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**TITLE**

A MODEL OF A DEFENCE INFORMATION SERVICE AS SEEN BY THE USER

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A MODEL OF A DEFENCE INFORMATION SERVICE  
AS SEEN BY THE USER

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SUMMARY

This Paper describes the characteristics which make up a typical defence information service in the mid 1980s. In outlining its goals, organization, facilities and services, the differences between a defence information service and a traditional library are highlighted. As a systematic manager of information needed by a nation's defence community in support of research and development, this service has requirements over and above those of a library in types of information collected, in furniture and equipment, and in variety of services offered.

Services provided by defence information agencies in the identifying, acquiring, organizing, subject analyzing, announcing and disseminating of recorded knowledge are illustrated through a number of mini-scenarios describing typical situations in which a potential user of a defence information service may find himself. The paper concludes with some suggested areas, such as expert referral, where many defence information centres are expanding their services.

INTRODUCTION

A defence information service is, as its name implies, a service which provides to the defence community, both military and civilian, of a particular country or organization the information, both current and background, required to carry on its day-to-day activities and to plan for the future. It should not be confused with a traditional library which deals mainly with published information, because the bulk of material of interest to the defence community is in the form of unpublished technical reports often in a format other than paper copy and with security or proprietary restrictions. This obviously affects the operations of a defence information service in almost every aspect. This paper will consider the characteristics of a national defence information service serving the needs of a small to medium-sized country's defence community in support of research and development. The viewpoint is that of the user, who may be a scientist, planner, engineer, researcher, military or civilian officer or manager, contractor or other qualified individual.

CHARACTERISTICS OF A DEFENCE INFORMATION SERVICE

A national defence information service has most of the characteristics of a modern library: it holds in its collection books, periodicals, and conference proceedings. The bulk of the documentation handled by such a centre is, however, in the form of technical reports. These may be in paper copy or on microform and have security classifications up to Secret and in some cases Top Secret, or other limitations based on the requirement for a need-to-know, or reason why it would be beneficial to the originator to release the document in question to the requester.

As with a traditional library, the functions of a defence information centre are to identify, acquire, organize, announce and disseminate - in this case, defence-related information. Depending on the availability of external library services in peripheral subject areas such as management, personnel, training etc., its activities may be expanded into these fields as well.

Driven by its user community's specialized requirements, the services offered by the experienced information handlers staffing a defence information centre are numerous. The more visible, flashy reference services using video display terminals or microcomputers with hard copy printers to access millions of bibliographic and directory type records and perform complex permutations and combinations of terms and concepts are no more numerous than the behind-the-scenes tasks of verifying, acquiring and indexing items for the centre's collection.

This model will give a brief, user's-eye view of the various services both visible and behind-the-scenes of an information centre. Later papers in these proceedings will discuss each aspect in more detail, so this is merely an overview.

SERVICES PROVIDED

What services could you, as a new employee approaching your defence information centre for the first time, expect to receive from the experienced information handlers staffing your centre? The list is extensive but I have chosen a few mini-scenarios to give you an idea of the broad range of queries handled by a typical defence information centre:

Identification:

## Example I

## Problem:

You have just been appointed to a post as engineer in a pyrotechnics laboratory. This is a new subject area for you, and on your first day you discover that your supervisor is ill and will not be at work that day. He has left a note with his Secretary suggesting that you have a look at the Pyrotechnics Handbook published several years ago by BRL. You and the Secretary look in his office but cannot find the book, and neither you nor she knows what BRL stands for.

## Solution:

You must start with your defence information centre! A visit to the centre on your first day is a good idea anyway. When you arrive, the librarian or information specialist of this model defence information centre will show you around and explain the vast range of services offered and procedures to follow. Because you have a particular problem, she will pass you to the Customer Services Specialist who will help you with this query.

This query is an example of "identification", one of the more visible functions of the model defence information centre. This trained information handler at the Customer Services desk, who is a senior clerk or library technician, immediately knows that BRL is the U.S. Ballistics Research Laboratory, and determines that the centre holds a copy through checking in the online catalogue. He refers you to a clerk who retrieves the item from the shelves and loans it to you for two weeks.

