needs. It is particularly necessary to examine an alternative solution of acquisition for periodical articles because they are in such high demand as they are now listed in numerous databases and current bibliographical works.

It is also essential to state the information services policy in relation to the receipt of donations. Whilst some donations can be valuable in some cases donations may not be accepted as they consume staff and financial resources which are not cost effective.

A large inventory of sports information sources is available in the previous chapter of the manual. However, whilst the multiplicity of sources allows us to find quite easily a new document, it may be more difficult to evaluate its usefulness for the centre only/or just with its bibliographic details and listing. Reviews published in specialised journals are often very helpful in making decisions about

whether or not to purchase a resource. It is also often helpful to ask the opinion of a specialist in the field of the publication his or her opinion of the author of a particular resource before purchasing.

In acquiring resources for an information service those managing the information service must constantly reflect on what should be retained by an information service and for how long because there is inevitably a cost in processing, storing and managing all information resources.

Cataloguing

Cataloguing is the process undertaken by staff of information centres and libraries to record in a systematic and consistent way the details of all of the resources held in the information centre collection. This is part of the process to let users of the centre know what is available.

In some cases catalogues are just lists or a series of cards but increasingly today catalogues are becoming computer files. Because often the same documentary resources are held in different libraries nowadays it is often possible to copy the cataloguing work which has been done by another library.

When it is not possible to directly use (by import into a computerised system) or recopy (on a manual card) the cataloguing record created by another library then every document included in the documentary collection of an information centre should undergo a bibliographic description. This description may not be as complete as the one made by a national bibliographic agency but even if it is simplified it should respect all international and national standards in force.

The ISBD (International Standard Bibliographic Description) constitutes the recommendations of

the *International Federation of Libraries Associations* (IFLA) and aims to unify the presentation (structure and punctuation) of the various elements of a bibliographic description. There is the ISBD (M) for monographs, ISBD (S) for serial publications, ISBD (CM) for cartographic documents, ISBD (NBM) for documents other than books, ISBD (PM) for printed music, ISBD (CF) for computerised files. In many countries national standards for bibliographic description also apply. Other ISO standards (*International Standard Organisation*) rule the transliteration of Cyrillic, Arab, Hebrew, and Greek alphabets into Latin alphabet and the romanisation of Japanese and Chinese characters.



Computerised cataloguing requires respecting other standards, which allow for the exchange of data among different systems, these are called MARC cataloguing formats. Today, the UNIMARC format is widely used for cataloguing and for the exchange of bibliographic data. The use of professional cataloguing handbooks is strongly advised, since their numerous examples will be of valuable help to technicians [03] [06].

Cataloguing activity tends to decrease in large computerised libraries because these libraries import the records produced by large libraries or cataloguing agencies (*National Library of France, National Library of Australia, Library of Congress etc*). They also draw on cataloguing

shared by large co-operative networks such as OCLC, SIBIL and soon the *Academic System*, which will gather all French university libraries and training and research institutes.

Analysing and indexing

Analysing and indexing are the heart of documentary work. It is no longer a matter of just physically describing the resources we have in our centres, now it is necessary to look at the content of the resources themselves and to identify their main themes and subjects. An understanding of content is generally obtained by reading parts of the work, analysing the author's summary, introduction, chapter titles, outlines, conclusion and table of contents. A detailed analysis of the work will allow for the identification of the main subjects for the process called indexing.

INDEXING

The main concepts dealt with in a document should be translated into indexing terms that will be used by users during a manual or computerised search for information to retrieve the exact information they are looking for. The use of one or several documentary languages will permit access to the content of a document. The indexing terms are usually based on a thesaurus, which is a comprehensive, systematic listing of the words, which are used, in the particular discipline.

Today, encyclopaedic documentary classifications such as the UDC (*Universal Decimal Classification*) or the DEWEY classification schemes which are very general are not often used in specialised domains such as sport, apart from, in some cases, for the provision of free access to documents. In such cases only large class indexes (four or five-figure indexes) will be used, constituting a classification element. These systems allow for the grouping of documents which have similar content togeth-

er in one place e.g. All the books on Sports Medicine together or all the videos on Swimming together under one number.

Specialised classifications will be most useful for general indexing, frequently complementing the one by descriptors. In its *SPORT database*, SIRC is using a filing plan (Subject Headings) which constitutes an indexing language for sport sciences and physical education. It may be used both through a manual file system and through a computerised database

Today, encyclopaedic thesauri (*Rameau* in France), specialised thesauri (*SPORTDOC* in France, *SIRC's Sport Thesaurus* in Canada or the German one, *SPOLIT*) are still the most frequently used documentary language in computerised systems. There, indexing is applied only to the most specific concepts, provided that the software is able to deal with the grading of hierarchical terms during the search (automatic posting). Otherwise, there is need for indexing at a generic level by means of the generic terms of the thesaurus or of a classification such as *SIRC's*.

THE ABSTRACT

Abstracts or summaries of works are often written to give more depth of information to people searching for particular types of information. Often writing an abstract is used in computerised systems as a way of automatically indexing all of the specific terms which refer to the content of the document but which are not always listed in a thesaurus. Writing a comprehensive abstract, which sometimes serves as a substitute for reading the whole original document, is a time consuming process. Therefore it is advisable to use a descriptive abstract which is simpler and faster and allows for automatic indexing. Often users of information services will use an abstract to decide how relevant a particular document or resource may be to the topic they are researching.

CALL MARK CLASSIFICATION

Assigning a call mark to a document and reporting it on the bibliographic record or catalog record constitutes either an addressing or an indexing operation. When documents are not directly accessible by the users, a call mark classification system aims at efficiently preserving the documents according to their physical characteristics (microforms, special boxes for videotapes) or to their size (periodicals collections and books on shelves).

If documents are directly accessible by the users, their call mark will depend on the content to allow for the gathering together of like information on the shelves. For that purpose a filing index plus the three first letters of the main author will constitute the call mark (or shelf-mark). For further information on classification refer to Maria Lluïsa Berasategui's contribution, in Chapter 1.5.

Creation of files

Today, the concept of a documentation unit is almost unavoidably linked to the use of computers, because computers are a very useful tool for recording documents and managing information. Moreover, nowadays in the market there is specialised software which covers a range of needs, from software which organises bibliographic references on a researcher's personal computer to the information system of a large organisation implementing a complex networked information system which allows for the electronic management of multimedia documents linked to cataloguing records which are retrievable electronically by users.

An office automation tool is also essential in any information service even if it is used to create what will be manual files on cards and to enter notes and the automated copying in the various files (authors, titles, contents, etc.).

The choice of a computer system

Two main types of software are available on the market:

- Documentation software

Documentation software covers the management of structured information notes (bibliographic references, directories, etc.) and in some cases full text electronic documents linked to it. The main features taken into account are the free definition of the database structures and the power of the search engine.

- Library management software

Library management software covers bibliographic records and takes charge of the global management of a library: documents and subscriptions orders, standardised cataloguing,



professional and public access to the catalog, circulation and loan of documents, management statistics. The main advantage of this software is that it integrates the whole operation of the information service with one type of software.

Today we are seeing the trend towards the bringing together of these two originally different software types through the addition of management functions to documentary software and the development of documentary functions in library management software, the most up-to-date ones including electronic management of full text documents and images.

In choosing software for information services certain characteristics and functionality should be looked for including:

- Relational database management system

In view of data storage, these software products have to rely on a relational database management system (RDMS), thus ensuring data safety and greatly reducing the volume of stored data. Most current documentary systems are based on classical RDMS: *4th Dimension* and *Access* for PC software, *Oracle*, *Sybase* and *Informix* for network *NT* systems or *Unix*.

- Ability to configure software

As far as possible, the database manager should be able to configure the software for its adaptation to the particular information management environment. This property permits a great independence with regard to the publisher of the software and ensures the optimal deployment of the system. The manager should be able to freely create input templates, results display or printing formats, and data input or output filters. He or she should be equally free to create inverted files (computer indexes).

- Controlled input facilities

In view of the permanent quality of the database, the software should provide a wide range of functions for controlled input: authority lists and files, input standards, default input values, etc.

- Thesaurus management

In order to facilitate indexing and research, the software should allow for thesaurus management: terms input and their relationships, navigation through the thesaurus, etc.

Documentary search

The great development of computerised documentary search during the last thirty years is closely related to the fast and great development of the storage and processing capacity of the computing equipment, and also to the results of linguistic and mathematical research. Thus, a simple search of a character string in field-structured records has turned into a search of information that may be phrased by the user in natural language (spoken language).

Current documentary search systems keep the various layers of this evolution.

Software for documentary search should provide the following basic functions:

- the search of a character string (a word) possibly truncated (set of characters existing or not) or masked (undetermined existing character) in an inverted file made up of relevant words in records. Usually, during the indexing process, the system administers a list of empty words (articles, prepositions, adverbs) defined by the manager.

Basket\$: the use of truncation (\$) in this example) permits to find basket, basketball, basketball player, basketball players, etc.

- the search of a criterion in a specific field within the structure

*Dupont Pierre IN FIELD author
1998 IN FIELD publication_date*

- processing a search equation defined by means of Boolean operators

(AND, OR, NOT) or mathematic operators (equal, greater than, less than, greater or equal, less or equal).

Law\$ OR Decree\$ OR By-law\$ permits to find all official texts.

Publication_date = > 1995 permits to select documents published from 1995 onwards.

- processing a search equation in parentheses

the sets of research criteria are included in a single equation by means of opening and closing parentheses.

(Basket\$ OR Volley\$) AND (Techniques\$ OR Training\$) NOT (French IN FIELD language).



- processing a search through consecutive stages by combining the results of each stage by means of Boolean operators.

