

Empowering clientele – current awareness on the Internet

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Abstract

The clientele of information services should be enabled to fully exploit current awareness services (CAS) on the Internet to their own benefit and also that of the larger organisation. Services available via the Internet have added to the importance of current awareness, the meaning of the concept of CAS and the purposes served by CAS. Empowerment requires commitment by both parties (information services and their clientele), a supportive environment, a clear idea of the outcomes to be achieved and a new attitude to the training methods and opportunities to employ. The planning of CAS empowerment programmes within the familiar constraints on information services is considered. Aspects clientele should know about Internet CAS are identified, the role of the information specialist is considered and a few suggestions are made about the implementation of empowerment programmes.

1 Introduction

Timely access to appropriate, quality information is often associated with power, progress and prosperity. With the growing number of individuals with access to information via the Internet, this perception will increase. Information services can either continue to focus on training clientele (also called end-users) to search for their own information, or they can take a proactive step towards empowering their clientele to use the Internet. The latter presents abundant possibilities for current awareness, and should be used in conjunction with other traditional and electronic methods of current awareness services (CAS) and also services providing for retrospective searches. (The latter concerns searches for particular periods, e.g. the last five or 10 years, or the last six months.)

The purpose of this paper is to take a holistic look at empowering the clientele of different types of information services to use the Internet as well as more conventional sources for current awareness. There are many obstacles and constraints to overcome in such an empowerment effort. However, in my opinion, the benefits it may have for individual clientele, the wider organisation or society in which the clientele find themselves as well as for information specialists, warrants the effort. The empowerment of clientele is important not only from the users' point of view; it is also an important survival skill for information specialists and information services (Kirby, Liddiard & Moore 1998:8).

The following aspects will be addressed in this paper:

§ the concept of empowerment and how it can relate to current awareness

services (CAS)

§ the need for CAS and the change in emphasis brought about by services available via the Internet

§ examples of CAS available via the Internet and the knowledge and skills required to use these

§ aspects to consider in a current awareness empowerment programme, such as the analysis of the target group, knowledge and skills to include, learning opportunities and support

§ a selection of suggestions for a CAS empowerment programme

1.1 Background

With the arrival of the Internet to the sphere of people's daily lives, there is a new emphasis on the importance of staying abreast of new developments and the methods of doing so. Changes in the global society, new educational methods, the emphasis on lifelong learning, greater pressure for job performance, electronic business methods, changing communication methods and many more all stress the need for individuals to keep track of developments and to adapt accordingly in good time — in other words, they all emphasise the need for current awareness. This "need" applies to job-related as well as more personal facets of life.

CAS have long been used by information specialists as a method of keeping selected groups of their clientele up to date with new information. As early as 1978 Martha Williams (1978) stressed the need for CAS. Due to cost factors and the complexity of some of the electronic CAS methods, they were mostly used only in special libraries and to a lesser extent in academic libraries. The more traditional methods such as accession lists, bulletins, displays and newspaper clippings were, however, more generally used.

Clients' taking responsibility for their own current awareness could be seen as an extension of end-user searching — the value of which has been debated about for many years in Information Science literature. As early as 1979 Meadow (as quoted in *End-user searching* 1990:vii) questioned the assumption that professional intermediaries would continue to perform actual online searching on behalf of end-users. Many studies have since been conducted on the feasibility of end-user searching (e.g. Mischo & Lee 1987; Brody 1993) and the possibility of disintermediation (Alan 1996; Edwards, Day & Walton 1996). Many of the inhibiting factors are still the same, for example the clientele do not understand the search process properly, they are not familiar with the sources or they do not evaluate the search results adequately (Tenopir 1997). There are also clientele who do not have the time or the interest to search for information on their own. Training clientele can be very time-consuming and information specialists are not always equipped for this task. The latter situation is, however, starting to change as a result of the emphasis on information specialists' acting as trainers and the need to acquire the necessary skills (Allen 1996; Barry 1997).