I have used the term "identification" to describe the initial procedure of becoming aware of an item of interest through reading a review or abstract, seeing the item referenced in a bibliography or hearing about it from a colleague. If the item is not held by the centre, identification also entails determining the full bibliographic details so that it may be ordered. The identification can take place either within the centre or through input from you the user of the centre.

There are two sub-tasks involved here - becoming aware of the item and obtaining its bibliographic details. The first can occur through reading review journals, subscribing to a Selective Dissemination of Information (SDI) service, scanning of publishers' brochures or library/information centre accessions lists. For each of these ways of becoming aware of an item, the second sub-task - the obtaining of its bibliographic details - is usually quite simple as in general, relatively complete information is provided in the review or listing. Whenever you have only partial information about an item identification can be extremely difficult. This task has been made less onerous in recent years for all information providers but especially for the small unit which cannot afford to invest in expensive reference tools. With the advent, in the late sixties and seventies, of automated retrieval systems available to those with sophisticated retrieval equipment capable of communicating with them, the first stage of easy access had begun. The eighties have seen the modernization of this equipment, improvement in communication links, and proliferation of databases and systems such that, with the expenditure of a relatively insignificant portion of even a small country's defence budget, a centre may utilize a microcomputer or terminal to access millions of records and perform sophisticated, complex searches to identify obscure references. With these modern techniques, you should be able to identify most references to published books, conference proceedings, unclassified journal articles, patents and formal US government documents. The identification or verification problems occur with limited distribution or classified technical reports, standards and specifications - those forms of information most common in a defence information centre. Experienced information handlers, however, have developed special techniques for determining appropriate channels through which to obtain many of these difficult-to-identify forms of information.

Acquisition

## Example II

## Problem:

You are again the new pyrotechnics engineer. A few weeks later you read in a new journal that BRL has just issued a revised version of the Pyrotechnics Handbook. You have found the old one very useful, but it is twenty years old, and new techniques have evolved.

## Solution:

Another visit to your defence information centre with a copy of the reference to the new handbook! This time, because the publication is so new, and the centre has probably not yet ordered it, you are referred to the Acquisition Department. The clerk must first identify the item, but if the journal reference is complete, this may be sufficient. An order is generated and within a few weeks you have your new handbook.

Once items have been identified as desirable and not already in the collection, the defence information centre swings into a behind-the-scenes step in the build up of its resources - the Acquisition process. There are many ways of acquiring information resources - the traditional library method of purchase, either directly or through a jobber, is the most common for published books, conference proceedings or journals. Some journals are obtained as a result of membership in a society. In the

defence community many countries have signed memoranda of understanding or have negotiated agreements with each other which involve the exchange of defence information. Through these channels countries deposit in the other country's defence information centre copies of certain of their reports as they are produced, and regular announcement bulletins from which the recipient country may request other reports not sent on initial distribution.

#### Organization:

##### Example III

##### Problem:

You are a desk officer superintending the country's military aircraft research contracted out to industry. Your chief has received a query from an aviation historian who is compiling a history of an ill-fated experimental flying saucer-like aircraft developed during the nineteen-fifties by an aviation firm under contract to your government plus the US and UK governments. The firm ceased to exist over twenty years ago.

##### Solution:

Go to your defence information centre! There a reference librarian searches their catalogues and indexes under the name of the firm, the contract numbers, the names of each of the projects and experimental craft, authors who are known to have worked in the area and other appropriate subject terms. The reports are collected. As most of the work was classified or proprietary at the time it was written, you and the defence information centre staff member work together to sort the material by controlling agent - that is, the agency currently responsible for the security classification, proprietary information, or other limitation. You, as your country's authorized representative, can survey those documents originally produced solely under your government's authority. Others, however must be referred to the appropriate foreign government or aviation firm which took over the assets or responsibilities of the now-defunct company. Your defence information centre has contacts and experience in handling similar requests, so is able to process these requests for current security classification and release limitations. Between you, this request is handled as efficiently as possible given its complexity.