1 - *Basket\$ OR Volley\$*

result: 2150 documents

2 - *Techniques\$ OR Training\$*

result: 55356 documents

3 - *French IN FIELD language*

result: 155.356 documents

4 - *Stage 1 AND stage 2 NOT stage 3*

result: 156 documents

In addition to these basic searching functions, documentary software provide the following functions:

- **thesaurus search:** researched indexing terms are not always included in the research equation, since the system is able to run upward and downward grading the terms and their associative relations. Thus, it may be possible, upon user's request, to find documents relative to the climate in South America with no need to specify in the equation all climatic terms and names of local countries
- **search in long texts** (abstract, full text) thanks to proximity operators: researched words may be near (at n words), adjacent (within specified order or not), in the same sentence or paragraph.

rate\$ WITH cardiac\$ finds the expression cardiac rate in singular or plural but cannot find a document that says: «... respiratory and cardiac rates...», which constitutes a silence.

rate\$ NEAR cardiac\$ can find «...respiratory and cardiac rates...» but also a document that says «... rate of cardiac accidents...», which constitutes a noise

- **search in full text** may be facilitated with a clear management of synonym dictionaries or close concepts and of the varied shape words can take: irregular plurals, conjugated verbs, etc.
In some systems, the word *sportsman* as a search criterion may equally permit to find sportsmen, sportswomen, athlete, athletes, basketball players, football players, etc.

Statistic calculations of term's occurrence in documents permits the classification of the answers from the system in decreasing order of relevance or in classes of documents according to their contents.

An inquiry interface in natural language is most useful for non-professional users (e.g. readers consulting an on line catalogue). A programme eliminates any empty word from searches (same list as the one used for documents indexing) and automatically creates research equations. The aim is not to get the maximum relevance, but an answer

- **the latest generation of search engines in "natural language"** allows the users to make their inquiry the way they speak and the software proceeds to a grammatical and linguistic analysis and compares it to the indexing made with same tools of the documents existing in the database. In this situation the user does not have to know the complex command language of documentary research software. For example with the question «May I install a beer and wine bar during the next football match of my club?» in a law database, the system will look for documents related to bars in sporting event sites and particularly those concerning the sale of alcoholic drinks.

These systems of automatic indexing call for new algorithms where «empty» words can not exist, since every word helps giving sense to words, to the sentence, to the whole document.

Whilst functions of the two first types of documentary engines are available in most documentation centres and libraries, the latest ones are still generally restricted to large organisations. This is because of the need for high processing power machines and because of the large amount of human resources necessary for the constitution of dictionaries and specific knowledge databases concerning the field being dealt with.



2.6 DOCUMENTARY TECHNOLOGIES

«The information society has succeeded, in the sense that today nobody doubts that information is the dominating factor in our society». The experts Linares and Ortiz-Chaparro's assert that this has only been possible because of the general use of information technologies.

«*The information society has succeeded, in the sense that today nobody doubts that information is the dominating factor in our society*». The experts Linares and Ortiz-Chaparro's [21] assert that this has only been possible because of the general use of information technologies. With regard to the title of this chapter, documentation technologies are not different from the information ones. Although information technologies are becoming dominant in our lives we should not forget that the equipment we are using for these tasks are just tools. Even the most sophisticated or powerful computer will be useless without someone having defined what we want to do with it, when, how, whom for, to what end. As far as sports information centres are concerned, before choosing the equipment or the technology, we have to define the goals we want to reach and the means we will use to that reach that end. And to feel free to dream!

Only by doing this we will avoid a double error:

- developing a project mistaking what we want for what we need, and
- thinking about the technologies we have at our disposal and trying to create a product they may make function.

The ideal is to think freely on what we want to do and then see whether the available technologies have the capacity to achieve it, or otherwise we will have found a good topic for a research and development project.

During the last four years there has been a rapid shift from the use of «traditional» technological media, like online searches, which have remained almost unchanged since the beginning of the 80's. We have seen the change and from the information exchange in classical media including the use of magnetic tapes or CD ROMs, to the massive use of recordable disks and multimedia environments, on *windows*, with *client-server* archi-

itecture and globally linked through the Internet.

Nowadays a lot of information on sport is available on the Internet, but not all may be considered as documentary information. Before taking any decision as to what we will do with information technology, it is useful to look at what others have been doing and to learn on experiences we might consider of some quality. In any case, we must conclude that, as in many other professional sectors, the creation of the Internet and its later massive diffusion has meant a great change for sports documentation centres. Sport information centres have changed the way they locate and get access to requested information and the way they distribute and deliver information to the users. In many cases the relationship between the user and the information centre has changed as users have more information available directly to them via technology. Obviously this has brought about a change, sometimes a radical one, concerning the way products and services are offered particularly as technology is allowing time and space barriers to disappear.

The new operating framework makes it all the more important to employ technical staff with a professional profile --and we would dare say an individual profile suited for the tasks they are expected to perform. Staff today should be able to present and to communicate information on the centre's products and services. The information professionals responsible for a sports information or documentation centre should know and make use of business administration and management techniques. They should use information technologies with ease and properly manage the documentation under their care, besides having a sound capacity for social communication, negotiation and presentation, all this related to their clients' specific profiles. For the documentation centre and its governing bodies survival it is equally essential to use modern communication tools,

such as marketing, public relations, advertising, quality control programs, etc.

Selecting information technologies according to the centre's goals

Depending on the type of information or documentation centre we wish to create, the technologies to be used will have different features. However, there is a general framework to take into account with regard to information technologies:

- technologies applied to document storage
- technologies applied to document processing
- technologies applied to document diffusion.

This does not imply the creation of areas without communication amongst them. As we will see, most technologies and automated products serve one or more goals, but their use will vary slightly depending on the objective set.

Technologies and information storage

Almost every documentation centre faces the problem of data storage. Technologies used to store data should always be designed with a view to how data/information is to be retrieved at a later date. The advantages of storage by means of some kind of technology are quite clear:

- saving of space
- saving of furniture
- quick access and easy search and retrieval
- greater safety with regard to conservation
- deterioration of valuable originals is avoided, and
- the process is reasonably cheap.

The first technologies applied to storage were based on photographic techniques: microrecording, on microfilm or microfiche. These systems have been replaced by the use of optical storage systems combining the use of scanners for document recording and optical disks for

preservation. A further step in this sense is a scanner allowing for the conversion of documents into rewriteable files by means of OCR programs (*optical character recognition*). Scanning does have some drawbacks if we wish to ensure document fidelity and to avoid documents being handled by someone.

The use of compact disks (CD), by means of laser techniques for data recording is now a key information storage technology. These disks can be used in an individual computer when it has a CD-ROM drive; these disks have a great storage capacity for data. The CD-ROM (*Read Only Memory*) follows the optical technologies of videodisks, and is a great advance for information access since it has a series of advantages over its alternative, on line access to information centres.

A CD-ROM may store about 550 Mb. of any kind of information (textual, graphic, sound, still or moving image, or a set or all of them), and disks with greater capacity are now becoming widely available, (680 Mb. disks are already been used). These disks are also now being developed to have a 'writing' capability, which allows data on the disc to be modified and updated. The greater or lesser usefulness of the CD-ROM depends to a large extent on the way files and databases have been set up and configured on the disk. There are examples of disks, which are very advanced, and those that are simple but unfortunately there are also some, which lead to a great deal of user frustration. However data is placed on the disk it must be able to be easily retrieved by the user.

The complexity of these storage media, as far as data input is concerned, often requires the documentation centre to contract out this task to specialized companies, unless for some reason the centre owns the devices required for the processing of the data and pressing of the disk. Obviously, these data storage technologies should be closely related to each centre's

ideas and capability in information diffusion. The medium itself can be a great means of conservation and an ideal means of information distribution.

Technologies and information processing

Information processing is also undergoing change with technology. In recent years large volumes of data have been able to be processed with the assistance of technology. We are now able to have documentary databases and description and retrieval systems, which allow the use of Boolean operators to combine information requests and to retrieve specific information. Of course these databases are going to change and are doing so now. However, a documentation centre has to carry out its daily work, and it is likely that these sorts of databases will exist for some time. In the future though information centres will be looking towards more open systems, compatible with their environment, globally computerizing all tasks carried out by means of integrated programs, and taking into account the current trends to globalize information into network environments. In the future information centres in organisations will deal with total knowledge management within their organisations.

It is worth paying attention to issues such as terminology, without ignoring the current developments in automated systems, which establish relationship, proximity, and pertinence mechanisms among the terms used to describe and retrieve information. Standardization in terminology and systems is unavoidable but this should not imply adopting rigid and classical systems for description, which are too expensive, slow and complex, unless the centre's environment itself provides support for its use or forces it to do as a part of a common information policy. Some standardization is unavoidable if data is to be transferred between organisations and if users are to be able to retrieve information in a systematic way. In the world of sport information

standards have been established for the input of records into the international database *Sport* and there is widespread use of standard terminology used in the *Sport Thesaurus* for indexing sports documents. Standardization should also be applied with regard to technological environments (commonly accepted operating systems, multi-user and friendly environments, with on line help, etc.).

Any information technology applied to information processing should allow for data to be retrieved and manipulated at the desktop.

Technologies and information diffusion

The area of the documentary process where technologies have had the greatest influence is that of information diffusion. From the appearance of the telefacsimile (fax) onwards, information distribution systems have multiplied and diversified to the point of almost offering a solution for every demand... and seemingly we are just at the beginning of the race.



With regard to information diffusion, it can be divided into Off line Information diffusion, and On line Information diffusion.

OFF LINE INFORMATION DIFFUSION

This diffusion uses classical technologies based on the use of paper, audio or video tapes, disks, etc., optical disks of any type. From the point of view of diffusion, CDs in general and CD ROMs, as documentary media, offer great advantages:

- they are cheaper than the corresponding on line search
- their use is much easier, and they allow for self-learning
- they allow for more refined searches and their repetition, given that the factor cost/connection time is not relevant
- they may be used in fairly basic computers, with the single requirement of a CD-ROM drive
- in many cases, their data may be retrieved simultaneously from different terminals, provided they are placed on a disk reader connected to a local network
- data from the disk may be downloaded to a printer or a computer file for later handling.