Accepting the above-mentioned as realities that cannot be disregarded, I would like to argue that in view of the benefits offered by CAS, information specialists should hasten to not just train but also empower their clientele to use the Internet (as well as other available methods) for CAS. Given the vast array of information made available via the Internet, as well as the increasing efforts of commercial vendors to market their CAS services, the point of departure of this paper will be that CAS are an absolute necessity for each individual with access to the Internet. The exploitation of CAS by clients — whether in an academic environment, specialised organisation, public library, or even school library — is considered essential. Since more information is available for free (that is if you have Internet access), more people are aware of developments. It is no longer only the elite who can pay for information who are able to keep abreast, but also

the people with the skills and know-how.

1.2 CAS and information services

Much has been published on CAS, the methods to be used and how to implement such services (Hamilton 1995; Rowley 1994). Earlier works focus mostly on the more conventional methods as well as the Selective Dissemination of Information (SDI) (e.g. Kemp 1979; Rowley 1985; Whitehall 1982). More recently electronic current awareness methods and especially table of contents services have been discussed in the subject literature (Cox & Hanson 1992; Davies, Boyle & Osborne 1998; Deardorff & Garrison 1997; Hanson & Cox 1993; Hentz 1996; Mountfield 1995; Sale 1996). Marchionini (1997) also stresses the role digital libraries can play in the selective dissemination and filtering of information. Van Brakel and Potgieter (1997) consider the use of World Wide Web bulletin boards to enhance CAS. Rowley (1998) refers to the opportunities provided by new CAS services. The new services are changing the concept of CAS since some of them update information on a daily basis: "Many of these developments herald a very much enhanced availability of current information and users may keep themselves reasonably aware of developments by selecting an appropriate range of authoritative sources and scanning these on a regular basis" (Rowley 1998).

The Faculty of Information Studies at the University of Toronto offers an excellent course on CAS and the Internet. The course was developed by Gwen Harris and Sandra Wood and is offered online. The course is available for information specialists as well as end-users and contribute to end-users being trained in CAS and the Internet and how to update themselves on developments.

Apart from discussions of specific Internet CAS services (e.g. Brody 1997; Gustitus 1997; Klingener 1997; Makulowich 1997; Ojala 1997) and the contributions already mentioned, I could trace no holistic view on offering CAS via the Internet and the empowerment of end-users in this regard. Although much can be learned from the literature already mentioned, it is also necessary to take a wider perspective. Apart from literature on the training of end-users, this paper therefore also draws on insights from experiential learning, adult learner theory, information literacy, instructional design, and organisational and motivational theory. I will use these insights to consider the *possibilities* for empowering clientele for CAS.

1.3 A framework for CAS empowerment programmes

Before making suggestions on a CAS empowerment programme, let us consider a number of aspects, such as the concept of empowerment, current awareness, CAS and their benefits and the factors that may hinder such programmes. (Empowerment and CAS will be considered in sections 2 and 3.)

Although sound arguments may be advanced for CAS empowerment programmes, individual information services will have certain realities to consider. These include

- § a lack of interest from clientele as well as management
- § clientele with insufficient time available
- § a lack of interest from the information service staff members who will be responsible for the programme
- § information service staff members with insufficient skills and expertise in CAS or training
- § insufficient time and resources (e.g. to use commercial services)

Although these are all extremely important, I will not consider their impact and how to

deal with them in this paper. My assumption is that each information service will deal with such factors appropriately.

2 What are current awareness and current awareness services (CAS)?

The need to keep abreast of new developments has been recognised for a long time. The term "current awareness" was coined to describe the state of keeping up with new developments.

Current awareness services were developed that aimed at delivering the

right information, to the

right user, at the

right time, in the

right format, covering the

right sources, at the

right cost, and with the right amount of effort to keep users up-to-date

The original or traditional definitions of CAS emphasised that it is a system or publication: "... for reviewing newly available documents, selecting items relevant to the needs of an individual or group, and recording them so that notifications may be sent those individuals or groups to whose needs are related" (Kemp 1979:12). Hamilton (1995:3), however, stresses that it is a service providing information on the latest developments and that it covers subject areas or other interests that the client needs to know about: "... a service which provides the recipient with information on the latest developments within the subject areas in which he or she has a specific interest or need to know."

Selective Dissemination of Information (SDI) services are a CAS method which is closely linked with the use of electronic resources. SDI is considered an automatic process and if done manually, it is called periodic updating. The terms "alerts", "alerting services" or "CAS-IAS" (current alerting service — individual article supply) are also found in the literature (Davies *et al* 1998:37).