The first two examples dealt with activities of a defence information centre in order to obtain available information. Information you have obtained, however, is not of much use to the defence information centre if it is not organized in such a way that users of the centre other than the person who obtained it or for whom it was ordered are aware of its existence. This is illustrated in Example III. This organizational activity can be as simple as stamping the item and filing it on the shelf by author or source, or as complex as an automated on line cataloguing or indexing system with multiple access points and full abstracts, or any stage between. This model information centre does extensive subject analysis of the reports they receive, including the preparation of abstracts where the author has not done so, and inputs them to an automated system. The organization of the collection is thus highly developed.

Because of the limited availability of much defence-related literature leading to the inability to replace a document which is lost, many information centres find it useful to maintain a copy of all the documents in their collection on microform - usually 105 X 148 mm microfiche. The maintenance of a collection on microfiche has many advantages for the information centre: microfiche is compact to store, inexpensive to duplicate (both materials and staff time) and economical to mail. Many information centres also collect series of technical reports on microfiche. Although user resistance to use of microfiche continues to be of concern to information professionals, it is by far the most economical way to maintain access to a large volume of information. As well, modern microfiche reader-printers can produce paper copies as good or better in quality than the "original" which was filmed to produce the fiche.

#### Announcement

Once there is access to an item or to a number of items which make up a collection, the more visible aspects of a defence information centre's activities come to the fore. The first of these is announcement. If the organization of the collection is automated, it is a relatively simple matter to produce a regular listing, arranged as desired, whether it be by subject, source, author or some other method. Selective Dissemination of Information (SDI) services whereby a user's interest profile is compared against a tape of newly acquired or listed items, and a printout giving full bibliographic details for all which satisfy his subject requirements, is another highly visible service of this model automated information centre. If, on the other hand, the "organization" is in the form of unit catalogue cards filed by subjects, authors, sources, etc., an equally effective announcement bulletin may be produced by photocopying copies of catalogue cards for newly-acquired items arranged appropriately. The simplest form of announcement service, given the availability of a photocopier, is to photocopy title and contents pages to circulate to interested clientele. This method has the added advantage of being applicable to items such as individual periodical issues which may not be separately indexed.

#### Dissemination

Dissemination tasks in a defence information centre include, among others, the highly visible activities of reference and document delivery services.

## Example IV

## Problem:

You are an officer in the directorate responsible for the administration of patents. You receive a query from a laboratory concerning the patenting of a technique for using monoclonal antibodies in the area of burn immunology. You suspect there may have been similar techniques already patented.

## Solution:

Telephone or visit your defence information centre! A search of the subject databases by document type "patent", or the patent databases by subject will provide you with bibliographical details and often abstracts for patents in that subject area.

## Example V

## Problem:

You have been asked to present a paper at an international conference. Your topic is the military applications of artificial intelligence.

## Solution:

Your first step is a visit to your defence information centre. There a librarian discusses with you the exact nature of your request, obtains from you suggested synonyms, specific authors and corporate sources working in the field. Ideally, you would then sit down with him while he interrogated the various databases. From references retrieved you tell him which look useful and from those you may find additional sources or subjects to search. The end result is a comprehensive bibliography with abstracts which you may use as a basis for your paper. Obtaining the items you wish to see in full form then becomes an Acquisitions function.

Reference services or user's services take many forms in different types of information centres. The query may be as simple as providing the address of a potential contractor, or looking up a term in a dictionary. It may however, be a detailed bibliography or state-of-the-art treatise involving developing complex search strategies and accessing databases totalling many millions of records, including the centre's own holdings. With the ready availability of communication networks, relatively low-cost equipment, and the development of sophisticated but user-friendly bibliographic services, this latter service is by no means unrealistic for even small information centres.