ON LINE INFORMATION DIFFUSION

On line systems have a series of technical requirements which are today becoming more and more simplified. In general to gain access to online information diffusion systems it is necessary to connect equipment through a telephone line, a modem and a communications program in order to connect the computers located at each end of the system. The telephone line may be the usual one used for voice transmission in conversations, or a more specialized one for data transmission according to specific protocols set by each telephone company, depending on the needs, the budget and the technologies available in each country. It is recommended that those operating

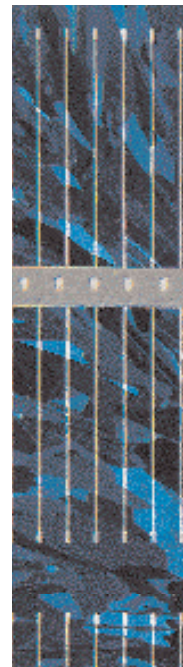
information services try to improve the communications speed and, whenever possible, to use RDSI (*Digital Network of Integrated Services*), narrow or wide band which allows for simultaneous communications. Should usage make it necessary, permanent open lines (point-to-point) could be established.

For efficiency and budget reasons, many small or medium size centres are contracting firms specialized in information distribution to deliver their online information products and services, thus avoiding the need to maintain within the organisation the communications infrastructure which needs to have lines open 24 hours a day.

With a communications infrastructure in place sport information centres will be able to access a full range of information products in the market place from companies and public institutions. In some cases these products might be online databases of statistical information, in others they might be the catalogues of other libraries etc. Clearly the online world is one which is changing rapidly. In the not so distant past there were services like *videotext*, *audiotext*, and *teletext*, nowadays these are being taken over by videoconferencing and other media perhaps the most prominent of which has been the Internet network. The Internet includes a range of general information services through the *World Wide Web* (www) and specific services such as list servers or electronic mail.

The Internet

It is impossible to try to explain what the Internet is in the scarce lines remaining in this chapter. In summary the Internet is a worldwide network of interconnected computer networks which communicate with each other through various means (optical fiber, satellites, telephone lines, etc.), each of them having their own rules and policies. The Internet or net, is made up of thousands of national, university,



research, private companies, and local body networks, connected by a set of computers called routers and presents itself to the user as an endless web of information centres.

The main feature of the Internet is that it is based on the connection of computers (any kind of computers), thus achieving a global nature. To this end it uses a single communications protocol allowing for interconnection: TCP/IP (*Transfer Control Protocol/Internet Protocol*). The IP main features are:

- information flows in packets (so that any message may be divided into small parts and built again when arriving at the destination point), and
- the packets need an unrepeatable address to arrive to (their size or the path followed matters, but only their destination), this address being called a URL or *Uniform Resource Locator*.

With this brief outline, we can now define the tools most often used within the network. These tools enable us to navigate along the network until arriving to the information service we are looking for, or to locate the information offered by that service once we have arrived to it.

Until a few months ago, some of the Internet tools more often used were the telnet access to enter remote data bases, the *file transfer* (ftp), and others. Today, everything has been included into the *web*, thanks to the client-server architecture. Through this, remote terminals are no longer simple extensions of the information servers, but they contain a part of the program required for communication, with their own capacity and functions.

Thus, part of the tools are distributed between the remote and the central computer, so that more things can be solved at the remote unit, the central one is less saturated and the line is not permanently engaged (only when transmit-

ting one of the data packets). Furthermore, the data processing capacity of the remote unit may be more sophisticated: it may have at its disposal graphs and not just characters, it uses a mouse, it uses *Windows*, it may open multimedia windows (image, sound, and movement...), etc.

Within the *web* there is no hierarchical order, but the mere navigation from one document (page-) to another through hypertext functions (marked words referring to another document), thus establishing through these links a series of jumps among all the information available. Resources are retrieved by means of indexes or search engines. These search engines are becoming more and more sophisticated. One may search for a given subject or word within a *web page* and the searcher will be offered a list of all those pages meeting the set conditions in some cases ranked by relevance. Recommendations for the dissemination of information about a sport information centre through the Internet have been described in Chapter 1.8 of this manual.



2.7 DOCUMENTARY PRODUCTS AND SERVICES

«The ideal of the information industry is to find the right information in due time for the concerned user and at an acceptable cost».

«The ideal of the information industry is to find the right information in due time for the concerned user and at an acceptable cost» [29]. The main function of an information service is to make the requested information available to the users, providing them with products and services that meet their needs.

Products are based on the transformation of primary information. Bulletins, files and databases are produced, to a lesser or greater extent, using the centre's human and technical resources. Those tangible objects are sold or offered free of charge and may be stored and used later on by the user [29].

The centres provide services, free of charge or for payment, to their users: e.g. consultation, loan, selective dissemination of information, etc. In delivering all products and services there must be quality service provided by those who deliver the products and services so that users have a good image of the service and are willing to return for service again and again.

Information dissemination: conditions and constraints

There are many of these and they must be surveyed by the information centres:

- institutional conditions of the centre: linked to its status and position within the institution, which greatly influences its aims and objectives (see chapter 1.12)
- variety of users' needs: their preferences, their demands, their level of mastery of information tools, their level of knowledge of the possibilities offered by the centre, etc. Before implementing any information product or service, it is necessary to establish a typology of these needs (see chapter 1.2 and chapter 2.1)

- the centre's financial resources often entail a choice among several possibilities and impose a tariff for some services or restricted access to them

- the centre's technical and technological resources are dependent on its manpower and its level of competence, as well as on the available equipment.

Information dissemination strategies

The strategic plan of the sports information service (see chapter 2.8) highlights the choices among the many possible answers to the expectations of different users. Those choices must clearly announce for each product or service the desired or available level of provision offered to the public.

A diverse offer is essential to satisfy the different types of needs, however this should not prevent an information centre from defining a clear strategy for all selected products and services. Otherwise users might be confused (when they cannot find the best answer to their needs) and poor definition of products and services may cause internal competition among the offers, and a lack of understanding by the staff of what is being delivered to users.

There are two different kinds of strategies in the activity of an information service:

- demand strategy: in this case products and services are delivered upon a specific demand. These are called «passive» products, since the person demanding the product or service takes the initiative to contact the service whenever it is necessary (e.g., a «question-answer» or reference service, selective dissemination of information, etc.)

- offer strategy: this is when products and services are offered upon evaluation of potential needs, anticipating the demand. Then we speak of «active» products, since it is the information centre the one that takes the initiative of addressing the user (bibliographic bulletins, acquisition lists, etc.).

Documentary products

An information centre may provide a whole range of products, from the simplest to the most sophisticated ones. This basic manual will just present the most ordinary and useful ones. For a more detailed description, the reader shall refer to the bibliography [18, 19].

BULLETIN OF DOCUMENTARY INFORMATION

Bulletins about information centres and their products and services have traditionally been produced in paper format, however today the Internet is being increasingly used as the way of promoting centres and their services. Bulletins are mainly a communication tool and their main function is to:

- make the centre its resources, services and events known
- motivate the real and potential user to use the centre's products and services
- obtain the users' loyalty by providing them with information on a regular basis.

Bulletins might be produced monthly, quarterly or by semester in paper format. With the Internet there is the advantage of being able to update information in real time.

INFORMATION CENTRE'S CATALOGS (or files)

Catalogs are used for resource management and documentary search. They list and describe the primary documents within the centre's holdings and are based on bibliographic notes (see chapter II.5).

There are several kinds of catalogs. Author catalogs and subject catalogs are the most frequently used, and sometimes title catalogs or topographic catalogs are used as well [18].

These catalogs are frequently set up by means of index cards that are filed in drawers or folders and are put at the disposal of the centre's users. Those centres which use computers may work with OPAC systems (On-line Public Access Catalog), which allow for direct on-line consultation of catalogs by users, sometimes even from remote locations.

ACQUISITION LISTS

These lists provide users with information concerning new documents included in the documentary funds or the centre's collection.

They usually come out as bulletins and their periodicity will depend on the volume and frequency of new acquisitions. Acquisition lists are frequently exchanged among information centres.



CONTENTS BULLETINS

Contents Bulletins gather the contents of periodicals received by the centre during a given period. They are generally diffused to target users who may order any article they are interested in.

Contents Bulletins should be published at least every 2 months to guarantee that they providing an up-to-date information service. The publication «Current contents», published by ISI (Institute of Scientific Information), in Philadelphia (USA), is one the most important contents bulletin. It lists the

contents of the main scientific magazines. It is now increasingly possible for information centres to access online contents page services through services such as CARL Uncover which allow information centre staff and individuals to select the contents pages of particular journals and monographs and order copies of articles online.

PANORAMAS AND PRESS REVIEWS (CLIPPING SERVICES)

This way of diffusing news is based on a selection of primary documents (in general press articles) according to specific topics. In order to operate this service it is necessary to scan newspapers in detail and to cut out and photocopy appropriate articles. Selected articles can be pinned up in the centre or diffused to a target public and grouped altogether in thematic files. These ones are put at the users' disposal in the information centre, distributed directly to individuals or circulated around a number of people.



Because press reviews and clippings are designed to disseminate the most up to date information they must be compiled on a daily basis. The nature of this work is very labour intensive so the staff resources to operate the service must be taken into account in human resource planning for a centre.

The follow up of current events requires a specific daily work that should be taken into account in the management of the centre's human resources.

DOCUMENTARY DOSSIERS

Documentary Dossiers are generally elaborated on request and they group together a set of different primary sources concerning the same subject. Documents are generally presented in a folder and delivered to the person requesting them for on site consultation. The updating of these files follow the evolution of the topicality of the subject. They are archived, or even destroyed, when the field of interest is out of date.