2.1 How have CAS been changed by the Internet?

A whole new selection of CAS-related options are offered via the Internet. These go under different names (e.g. tables of contents services, push technology, Webcasting, intelligent agents, ezines and newswires). Some of the services are available for free or at a modest fee, while others are fairly expensive and definitely aimed at the corporate market. Some services provide automatic notification, for example via e-mail, while others require clientele to visit their sites on a regular basis. CAS services available via the Internet include the following (I have not attempted to provide an extensive list, and these services will not be dealt with in detail):

2.1.1 CAS available via the Internet

§ Tables of contents services (e.g. British Library Inside, Carl Uncover, SwetScan CISTI, Elsevier ContentsDirect, Information Express, Information Quest). These allow clientele to scan the table of contents of new as well as back-dated issues of journals. Clientele are mostly

automatically notified.

§ Book alerting services (e.g. Amazon.com). Clientele can subscribe to broad categories of topics.

§ Ezines or electronic newsletters (e.g. Current Cites, PortalSeek, The Internet Scout Project, Search Engine Report, *Online* or *The electronic library*). Some of these are available for free, while others make only the journals' tables of contents and selected articles available. All the articles are, however, available online to subscribers to the journal or newsletter. One can also subscribe to some of the newsletters and have new items delivered via e-mail (e.g. Search Engine Report and Net-Happenings from The Internet Scout Project).

§ Filtered news: Newswire services provide filtered news services or personal Web services. Examples include Crayon, and portal services such as MyYahoo and My Excite Channel, NewsPage, NewsAlert and Inquisit.

§ Push services or Webcasting: Push services are mostly associated with the use of information channels, for which the client needs to load special software. Push services let you decide on the content sent ("pushed") to you regularly. Pointcast is an example of push technology. Browsers like Microsoft's Internet Explorer 4.0 and Netscape also include push or Webcasting technology. Push technology can also be very useful for intranets.

§ Agents are programmes that learn from what you do while you are on the Internet. They remember the topics you searched on, notice the types of information resources you prefer, et cetera. There are different types of systems based on agents, such as recommendation systems (e.g. Amazon.com which recommends books and music titles; Alexa), adaptive systems (e.g. Wisewire) and notifiers (e.g. Net Minder's MindIt, The Informant, TracerLock and Daily Diff from Ingenius).

§ Newspapers and broadcast news: There are numerous online newspapers (e.g. *New York Times*, *The Times* of London and local newspapers such as *The Sunday Times* and *Daily Mail and Guardian*), meta-indexes to search newspapers (e.g. AJR Newslink and Internet Public Library: Online Newspapers), newswires (e.g. those provided by services such as Yahoo and Excite) and audio news (e.g. World Radio Network and Daily Briefing).

§ Commercial SDI or alerting services: These services have been offered by database vendors such as Dialog for many years, and are now also available on the Internet. SilverPlatter, UMI and many others also offer SDI or alerting services.

Apart from what I have mentioned, bulletin boards, Usenet groups and listservs can also be used to keep track of developments. CataList (an official catalogue of LISTSERV lists), Directory of Scholarly and Professional E-Conferences or IFLA: Internet Mailing Lists can, for example, be used to identify listservs and discussion groups.

Numerous sources (e.g. NewsAlert, MetaPlus News and Yahoo News) can be used to keep track of CAS — which turns it into a very challenging task for information specialists. Search engines such as Alta Vista, Yahoo, Northern Light and Hotbot can also be used to search for CAS in a specific field of interest such as information science or distance education. In a CAS empowerment programme it is the responsibility of the information specialists to track the CAS services, to evaluate each and to make

recommendations according to user needs.

2.1.2 A new definition of CAS

With the new range of services offered via the Internet, I would like to propose that the definition of CAS be expanded so that they can be seen as: a selection of one or more systems that provide notification of the existence of new entities added to the system's database or of which the system took note (e.g. documents, Web sites, events such as conferences, discussion groups, editions of newsletters). CAS automatically notify clientele or allow clientele to check periodically for updates. The entities can be specified according to clientele's subject interests or according to the type of entity (e.g. books or newsletters).

2.1.3 Aims of Internet CAS

With the Internet, there has also been a shift in emphasis in the aims of CAS when compared with the aims mentioned earlier.