Document delivery functions in a defence information centre include the standard library activities of internal and inter-library loans. When countries participate in defence information exchange arrangements, the defence information centre is often the agency through which the country's defence documents are distributed among their exchange partners - another document delivery function. Because of the diversity of types of material in a defence information centre, for example technical reports on microform and standards and specifications collected in binders, document delivery activities in a defence information centre also include the provision of photocopies or microfiche copies in lieu of loans.

The foregoing sections have, through examples, briefly described the major working level activities carried on in a model defence information centre. This centre, however, would have no focus in providing services to its clientele without a number of managerial activities performed by the administrators of the defence information centre - both the managers within and the higher level staff to whom the head of the centre reports.

It is not the task of this paper to describe in detail the planning, the directing, the evaluating, the coordinating, the policy making or recommending that goes on behind the scenes of every library or information centre. They will be covered by later papers.

Other administrative functions which may have different emphases between a traditional public or university library and defence information centre are those involved with resource management.

HUMAN RESOURCES

The people you will meet in this model defence information centre include, as in a traditional library, both professionals (who are usually librarians or information scientists), and clericals or other office support personnel. There may also be semi-professional library technicians and micrographic technicians. In general you will find these staff to be highly competent because managers have found that, when selecting personnel for a defence information centre it is important that due consideration be given to the variety of tasks to be performed and the probability that insufficient staff will be allocated to the centre to be able to accomplish all these tasks with ease. The staff must therefore be flexible, have initiative, and above all be responsible. This last characteristic is especially relevant in a defence information centre because of the possibility of international implications should a security breach occur.

PHYSICAL RESOURCES

As is the case with any library or information centre, if a defence information centre is to serve its clients adequately in all aspects of information handling, its location will have been

chosen with care in order to optimize the conditions of adequate space for its collection with room for expansion, seating and study areas for users and sufficient special purpose space for such equipment as computers, microfiche cameras, processors and duplicators and floor loading for book stacks and microfiche storage. In the model defence information centre, where much of the information handled is security classified, a user may find that the item or items he is particularly interested in are stored in a safe or vault, and accessible only to defence information centre staff. Open stack areas, which are found in many public and university libraries, are virtually non-existent in defence information centres, except possibly for books and commercial periodicals. This must be balanced against ease of accessibility for users of the centre.

In addition to location, an important fact in physical resource management is the provision of adequate equipment for full utilization of all formats of information. In this modern defence information centre, providing the full range of services to its clientele, you will see at least one photocopier, microfiche reader/printer, several microfiche readers, at least one video display terminal/printer, several electrical/electronic typewriters or word processors, possibly a mini- or one or more micro-computers, a microfiche camera, processor and duplicator, a collection of books, reference tools, research journals, technical reports in hard copy and/or microfiche, standards and specifications.

#### FINANCIAL RESOURCES

These will be covered in a later paper but to state briefly: Because of the number of exchange arrangements through which documents are deposited in foreign defence information centres with relatively little or no money changing hands, the proportion of a defence information centre's budget spent on the collection is significantly less than in a traditional library. This fact should not be taken by administrators as a justification to cut their centres' total budget because, as I am certain my fellow information handlers will agree, the money not expended on the collection is more than eaten up by that required for specialized equipment and extra staff time needed to identify "hard-to-find" references.

#### NON-TRADITIONAL SERVICES

Many defence information centres have expanded their services into non-traditional areas. Expert referral, the maintenance of a file (either automated or manual) of areas of expertise to which users may be referred for more detailed knowledge and assistance with their queries, is one; editorial assistance in the production of technical reports is also provided in many centres; still others act as centralized agencies for preparing or arranging for translations of sci/tech publications.

#### CONCLUSION

In his "futures" book "Megatrends" first published in 1982, John Naisbitt stated that scientific and technical information was increasing at the rate of 6 to 7,000 articles per day, or 13 percent per year, which means a doubling every 5.5 years. With statistics such as this, it takes no expert to see the necessity of a centralized information handling mechanism in any organization, whether it be a small company or a country-wide defence community. You, as a user of defence scientific and technical information are encouraged to make the fullest use possible of your defence information centre, to use whatever influence you have to improve its funding and to broadcast its services among your uninitiated colleagues.

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