BIBLIOGRAPHIC BULLETINS and/or INDEXES

These consist of lists of specialised notes following a classification schedule, often including brief analyses. Their selection aims at answering the users' demands or at covering a general subject (standard bibliography). Those lists should be exhaustive, and to do so they must cover all types of sources, documents and languages accessible to the centre [19]. These bibliographies may also be retrospective, including more or less ancient documents.

The bulletins may be manually prepared and diffused on paper format, though they are more and more being considered as a secondary product of the running of bibliographic databases and being electronically disseminated.

BIBLIOGRAPHIC SYNTHESSES AND STATUS REPORTS

These reports help to set up a summary of existing knowledge on a specific subject and thus allows the user to avoid the need to consult a great number of documents. These syntheses are high value added products and must be carried out by experts to ensure that they are accurate and reliable.

DATABASES AND DATABANKS

(See the definition of both terms in the glossary; both tend to be referred to as «databases»).

Though a database is not the most sophisticated product an information centre may develop, it is the one that requires the heaviest implementation. Therefore most sports information databases in the market (see chapter 2.4) are co-produced in a network by a given number of partners.

In order to set up a database there must be several levels of intervention:

- the producers of the data base who deal with primary information in the documentary resources that make up the database domain. At this level it is necessary to standardise the documentary processing and to establish a common documentary language to guarantee the homogeneity of data for a pertinent search of information. Generally, in the case of a network, a «leading» producer collects all partners' productions to ensure quality control of data entered into the database
- the servers, private or public organisations (or an information centre with the required resources) that store and run the databases and give access to them under certain conditions. These servers implement powerful interrogation and communication tools that will execute simultaneous interrogations in the same database or in several local databases or, even, in databases run by different servers. At present most of them are using the Internet.
Finally, servers often use optical memories, in particular CD-ROMs (see previous chapter) so as to give users many possibilities of access
- the distributor's functions (a role often played by the server) are to commercialise, promote, and market the databases, to ensure users' training and to provide maintenance and after-sales service if necessary.

Documentary services

RECEPTION AND ORIENTATION OF PUBLIC

The reception desk is the primary place for all direct and relational functions of an information service: reception, registration, loans, advice and orientation for readers, information, documentary search, etc. All these face-to-face services are based on dialogue and are essential for the image of the service and for the evaluation of users' needs. Bearing this in mind it is necessary to choose the opening hours best suited to the users and to adjust reception conditions (staff, premises, equipment, signs, etc.) for the best conviviality. The reception desk should be as far as possible away from the searching and working areas to avoid disturbances and noise.

A telephone service is essential to answer any request for information on the available products and services, in particular when it concerns potential users who will not contact the service again if they do not get a satisfactory answer. Increasingly information centres are also using Internet sites to promote services and to enter into a dialog with potential users through email.

DOCUMENTARY SEARCH

The service of documentary search is a further step in the orientation of public and aims at providing the persons demanding it with any reference of sources and documents, whatever the support, that meets their needs.

The implemented techniques are described in-depth in chapter 2.5. The service may be requested on site, face-to-face with the user, thus facilitating the identification of needs, or by telephone, fax, mail or electronic mail.

PUTTING PRIMARY DOCUMENTS AT USER'S DISPOSAL

Several services may be provided for users to give them access to primary information:

■ **on site consultation:** two possibilities (solutions) exist:

direct access or **free access:** the user can freely select documents from the shelves of the library or information centre. This user-friendly solution allows for gathering and free collection of information by users, though making control of the collection more difficult. Direct access is suitable for small centres with regular visitors and for those who may not have staff resources to retrieve documentary resources for the users. It may also reflect a political choice to promote documentation to a public who may be reluctant to use an information centre. However, a lack of control of the collection within the information centre does not mean a lack of vigilance, and when losses are noticed, they may justify the installation of an electronic security system for the protection of resources

indirect access or **controlled access:** once a reader has consulted the catalogs he will ask someone from the personnel to deliver the requested documents, out of the storeroom. Documents will be consulted in the reading area and then returned at the end of the service schedule. This procedure requires some personnel availability but it ensures full control and protects from theft and depredations. This solution is suitable for centres opened to the public and, in particular, for special collections and «rare» resources.

It is also possible to mix both solutions: direct access for reference works, periodicals and the most frequently consulted documents, i.e. the active fund; indirect access for reserved items and precious or rare funds.

■ **circulation of documents**

Generally circulation concerns periodicals and aims to quickly diffuse news and current information to a target public. Two requirements are essential for this service: a fast circulation

so as to guarantee currency of information and a reliable circulation by ensuring the respect for prescribed rules (type of circuit, concerned titles, consultation time, transmission modes, etc.).

There are two solutions, which can also be mixed:

- «star» circulation, which means that documents shall be returned between each reader, and
- «circle» circulation, which organises a circulation from reader to reader before returning documents, the control being then more difficult.

Often the circulation of documents requires a delicate management, and it should not interfere with on site consultation by the centre's users. There are some palliative solutions: taking up an additional subscription, disseminating a list of received periodicals (contents pages) or an abstract bulletin, and providing the magazines or photocopies of the demanded articles.

■ **extramural loan and interlibrary loan**

The rules concerning extramural loan are specific to each centre and deal with:

- the users' categories that can benefit from it
- the categories of authorised documents (and therefore of unauthorised ones)
- the number of documents each user can borrow
- the loan time
- the conditions for loan and return (guarantee deposit, reservation system, late payment penalties, etc.)

In general it concerns works that are borrowed for two or three weeks, the number of volumes that can be borrowed each time being no more than 2 or 3. This service is often part of the functions of the reception desk and is more and more automated in large centres.

The service of national or international interlibrary loan is based on specific agreements signed by partner libraries which allows for material held by one library or information centre to be requested by another library on behalf of its user. Inter library loan implies the exchange of catalogs and may require the creation of joint catalogs to enable users to locate the desired documents. In many countries specialised joint catalogues (union catalogs) are produced or libraries participate in national union catalogues. Inter library loan gives users access to a wider range of resources by being able to call on resources held in other libraries

■ photocopying service

By providing a photocopying service information can be delivered without resources actually leaving the centre's collections. Appropriate equipment is required, as well as full respect for copyright laws, since the service will be held responsible for the reproduction in most national laws. In this regard, in many countries there are official institutions for the receipt of reprography rights, which should be contacted in order to legalise this activity. Since its cost is often rather high, in general its rate is fixed when the revenue covers the administrative expenses derived from obtaining it

■ electronic diffusion of documents

This service, offered by larger centres generally that have mastered the appropriate technology (electronic edition), allows for on-line provision of previously scanned documents. This solution has many advantages in terms of easy and fast access to primary information as compared with the above-mentioned services. Electronic delivery of documents presents many exciting prospects for the future particularly for remote users of centres. As with photocopying services, electronic document delivery must respect copyright laws.

THE QUESTION – ANSWER SERVICE (REFERENCE SERVICE)

This service generally becomes more and more developed as centres evolve from a status of «resource centre» to one of «information provider», a role increasingly demanded by the users. Here, it is no longer a matter of providing primary documents, but of extracting from them the information requested by the user.

This sort of service requires specialised personnel, access to outside resources and in some cases the back-up of a large relational network. These services can be delivered on site, face-to-face with the user, by telephone or mail, and, from now increasingly by electronic mail.

INFORMATION FOLLOW-UP AND SELECTIVE DISSEMINATION OF INFORMATION (SDI)

These services periodically provide users with the documentary information they are interested in that has been released during a given period.

The information may be delivered «uncut» or after being analysed (summarised). In order to achieve an efficient service, it is essential to get a pertinent «documentary profile» of users, which must be regularly checked and updated.

Users generally subscribe to such an updating service to meet their ongoing information needs. The service is based on the number of consulted sources, on the range and complexity of the profile and on the frequency of deliveries.

Since these services are expensive to maintain in terms of staff time, most often the service is implemented with a view to meeting collective needs (group profiles corresponding to a group of persons with common interests), rather than individual profiles, that cost more

but this is not always the case. In many organisations carrying out specific research it is necessary for researchers to have individual information profiles for regular updating services.

THE SERVICE OF DOCUMENTARY STUDIES

Documentary Studies provide the most elaborate product within the documentary chain. These aim to gather, validate, analyse, evaluate and present information according to criteria that correspond to the different points of view or uses that the persons requesting it may have on a specific subject. Such an activity requires the participation of experts in the domain and an important work of converting information into a qualitative digest. Therefore the service is often expensive and time-consuming, and thus is most often implemented for a collective use.

TRANSLATION SERVICE

Translation services represent an indispensable added value for the quality of the documentary fund and for the pertinence of information concerning a specific subject. It is particularly essential to scientific researchers for whom comprehensiveness is a basic condition in every documentary search.

In general, translation costs are high. Thus, it is advisable to proceed to an interview between the user and the translator with a view to determining, by skimming it, which parts of the text correspond to the user's real needs. Another way to proceed is by first producing the summaries of the articles selected from an abstract bulletin and then proceeding to the full translation of the original document. In view of making the most productive use of translations, all these translations should be kept by the centre and put at the collective disposal.

Today, new technologies are developing, several desktop translating systems (DTT), which permit the comprehension of a text, with

rather satisfactory results. But these systems are still too expensive for the majority of centres.

Pricing of documentary products and services

The objective is not to follow a sales orientation but to bear in mind that information has a cost, whatever the working conditions of the service. This point has been dealt with in chapter 1.11.

The pricing policy may vary from one service to another, according to its status (public or private), the basis for cost price calculation (subsidies incidence, elimination of structural costs, promotional function of information, etc).

In the absence of a «price guide» of information products and services, it is advisable to take into account:

- the cost price of the product or service
- the current market price in the same conditions
- the «psychological» price that may be acceptable for the target public.

Secondly, it is necessary to set the rate price for tariff fixing. In general it is preferable to set pricing on the basis of the quantity delivered (provided that the basic unit is clearly defined) instead of the time (consultation time, search time), that might dissuade the beginner from using the service and which might be detrimental to the owners of slow equipment.