§ Many of the services provide very useful information — but the information requires further filtering.

§ The services are not tailor-made for specific target groups nor do they support their specific needs; they have a more general target audience as compared with traditional methods such as bulletins, accession lists or SDI profiles which are run against databases such as ERIC or Chemical Abstracts.

§ Some services allow clientele to specify the frequency of updating (e.g. daily or weekly), while others have fixed periods of updating.

§ Sometimes there are limited or no options for the format of information (e.g. full record, bibliographic detail).

§ Most services are either linked to document delivery systems or provide immediate access to relevant Web sites where the full document can be found.

§ As regards cost, some of the services are available for free, while others are available commercially.

§ Most of the effort involved in using the Internet CAS will be in setting up the interest profile or search profile (i.e. the specifications of what needs to be searched), and in filtering and organising the information for future use.

2.2 What benefits do CAS via the Internet offer in addition to the traditional benefits?

An essential part of empowerment and the marketing of CAS is to inform clientele about the benefits offered by CAS. With the services offered by the Internet, there has been a slight change in the traditional benefits of CAS. The traditional benefits are discussed by amongst others Hamilton (1995), Kemp (1979) and Whitehall (1982). The following list includes some of the benefits offered by Internet CAS:

§ keeping track of new developments in a particular field(s) of interest

§ keeping track of new Web sites, discussion groups (listservs, Usenet

groups), publications (e.g. books)

§ keeping track of *trends* in a particular field of interest (e.g. by means of the tables of contents of journals)

§ keeping track of new research projects in order to react timeously

§ keeping track of Internet-related developments (e.g. search engines)

§ taking note of daily news events of interest (e.g. as reported in newspapers)

§ taking note of developments by competing markets (e.g. changes to a company's Web site)

§ having intelligent agents learn from your preferences and filtering information accordingly

§ receiving customised information on things like the weather report

§ keeping track of new documents added to a database, or of which it took note (e.g. records in a database such as ERIC, or new sites indexed by a search engine)

Internet CAS can be used for job-related, academic as well as personal interests — often without any extra costs being involved.

3 What is empowerment?

Bibliographic instruction, user education and end-user training are well covered in the Information Science literature, and can be seen as the forerunners to client or user empowerment (Craver 1997; Dupois 1997; Dutton 1990; *End-user searching...* 1990; Lavery 1997; Sayed 1998; Sreenivasulu 1998). Although the literature refers to user empowerment (Rubens 1991; White 1992), there are not exact guidelines on how this should be achieved. Kirby *et al* (1998:1) in their book *Empowering the information user* define empowerment as "... providing users with the necessary skills to find and exploit information that they need for work, study and leisure." According to them, empowerment is not simply providing the information users with instructions to carry out a specific task, but help them find and develop a range of transferable skills that are essential in the information age. They also view empowerment as an attitude. Clientele cannot, for example, be forced to use CAS, but they can be *influenced*.

The Concise Oxford dictionary (1982:317) provides the following explanation of empower: authorise, license (person to do); give power to, make able (person to do). According to Vogt and Murrell (1990:8): "... the verb to *empower* means to *enable*, to *allow* or to *permit* and can be conceived as both self-initiated and initiated by others". The idea behind empowerment is that A can influence or affect B so that A and B's interaction produces more power or influence for both of them. The results of empowerment are that the recipients view it as beneficial (Vogt & Murrell 1990:9). The exercise should therefore be to the mutual benefit of all parties. This is especially important in the light of the implications an empowerment programme may have for the information service and which may warrant the extra time, effort and other resources such a programme may require.

Based on the contributions of Kirby *et al* (1998), Vogt and Murrell (1990) and Tate (1992) I have made the following assumptions about empowerment as well as the implications it may have for an empowerment programme for CAS:

Empowerment means that people are provided with the

§ environment (including an organisational climate stressing the importance of current awareness)

§ proper tools (including access to appropriate sources [gratis as well as paid for])

§ resources (including staff, equipment, training programmes)

Empowerment

§ is influenced by social, economic and political changes (of which the Internet is but one example)

§ requires a total change of attitude from all parties involved (The larger organisation, information services and the clientele must all accept the importance of CAS and the need for clientele empowerment in this regard.)