Then, a selling procedure must be chosen:

- sale from catalog: suitable for standard products and a given number of copies
- sale by subscription: suitable for periodical or repetitive services
- package sale: subscription or consumer fee (generally annual) on a varied set of products and services
- budgeted sale: for services «on request».

Finally, several means of payment are possible:

- to undertake the collection on site: it is necessary to organise a «cash» function in the service
- to open an account: the user has the right to consume in proportion to the settled amount
- payment by «stamps» of which one buys a given number and that are used like money
- credit card payment which requires the centre to become a merchant.

Those two last means of payment will avoid having too many invoices, and especially for small amounts which result in centre staff having to spend a great deal of time in processing finances.



2.8 INFORMATION CENTRES MANAGEMENT

A successful information service will be one which operates to a well defined plan, one which manages its collection of resources, its human resources and its financial resources well and one which delivers the services which the users of the information service and ultimately the organisation of which it is part requires.



A successful information service will be one which operates to a well defined plan, one which manages its collection of resources, its human resources and its financial resources well and one which delivers the services which the users of the information service and ultimately the organisation of which it is part requires. Within organisations there will be certain standards of management practice, which must be adhered to, and this must be considered as the overriding framework in the way that any information service is managed.

In order to manage an information service effectively it is essential to:

- plan what you are going to do
- consult with key stakeholders
- develop an annual information centre management plan
- account for all resources (human and financial) against the plan
- set timeframes for achievements
- monitor progress against the plan
- evaluate where you have come from and where you are going
- revise your plan.

Planning

In developing any information service it is essential to undertake a strategic planning process which will ensure that the information service/library has a clear purpose, and has strategies in place to ensure that it is effective in meeting its aims. Goodstein [17] defines strategic planning as "The process by which an organisation envisions its future and develops the necessary procedures and operations to achieve that future".

In the case of sport information centres/libraries it is important to have a strategic plan written down with clearly defined aims and objectives. These objectives should be linked to the key aims of the parent organisation and

a work plan or management plan should be put in place to meet these aims and objectives. This strategic plan needs to be monitored and evaluated so that aims and objectives can be changed if necessary in the next planning cycle. It is important to note that a strategic plan for an information service is a living document and that planning is a continuous process requiring constant reappraisal particularly after broad consultation with clients and staff. Planning is not a means in itself but a means to achieving agreed aims and objectives.

In undertaking a planning process it is important to approach the task systematically. It is therefore recommended that those involved in planning information services adopt a model with a staged approach such as that of Goodstein [17] or Penna [22], although there are a number of other planning models detailed in the literature which might be followed.

MISSION STATEMENT

An important first step in planning is to decide on the overall aim or mission statement for the information service as described in Chapter 1.12. The mission statement expresses the reason the information service exists in broad terms and predetermines the goals, objectives, strategies and policies of a sport information service. In setting an overall aim for the service there must be user and potential user consultation, information centre staff commitment and management's agreement to the overall aim.

GOAL SETTING

Having established the broad mission statement for the information centre, specific goals and objectives need to be set. It is then necessary to see how these goals and objectives can be translated into an operational strategy

so that they can be attained rapidly and rationally in so far as the human, physical and financial resources permit. Here there may be a necessity to engage in a process of prioritisation. In managing any service it is not possible to do everything so priority setting is important. This is in fact the key point of strategic planning for it is here that the library really needs to examine the environment in which it exists in terms of the threats, opportunities, weaknesses and strengths which exist in the internal and external environment around it. Having examined these strengths, weaknesses, opportunities and threats it is then possible to make choices about what sort of strategies will be employed to achieve its objectives.

Goals of the information service should then be established which are general broad statements of the desired or intended accomplishments of the information service, which might span a period of 2-5 years. In Chen's [08] view the statement of goals '*simply allows a view of the forest instead of the trees*'.

Examples of goals for an information service are:

- to comprehensively collect all relevant multi-media sport information of a bibliographic or non-bibliographic nature.
- to organise materials collected and develop appropriate manual and automated access tools.

These goals give direction, represent service, resource management and administrative or directional goals and have implications for the sort of work which will be done in client service, technical service and administrative areas of operation of the information centre. They in fact serve, as Riggs [27] suggests, '*as a planning skeleton for integrating the efforts of all information centre operational areas into a total information effort*'.

OBJECTIVE FORMULATION

Having established the broad goals of the information centre it is then necessary to formulate objectives, which Riggs [27] describes as '*the milestones, which mark the path toward the library goal(s)*'. These objectives should be measurable, short-range and time-limited. Specific responsibility is given to individuals for the accomplishment of the objective. In the case of a one-person information service then the person responsible for the information service should ensure that he or she can meet the objective. The mission statement, the goals and the objectives are not only the vision for the future of the information centre but are also the basis for current action. These are not made in isolation but with an understanding of the world in which the information service exists and a prediction or forecast of what the world may be like in the future. It is essential that in any information service planning that there is a constant scanning for threats, opportunities, weaknesses and strengths that may assist or impede the implementation of the strategic plan for the service.

Annual Management Plan

From the mission statement arise the goals, the objectives the specific strategies or tasks that will be undertaken by the information service and these form part of the annual operational plan or management plan for the information service. In formulating the strategy for the information service it is necessary to write down against each objective all of the ways of achieving that objective, it is necessary to say which of these strategies are most important, to identify alternative strategies and to have contingency plans. For example a strategy may be to develop an online catalogue however if insufficient funds are available for this then an interim measure may be to create a card index to material held.

Once all of the possible strategies have been identified and prioritised it is important that these are placed in document usually called an 'annual management plan'. This plan is then divided into sections e.g. all of the goals relating to client services may be grouped together as might be the goals relating to technical services and management services. Under each objective for the information service there should be a list of strategies to be undertaken to meet this objective. Next to these should be listed the human and financial resources necessary to undertake the strategy and a timeframe for completion, although some strategies will be ongoing as they are part of delivering a service. In going through this process it will become evident what sort of resources will be required to complete the strategy. This information will then provide the basis for the budget and the allocation of human and physical resources to the library. This plan then becomes the framework for the management of the collection and the human and financial resources of the information service.

In some cases the budget may already have been allocated to the information service in which case the management plan will be showing what will be done with the money. If however the budget has not been allocated to the information service then the management plan will assist in preparing the case for funding showing exactly what the information service intends to do with the money it receives.

In some cases the completion of the management plan will identify some strategies to be dropped from the plan because there may be insufficient resources or changed priorities.

An annual management plan is an excellent tool to show information service staff, clients and management of an organisation what the information service intends to achieve and what resources are allocated to achieving objectives. The plan should be set out in such a way as to have room for comments against each strategy as this then provides an opportunity to use the plan as a reporting document.

Example of section of an information centre annual management

GOAL 1: To comprehensively collect all relevant multi-media sport information of a bibliographic or non bibliographic nature.

OBJECTIVE 1: to develop a comprehensive collection of sport videotapes				
STRATEGIES	HUMAN RESOURCES	FINANCIAL RESOURCES	TIMEFRAME	COMMENTS
Purchase coaching videotapes for sports of the Institute	Audio visual librarian	\$10,000	Continuous	50 videotapes purchased Jan-June 1996.
Provide viewing facility for videotapes	Audio visual librarian	\$3000	December 1996	Videotape recorder and TV purchased set up in library May 1996.
OBJECTIVE 2: to establish a collection of key sports science periodicals				
STRATEGIES	HUMAN RESOURCES	FINANCIAL RESOURCES	TIMEFRAME	COMMENTS
Compile list of key sports science journals	Librarian in Charge	\$3000	December 1996	Staff asked to rate journals in order of importance for ordering.

Once the annual management plan has been created and accepted by management then the information service has to undertake the strategies listed and to monitor progress against each strategy. Whilst the management plan will identify the key tasks to be performed and managed in the information centre it will be necessary for some tasks and strategies to have specific supporting documents. These documents describe in more detail how specific tasks might be managed e.g. how the cataloguing of resources will be managed and the policies and procedures, which might underpin this management activity.

In addition to making comments against the strategies in the management plan as shown above it is also necessary for the information



centre to develop other information systems on activities which can be fed into the management plan to monitor progress. For example it is wise for information centres to record the number and type of information requests they receive, to record the number of photocopies they make for users etc. All of this quantitative information together with qualitative information collected from users of the services in a formal or informal manner go

towards evaluating the performance of the information centre library against its stated goals and objectives and assessing its effectiveness.

In these times where there is increasing accountability for all areas of activity and expenditure it is essential that at any time the information centre manager can retrieve information that justifies continued support for the information service. Regular reports on progress with the implementation of strategies should be made to members of the information centre staff, to clients and to key personnel in the organisation, which the information centre serves. In some organisations a management committee or advisory committee may oversee the operation of the information service and it is to this committee which progress reports would be made.

Evaluation of the Plan

Having put a management plan in place as the key management tool for an information service it is necessary to evaluate how well the information service has done in meeting its objectives. The person in charge of the information service will do this evaluation and in many cases management and information service users may be asked to assess how well the information centre has done in meeting its objectives. In undertaking an evaluation which should be done annually every objective of the library should be examined to see what was and wasn't achieved in meeting the objective. Through an evaluation process it often becomes clear that some objectives will be impossible to meet and it is often the case that new objectives emerge from particular circumstances or changes of direction by the parent organisation. Because of changed circumstances it may be necessary to make adjustments to the business plan and to revise the goals and objectives of the information service. As stated previously strategic plan-

ning is not a once off process which results in a strategic plan being set in concrete. Strategic planning for information services is a continuous cycle which allows services to state their goals and objectives, to formulate and implement strategies through a business plan and to monitor and evaluate these in accordance with the information needs of particular organisations and individuals within those organisations.

In conclusion it can be said that there will be many different ways of managing an information service which will depend on the management structure of the parent organisation and in some cases on the personal style of the manager of the information service. However it can be said that without systematic planning a sports information service is unlikely to succeed in the long term. The planning process is the fundamental foundation for the management of a successful sports library, information centre or documentation centre.



2.9 MARKETING OF INFORMATION CENTRES

The sports information or documentation centre should have as its main aim, user satisfaction. Thus, its has to act as any other company or institution, measuring its effectiveness and usefulness according to its ability to «sell» a series of products or services to a range of «clients» having previously assessed, with greater or lesser accuracy, the demands and needs that these clients have.



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In previous chapters we have dealt with some issues related to the achievement of this goal. The centre should have planned a communication strategy which promotes the centre and the services to be offered to the client/user. The centre should have also developed a plan to make its services easily accessible to the users. Given that the centre trades in information, we have in previous chapters looked at how to use the information technologies at our disposal and we have examined the distribution systems to make information flow with ease and speed.

To a greater or lesser extent, the term marketing involves the whole set of previous tasks and studies aimed at achieving the best possible relationship between the company, its products and its clients. But in the case of information centres, as in modern corporations, a series of issues are as relevant as the fact of «selling» itself, and they might be defined as the set of relationships and attitudes established by the corporation with its whole environment. This includes, for instance, the way the company acts, the attitudes of its staff, the internal and external relationships, the company's position with regard to society, nature and the environment; the financial benefits it gives and the way it combines its social duties. These issues define the company's *culture*, which is reflected in its *corporate image*.

The way the corporate image is portrayed is a very important consideration in the marketing of an information service within a corporation or organisation because the way that users perceive the corporation is likely to influence the

way they see the information centre and its services. For example if a corporation has a very closed image and unhelpful staff then this may affect the way that people might perceive an information service within that organisation.

Business characteristics of the information centre

To market and promote its services effectively, the information centre will have to define its information goals. It will have to constantly assess the work, the services, the products it offers. The centre should be aware that information has a quantifiable value, even in financial terms, and so, the centre needs to take decisions according to profitability criteria. This profitability does not have to be exclusively financial, it may be social as well, but, at any rate, cost assessment helps place actions of the centre in a specific context.

The centre will also have to assess its communication profitability. Specific questions on this subject will also have to be answered. Today's quality control programs offer very useful patterns to get such answers. At any rate, before looking outside, it is worth looking inside by means of what we might call an «information audit».

Information audit

Alfons Cornellá [12] has developed a very specific information audit which justifies the development of projects, the acquisition plans, and thus an information centre's organization and running. The audit portrays the organization: objectives, structure (formal and real), and culture (the real structure, featured by its members' character, the local customs, etc.). In addition, Cornellá also suggests that there is a need for a resource audit: human and equipment resources, organizational ones (information structure, distribution systems, task assignment, and affordable costs (staff and equipment costs).

By means of all this, Cornellá [12] defines an information balance aimed at achieving the goals initially set. It is a matter of:

- comparing what one has with what one should have
- studying whether the organization culture and structure really allow for the adoption of changes and for a greater exploitation of information
- assessing whether using information in a different way would mean an increase of the benefits of the organization.

Only after having gathered all the answers, will it be possible to decide what action lines should the centre follow and which of the previous attitudes have to be modified.

Integrated social communication

We have talked about emitting a unique message, and about transmitting a unique corporate image, derived from the existence of a business culture. This communication process should be aimed at society as a whole, and besides, it should be integrated, even though each technique and each tool may be aimed at independent goals. What we said in the chapter devoted to Communication of Information Centres (Chapter 1.9) is equally valid here. Information centres should take advantage of the trend towards the integration of new information technologies, which was not present in the traditional communication systems. Information centres should use these new technologies as advertising and public relations and marketing tools just as they are used by press and information offices. Having said this one should not discount all traditional communication tools because in some cases a brochure, a leaflet or a personal presentation by an information centre staff member will have just as valuable impact as a more technologically based marketing tool like the Internet, radio advertisement, etc.

In marketing services information centres should also look at the possibility of gaining contacts to approach for sponsorship funding. These funds might be used for the information service as a whole or for specific services offered by the centre eg an electronics company might sponsor a videotape loan service.

Marketing

The marketing plan for an information centre should be developed as part of the total marketing plan for the corporation or organisation to which it belongs, unless the centre is totally independent. Information centres should promote themselves within organisations as valuable organisational or corporation marketing tools.

Within the marketing plan, it is necessary to:

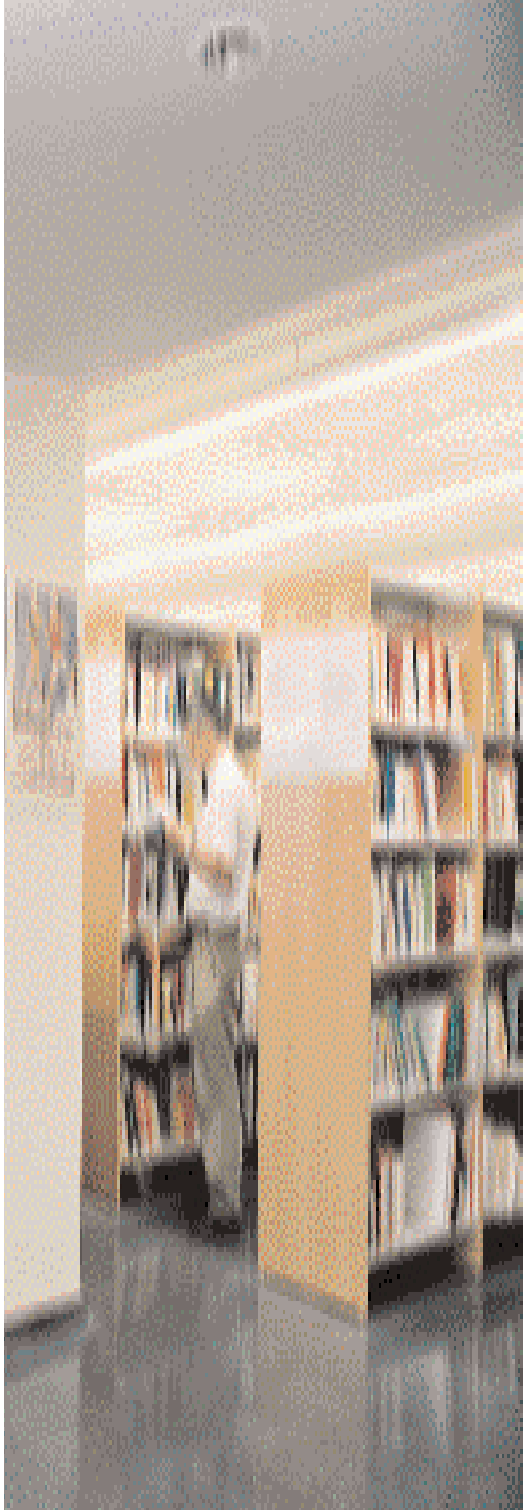
- conduct research into the centre's potential market
- look at segmentation of the market according to the characteristics and demands of the various users groups
- study perceived demands
- to define appropriate services and products that are likely to be accepted by the market.

The four classical and main aspects to bear in mind in the marketing plan are those we have been referring to in one or another in the former texts:

- services / products
- price
- selling point and its characteristics
- promotional elements.

Furthermore, within this process it is essential to foresee the need for the updating of products, services, equipment and staff knowledge to ensure that what is being delivered to the user is always appropriate.

Finally, and perhaps most importantly there needs to be a permanent assessment and



analysis of the plan outcomes to ensure that the work conducted by the information centre is appropriate and well received by users. All the marketing in the world will not sell products and services which do not lead to customer satisfaction.

Public Relations

Marketing and Public Relations are complementary processes. Marketing as we have discussed involves trying to make products and services available to users in the easiest possible way. Public Relations deals with the communication processes between the company and its public.

To have an effective Public Relations it is necessary to have all of the staff of the centre's understanding and practicing effective communication in dealing with users.

According to its creator, Bernays [04] Public Relations is exactly what the two words mean: *«The relationships of an organization, a person, an idea or whatever, with the public their existence depends on»*. Public Relations affect the enterprise in its essence, shaping both its image and its perception by the public, affecting to a great extent, even in advance, the success or failure of a given product or service on offer.

One of the principles governing Public Relations activities is that of direct contact with each of the persons who make up the public. The deepest impression, the one which leaves a good or bad memory, is the one obtained when individuals have personal contact with the staff of the centre who are attending to their needs. It should be noted that the first contact is the one which seems to have the greatest relevance -even out of proportion-, for the image that the user will gain from the centre. A human, friendly and professional treatment of users by information centre staff, will be the best public relations tool for the centre. Although this impression may be coming from a single person, it is

likely that this impression will be passed on to others and the centre will gain a favourable image.

The main ideas in this communication process have been summarised by Villafaña [31], who said:

- every interpersonal communication should be an expression of the corporate culture and personality of the centre, without contradictory attitudes from different staff
- interpersonal communication should be efficient and contribute to the development of daily professional tasks
- a principle of flexibility should be applied in the relationship, adapting it to each specific circumstances
- a great degree of understanding should be ensured, not just in the sense of understanding the meaning of the messages but also understanding them as a whole, trying to receive them with the intention with which they were transmitted, without interpreting the data.



The public of the sports information centre

We have already defined various types of public. We should not forget that people working at the centre are also the internal public, and so are the whole staff of the organization to which the centre belongs. There are also the various external publics, which are generally prioritised for services they will receive from the centre.

Both internal and external publics need to be taken care of as clients of the centre at various stages:

- stage of reception
- stage of service provision or product acquisition
- maintaining the contact already established in order to keep the user's loyalty.

With regard to training the public, trying to «*educate*» someone is always a difficult process, especially when that person does not feel compelled to learn. At this point there is a clash between what the information professional believes the user should know and the documentary knowledge the user is willing to acquire. In this context what has been said before about creating tools to access information which are not overly complex and boring to the user is extremely important. What we need to do is to provide tools which creates a situation where users have an agile relationship with information but do not have to be trained like information professionals to achieve this.