§ requires a willingness to empower and to be empowered (Empowerment can only succeed if both parties are committed, positive and motivated — empowerment programmes take time and effort to succeed.)

§ can be initiated by the organisation (e.g. the library or information service) or by the clientele themselves (They can request training and support for their CAS.)

§ involves knowledge and learning (Certain skills need to be mastered — more about this in section 4.1. Learning methods and opportunities that will support empowerment should also be included.)

§ should enable clientele to contribute at a higher level (They should be able to contribute to their own current awareness.)

§ the process of empowerment and its context must be clear to the individual, who must be self-confident and competent (This includes a knowledge of the benefits of CAS, the purpose of empowerment and its ultimate aims.)

§ should be directed by clear goals and outcomes (The clientele as well as the information specialists should know what they want to achieve — and they should be in agreement on this.)

§ content must be relevant (Whatever is included in the empowerment programme should be relevant to current awareness and the clientele's specific needs.)

§ should take place in a supportive climate and atmosphere (Information services will need to provide support in terms of training and advice as well as guidelines on the compilation and adaptation of interest profiles.)

§ should allow individuals to learn at their own pace (It is therefore more than a mere training programme, and should allow for gradual growth.)

§ should actively involve individuals (Clientele should not just be introduced to CAS — they should be supported in using it.)

Unlike bibliographic instruction, end-user training programmes or training sessions for the Internet, empowerment should be seen as a process, which cannot therefore be concluded after a single training session. It should be viewed as an ongoing process directed by certain outcomes. The latter should be carefully determined with the client, and should be based on a clear understanding of current awareness, CAS and what they offer.

I propose that CAS empowerment programmes should focus on enabling clientele to become confident users of a variety of CAS, as well as effective finders of information and users who realise the power of information. Empowerment programmes should include a supportive environment as well as appropriate training opportunities. The actual design of such a programme should be based on the needs of informed clientele. (Clientele should be informed about the use and benefits of CAS.)

4 What does a CAS empowerment programme entail?

Embarking on empowerment programmes requires energy, time and money. The benefits, purposes and resources should therefore be carefully considered. Kirby *et al* (1998:60) declare: "In order to ensure the necessary resources, there needs to be a climate of approval for empowerment."

A first step would be to analyse the immediate environment to determine the needs of the organisation and clientele, and to link this to an active "marketing effort" of CAS. Sale (1996) also stresses the importance of providing CAS according to the needs of clientele. Information specialists are familiar with various techniques for gaining information on users' needs (e.g. interviews, structured questionnaires). In the case of CAS, the process is called user profiling (Hamilton 1995:9-17) or compiling interest profiles. Kirby *et al* (1998:9-16) mention monitoring enquiries, doing surveys, obtaining comments on feedback forms, listening to clientele and anticipating future needs. Information gained from these is also important for the selection of appropriate services.

4.1 What should clientele know about CAS?

There are a number of things that clientele should know about CAS, and which should also be considered when deciding on outcomes and the contents of training programmes. The following section is based on insights gained from core works on CAS (e.g. Hamilton 1995, Kemp 1979 and Whitehall 1982), an analysis of the available Internet CAS, as well as discussions of information literacy in general. Useful ideas were gained from the work of Barry (1997) and Dupois (1997) in particular.

The following are some of the things the clientele should know about CAS:

- 1 The areas or disciplines in which CAS can be applied. Hamilton (1995) includes case studies for the following: accounting firms, charity organisations, engineering firms, insurance groups, pharmaceutical companies, management consultants, merchant banks, professional associations and public libraries. Internet CAS, however, hold possibilities for many more.

- 2 What CAS can do for users and how they can benefit from CAS. Here we have traditional reasons, as well as reasons deriving from services available via the Internet. (The latter have been discussed in section 2.2.)

- 3 Actual or hypothetical examples of how CAS can benefit the particular client or clientele group. (For example saving the company a lot of money because of timely decision making.) This should form part of the marketing of CAS.

- 4 The scope and coverage of the available CAS. Traditionally the following

were covered by CAS: publications (such as books, periodicals), news flashes and important events (such as conferences and workshops) (Hamilton 1995:29). By using Internet CAS, the following can be added: new Web sites, new Web postings or discussion groups, editions of ezines, et cetera.