Some quality management principles should be applied with regards to the users, above all those who manage information centres should aim to measure the level of satisfaction users have with the services they receive from the centre. The centre should draw up simple, appealing and easy to fill in questionnaires and surveys which allow the users to express what they really feel about the centre and its services. These processes make users feel they are valued by the centre and they enable users to channel a complaint that otherwise might have not been stated or worse still might have been aired in public which might have had an extremely adverse effect on the centre. By hearing complaints the information centre can work to correct any problems and weaknesses in services.

Information professionals as communicators

As far as the sports information centre is concerned it is extremely important that those

who manage centres and work in them are trained in marketing and public relations and have the ability to communicate. As stated previously information centres should work within the context of their governing organisations and they should gain the clear and stated support of their management in undertaking marketing and public relations activities. With this support they should:



- act considering the centre as a part of a competitive business oriented to client satisfaction
- develop specialised products and services, according to the defined needs of users
- mediate in the process of accessing knowledge and advise on the quality and pertinence of the documents and information to be used.

GLOSSARY

(the words in italics refer to their definition in the glossary)

Abstract	Process of description of a <i>document</i> that involves condensing its contents under natural language.
Access to documents	Means for users to find a <i>document</i> in a library. Direct access: direct choice on shelves, or indirect access: choice, with the help of a <i>catalog</i> , of stored <i>documents</i> .
Acquisition	Process of obtaining previously selected <i>documents</i> . A management activity essential for the creation and development of the <i>documentary fund</i> .
Archives	Set of <i>documents</i> referring to the past of a service and stored out of active <i>classification</i> .
Bibliographic note	Or <i>bibliographic reference</i> : conventional set of information, derived from the <i>documentary analysis</i> and intended to provide a unique and precise description of the <i>document</i> , considered as a physical support of information. The note results from <i>cataloguing</i> .
Bibliographic reference	See <i>bibliographic note</i> .
Bibliography	Exhaustive or selective list of <i>documents</i> concerning a specific topic.
Bookmarks	<i>URL</i> addresses gained through the internet, selected and stored by a user who finds interest in them.
Boolean operators	AND, OR, NOT: terms that permit to combine among themselves several research criteria in order to select searched references.
Call mark	Set of signs and symbols used in view of locating a work on the shelves of the library, following a <i>classification schedule</i> . Each centre has its own call mark classification.
Catalog	exhaustive list of <i>documents</i> held by the information centre, presented according to a specific order: author, subject matter, title, etc. Furthermore, it provides the location of the <i>documents</i> included.

Cataloguing	Writing of all <i>bibliographic notes</i> necessary for the various <i>catalogs</i> , based on a standardised description of elements that allows for the identification of the work under consideration (ISBD).
CD-ROM	<i>Compact Disc-Read Only Memory</i> : standardised optical digital - compact disk (ISO 9660), unrewriteable and providing a large storing capacity (550 Mo) for all kinds of information (text, image, sound).
Circulation (circuit) of documents	See <i>documentary chain</i> .
Class number	<i>Documents</i> are filed according to their entry number within the <i>inventory</i> .
Classed catalog	<i>Documents</i> are filed according to their contents and following a predetermined <i>classification</i> .
Classification	<i>Documentary language</i> with <i>descriptors</i> allowing for the representation of concepts assigned to a specific domain. <i>Descriptors</i> are systematically arranged according to material or intellectual criteria (e.g. Dewey classification, Universal Decimal Classification, etc.).
Classification schedule	Filing cartography of the information centre's <i>documents</i> .
Classify	Process of filing <i>documents</i> according to a predetermined order so as to find them quickly upon request.
«Client-Server» architecture	Organisation method of workstations (generally microcomputers) in which processing is distributed among one or several computers called « <i>servers</i> » and computers called « <i>clients</i> ». Clients' software communicates with server(s) and carry out some tasks themselves.
Collection	Set of <i>documents</i> held by an information centre, whatever the support. See <i>Documentary funds</i> .
Computer server	In a <i>client-server architecture</i> , it is the central computer, used by a group of users (clients), that contains both the main data to be consulted and the information processing software.
Conservation	Means and methods of preserving patrimonial collections: rare, ancient and precious collections.

Conversational or interactive	Processing mode for communication between a computer and a user.
Copyright	Author's ownership rights. The © symbol indicates the owner of the author's rights and the year its was obtained.
Databank	Set of data, usually computerised, which process factual, numerical or textual information, directly available in the centre distributing it.
Database	Set of computerised <i>bibliographic</i> notes about <i>documents</i> physically stored in different places, organised in such a way as to allow for their easy consultation and updating.
Descriptor	Word or group of words selected among a set of equivalent terms, to represent a concept appearing in a <i>document</i> or in a request for <i>documentary</i> search.
Document	Any piece of knowledge or information source, presenting a certain unity concerning the form, whatever its support.
Documentary analysis	Process of describing a <i>document's</i> content in a condensed way. <i>Keywords</i> may be included into this notion.
Documentary chain	Structured and sequential set of <i>document</i> management operations. It includes: data collection, recording, <i>documentary analysis</i> , filing, <i>stacking</i> and diffusion of information.
Documentary funds	See <i>collection</i> .
Documentary item	Part of a <i>document</i> that is treated in a specific way either according to its physical unity (e.g. book chapter, congress papers), or to its informative one (specific subject).
Documentary language	Conventional language used by information centres to describe the contents of <i>documents</i> in view of their filing and their search upon demand.
Documentary profile	A <i>search statement</i> expressing the kind of information users would like to receive on a regular basis from a service of <i>selective dissemination of information</i> .

Documentary search	Methods and processes used to find the <i>sources</i> and <i>documents</i> that will respond to the request of information made by the user. See <i>Reference work</i> .
Documentary software	Computer program for information processing, created specifically for documentary tasks. There are two types: - integrated software: dealing with the set of documentary and library management applications. - dedicated software: conceived for a specific application of the <i>documentary chain</i> .
Dummy	Reference point which replaces a work temporarily missing on the shelf or withdrawn from access.
Electronic management of documents (EMD)	It concerns computer systems that provide storage-archiving and consultation-diffusion functions of digital documentary information.
E-mail address	Located by the @ symbol, it allows users to identify themselves in view of exchanging electronic mail on the <i>Internet</i> .
Empty words	Terms which are not taken into consideration in the creation of <i>index</i> files: articles, prepositions, etc.
Field	In <i>cataloguing</i> : elementary heading of information in a recording (e.g.: title, author, date, etc.). In computer systems: a <i>file</i> heading in a <i>database</i> .
File	In documentation: see <i>catalog</i> . In computer systems: structured set of data.
Financial balance	Management tool by means of which an interim statement of incomes and expenses can be set up during the financial year (or period).
Forum on the Internet	Collective interactive service on the <i>Internet</i> where everyone may express him or herself on specific topics. A moderator may manage it in order to maintain order and to control the type of transmitted messages.

FTP	<i>Files Transmission Protocol on the Internet.</i>
Grey literature	Unmarketed information, with a more or less restricted distribution and often with a limited print run: working documents, research or study reports, thesis, etc.
HTML	<i>Internet language for the description of page contents (formatting, images, tables, <i>hypertext</i> links).</i>
HTTP	<i>Internet protocol allowing users to retrieve a page in a server.</i>
Hypertext	Textual <i>documents</i> that, contrary to books read under linear way, allow for many ways of consultation, at the reader's choice. This one may use pre-established links among <i>documents</i> . This implies interactivity between man and machine.
Index	List of terms relevant for <i>indexing</i> . They are also used for <i>documentary search</i> .
Indexing	Process of describing a <i>document</i> by ascribing to it one or several <i>descriptors</i> that may be hierarchically linked.
Information follow up	A system, automated or not, for systematic control of <i>information sources</i> suited to a specific <i>profile</i> .
Information highways	Big flow interactive networks and their associated services.
Information services marketing	Set of processes and methods aimed at assessing the needs and values of the information centre's public thus helping the organisation to fully and efficiently satisfy those needs
Information source	Every person, institution and <i>document</i> that helps to provide an answer adapted to a need for specific information.
Interlibrary loan	System of standardised agreements that allows the participating libraries to obtain from a partner library a loan of a <i>document</i> they do not possess.
Internet	Global network created for data transmission and for computers and local networks interconnection, in off line mode.

Intranet	Secured network, internal to an organisation, that uses the various <i>Internet</i> communication protocols.
Inventory	Process of controlling the presence and location of <i>documents</i> on shelves, noting the missing ones and watching their state of preservation.
ISBD	International Standard Bibliographic Description set up by the International Federation of Librarians Associations (IFLA).
ISBN	International Standard Book Number. Number that internationally identifies every title or every title edition from a specific publisher.
ISSN	International Standard Serial Number. Number that identifies every title at international level.
Keyword	Word conveying a meaningful idea contained in the analysed <i>document</i> .
Knowledge base	Set of information concerning a specific knowledge domain and structured in such a way as to allowing for computerised consultation.
Listserv	Management protocol of the <i>e-mail</i> via <i>Internet</i> of a specific group of users which suggests to anyone to address a message to the whole list of users with only one operation.
Mailing list	Management protocol of the <i>electronic mail service</i> on the <i>Internet</i> for a group of users, which allows everyone to forward a message to all addressees in the list, in a single operation.
Marketing plan	Planning set up by the centre's manager for a given period (1 to 3 years), summarising the main objectives and fixing strategies to achieve them.
Microforms	Information storage support by means of photographic reproduction with an important rate of reduction of the <i>document</i> . The main ones are microfiches (discontinuous support) and microfilms (continuous support).

Modem	A device linking computers to a telephone network and adjusting the flow of computer signals to the bandwidth available on the channel.
Multimedia	System capable of simultaneously managing and processing computer data, sound (voice, music and others) and image (graphic or photographic, fixed or moving).
Natural language retrieval system	(or free language): Process of <i>documentary search</i> using current language terms as searching criteria.
New information technologies (NIT)	Generic term that refers to a set of equipment, processes and methods used for communication and information processing.
Noise	During a <i>documentary search</i> : set of irrelevant <i>documents</i> that appear in the answer.
OCR	Optical Character Recognition: process allowing for the automatic entry of a printed text with computer equipment (PC, Scanner and OCR software).
OPAC	Interface for general public's users to consult computerised catalogs of the information centre.
Periodicals management	Process of controlling the entries of periodicals.
Primary document	Original <i>document</i> prepared by its author.
Provider (of access)	Service provider who markets access to the <i>Internet</i> .
Quality control	Implementation of a policy aimed at mobilising all the staff in order to improve the quality of products and services so as to providing an economic and adapted solution to meet both explicit and implicit needs.
RDMS	Relational database management system: software which permits the treatment of a set of structured data.
Reference document	Primary tool for <i>documentary search</i> , it retrieves and organises available knowledge: catalogs and bibliographies, encyclopaedias and dictionaries, directories and guides.

Reference work	See <i>Documentary search</i> .
Search engine	Software which is available (or running) on the <i>web</i> and which sends programmes worldwide to visit sites and to retrieve those web pages that answer the user's request.
Search statement	Structured set of <i>descriptors</i> and <i>operators</i> meant to launch a request in a computerised documentary system.
Secondary document	<i>Document</i> referring to the <i>primary document</i> : catalog, bibliography, review of summaries, etc.
Selection	Choice of the <i>documents</i> an information centre wishes to acquire.
Selective dissemination of information (SDI)	Service for the regular provision, to a user or a group of users, of references of those <i>documents</i> corresponding to their interest, according to their <i>documentary profile</i> .
Server centre	Organisation that exploits a computer system aimed at providing direct consultation of data and/or use of services to a general or specific public.
Shared acquisition	Purchase method by means of which several information centres share the <i>acquisition</i> of certain <i>documents</i> (acquisition network).
Silence	<i>In documentary search</i> : group of relevant <i>documents</i> that have not been detected.
Stocking	Process that consists of filing <i>documents</i> in the best conditions of preservation and use.
Storage	Keeping of books which are not on <i>free access</i> .
TCP/IP	Transmission Control Protocol on the <i>Internet</i> to transfer data in connected mode and Internet Protocol for delivery of packages in unconnected mode .
Telematics	Set of services, techniques and methods using both telecommunications and computer technology.

Tertiary document	<i>Document based on primary documents and/or secondary ones: synthesis, report, review of questions, etc.</i>
Thesaurus	<i>Documentary language organised with terms linked by semantic and generic relationships that allows indexers to translate natural language into a controlled language (documentary language).</i>
Unimarc format	Format for international exchange of computer-readable bibliographic data, maintained by a committee of IFLA. It is also a format for bibliographic description of all kinds of <i>documents</i> .
URL (Universal Resource Locators)	Standardised and universal addressing mode for every web page on the <i>Internet</i> .
Users	Group of real, potential or hidden publics that might frequent and use the services provided by the sports information centre.
Value analysis	Method aimed at obtaining the best balance between the answer to the needs and expectations and the cost of the product or service.
Web	The «net» on the <i>Internet</i> : network of <i>multimedia hypertext</i> pages that permits to navigate (to surf the Internet) from page to page through a server or among servers.
Zone (of data)	See <i>field</i> .

USEFUL INFORMATION

International Association for Sports Information

An authority in the field of sports information and documentation

URL: <http://www.iasi.org>

Founded in September 1960 in Rome, the goals of the IASI are to stimulate support and develop activities in the field of international documentation and information for physical education and sport.

IASI is a unique international association which brings together a world wide network of scientists, documentalists, librarians, information experts and managers of sports libraries, information and documentation centres.

The IASI has set itself as principal aims:

- to coordinate and exchange information and experiences among the members centres: 176 coming from 70 countries, shared among 6 geographical areas: Africa, Latin America, North America, Asia, Europe, Oceania
- to assist and give advice on the planning, operation and development to new and developing centres
- to disseminate the results of the Association's work
- to develop and distribute an international database on sport and physical education: **SportIASI**
- to collaborate with other databases like the French **Heracles** and the Spanish **Atlantes**
- to publish a regular newsletter
- to organize an annual forum of experts and a Congress every 4 years.

For more information contact IASI's Secretariat at

IASI
c/o CLEARING HOUSE
Espace du 27 septembre, 4^e étage
Boulevard Léopold II, 44 - 1080 Bruxelles
BELGIUM
Tel: 02 413 28 93 - Fax: 02 413 28 90
Albert REMANS - Secretary General-Treasurer
mel: albert.remans@cfwb.be

You can also contact the Presidium Committee members

who represent the Association in each geographic area

Président of IASI

Mrs Nerida CLARKE
Director of Information Services
Australian Sports Commission
PO Box 176 Belconnen ACT 2616
AUSTRALIA
tel: 61 2 62 14 12 04 / fax: 61 2 62 14 16 81
e-mail: nerida.clarke@ausport.gov.au
URL: <http://www.ausport.gov.au/nsic>

IASI Vice Président Africa

to be replaced

IASI Vice Président Latin America

Mrs Esperanza BOBES RUIZ
Centro de Informatica del Deporte INDER
Via Blanca y Boyeros
Ciudad Deportiva
La Habana - CUBA
tel: 537 40 34 14 / fax: 537 33 53 10
e-mail: bobes@inder.get.cma.net

IASI Vice Président North América

Mrs Gretchen GHENT
University of Calgary Library, MLT 116F
2500 University Dr. NW
Calgary, AB CANADA T2N 1N4
tel: 1 403 220 60 97 / fax: 1 403 282 68 37
e-mail: gghent@ucalgary.ca
URL: <http://www.sportquest.com/naslin>

IASI Vice Président Asia

Mr ZHAO YAPING
China Sports Information Institute CSII
11, Tiyyuguan road
Beijing CHINA
tel: 86 1 701 22 33 / fax: 86 1 701 20 28
e-mail: csiixy@public.bta.net.cn

IASI Vice Président Europe

Mr Alain PONCET
Service d'Information et de Documentation
INSEP
11, avenue du Tremblay
75 012 Paris FRANCE
tel: 33 1 41 74 41 19 / fax: 33 1 48 08 19 60
e-mail: alain.poncet@wanadoo.fr
URL: <http://www.insep.jeunesse-sports.fr/documentation>

IASI Vice Président Oceania

Mrs Jill HAYNES
Manager National Sport Information Centre
PO Box 176 Belconnen ACT 2616
AUSTRALIA
tel: 61 2 62 14 16 79 / fax: 61 2 62 14 16 81
e-mail: jhaynes@ausport.gov.au
URL: <http://www.ausport.gov.au/nsic>

Bookstores/Booksellers/vendors

Advanced Book Exchange (USA):
<http://abebooks.com>

Amazon (USA): <http://www.amazon.com>

Barnes and Noble (USA):
<http://www.barnesandnoble.com>

Bibliofind, Great Barrington (USA):
<http://www.bibliofind.com>

Diaz de Santos (SP):
librerias@diazde.santos.es

FNAC (F): <http://www.fnac.fr>

Le Furet du Nord (F):
<http://www.furetdunord.fr>

Powell's Books (USA):
<http://www.powells.com>

Sportspages (UK):
<http://www.sportspages.co.uk>

Vendors - Monographs, AV, Serial Subscriptions, and CD ROM

Baker and Taylor (USA):
<http://www.baker-taylor.com>

Blackwell's North America (USA):
<http://www.blackwell.com>

Czwalina (D): Feldhausfhh@aol.com

Dawson (UK): <http://www.dawson.co.uk>

EBSCO (F): <http://www.ebsco.com>

James Bennett (AUS):
<http://www.bennett.com.au>

Ovid (USA): <http://www.ovid.com>

Schmidt Periodicals (USA):
<http://www.backsets.com>

SilverPlatter (USA):
<http://www.silverplatter.com>

Swets and Zeitlinger (NL):
<http://www.swets.nl>

Ulrich's International Periodicals Directory
(USA): <http://www.bowker.com>

Vendors - Document Delivery

Biblioteca de l'Esport (SP):
<http://cultura.gencat.es/esport>

INSEP - SID (F): <http://www.insep.jeunesse-sports.fr/documentation>

National Sport Information Centre (AUS):
<http://www.ausport.gov.au/nsic>

SPORTEExpress - SIRC (CAN):
<http://www.sirc.ca/docdel.html>

Andalouz Institute of Sport - IAD (SP):
<http://www.uida.es>



Bibliographic Union Lists/Databases

ATLANTES (SP): <http://www.sportcom.org>
or on the CD ROM SPORTDiscus distributed
by Ovid and SilverPlatter(see above)

HERACLES (F):
<http://www.sportdoc.unicaen.fr/heracles>
or on the CD ROM SPORTDiscus distributed
by Ovid and SilverPlatter(see above)

OCLC (USA): <http://www.oclc.org>

SPORT IASI: or on the CD ROM SPORTDiscus
distributed by Ovid and SilverPlatter(see
above)

SPOLIT: on the CD ROM distributed by
Czwalina (see above)



Publishers

Amphora (F): <http://www.ed-amphora.fr>

Chiron (F): casteillaedition@compuserve.com

Editorial Paidotribo (SP):
paidotribo@paidotribo.com

Gymnos (SP): editorial@gymnos.com

Human Kinetics (USA):
<http://www.humankinetics.com>

Inde (SP): editorial@inde.com

Oxford University Press (USA):
<http://www.oup-usa.org>

Revue EPS (F): <http://www.revue-eps.com>

Stadion Publishing Company (USA):
<http://www.stadion.com>

Verlag Karl Hofmann (D):
<http://www.hofmann-verlag.de>

Vigot/Maloine (F): <http://www.vigot.com>

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