5 How to set up an interest or search profile. This includes determining the different facets of interest, selecting search terms, and formulating a search strategy or search strategies.

6 The purpose of individual CAS (e.g. a table of contents service or ezine).

7 How to use a specific CAS.

8 How to manage and filter information gained from CAS. Users fearing infoglut should also know how to deal with CAS.

9 How to evaluate search results and update a search profile.

10 How to select a CAS. Based on discussions by Ojala (1997) and Davies *et al* (1998) the following can be considered: scope and coverage of a service; does it meet users' needs?; frequency of updating; methods of updating (e.g. automatic notification or periodic updating where the user must check); cost; type of entities covered; ease of use; level and quality of customer services; filtering methods available; possibilities for customisation; relevancy of information; links to document delivery services or other sources of complete information (e.g. Web sites); formats in which documents are available and delivered (HTML, PDF, PostScript, Word & RealPage). "The challenge for information professionals has been — and still is — to evaluate the existing and new services, based on users' requirements, and to decide on the preferred services, or combination of services, given limited budgets" (Davies *et al* 1998:37).

11 How to keep track of new developments and new CAS. Although it is essential for information specialists to keep track of new developments and new CAS, it may also be useful in the spirit of "empowerment" to give clientele the know-how to keep track of new developments concerning CAS.

12 How to interpret the legal implications of using, storing and distributing electronic information.

Once the general aspects clientele should take note of have been identified, they should be broken down into further details concerning specific systems. Let me list a few of these: where to find the service (site address); passwords if required; which options to use; how to navigate the service; how to input the search profile; how to keep a record of the search profile; how to pay for services if necessary; and how to change or update the profile if necessary.

4.2 Determining aims and outcomes

It is very important that the clientele as well as the information specialists should know exactly what the aims of an empowerment programme are. Since clients are not all likely to have the same interest in CAS, a learning contract with each client may be a good solution. Learning contracts are regarded as very important in adult learning and are dealt with by Knowles (1990).

The purpose of this paper is not to go into detail about the specific outcomes that can be considered. It is suggested that basic information literacy skills (e.g. as identified by

Barry [1997] and Dupois [1997]) are taken as point of departure. These can be used in conjunction with the required knowledge identified in section 4.1 and the clientele's prior knowledge and skills to formulate specific outcomes for individual clients (or groups of clients where applicable). When considering clients' prior knowledge and skills, the following are of special importance: computer literacy, information literacy, media literacy and network literacy (Sreenivasulu 1998). These should all receive attention to ensure effective use of Internet CAS.

The following basic information literacy skills can be taken as a point of departure:

1 Understanding the world of information, the information infrastructure and the analysis of information needs. Not all information can be gathered via CAS or even via retrospective information services. The clientele should also recognise the need for information to make educated and intelligent decisions.

2 Assessing and selecting resources. With the vast array of CAS, information specialists should assist users in making an appropriate selection.

3 Searching and locating information. This includes formulating search strategies and running the search profile against different CAS.

4 Evaluating and interpreting information.

5 Manipulating and organising information. Dupois (1997:110-111) suggests that the information could also be organised on a Web page. Clientele should also know how to use document delivery services when available.

6 Citing and communicating information. CAS is of no use if the information gathered is not applied and communicated in some way.

7 Evaluation of what has been achieved, and the effectiveness of the empowerment programme.

4.3 Training methods and learning opportunities

An empowerment programme is more than just a single training session. It is aimed at gradual growth and development, and may consist of a number of training sessions. Specific methods will not be suggested in this paper. Much can, however, be learned from the literature on bibliographic instruction, end-user training and adult training (e.g. Barry 1997; Craver 1997; Wood *et al* 1996; Knowles 1990). A selection of training methods may be the best option. These may include workshops, demonstrations, computer-assisted tutorials (e.g. on the search strategy formulation and the generic principles of CAS) and Web tutorials. It should also be ensured that training methods cater for users with inadequate prior computer literacy, network literacy and other skills.

4.4 Content

The content of an empowerment programme should be relevant to the clientele's needs, and should be selected according to the aspects highlighted in sections 4.1 and 4.2. In addition, I would like to suggest that a holistic approach be taken in which clients can view their CAS

§ as part of the overall information explosion and information infrastructure

§ as essential to progress and prosperity

§ as an extension of more conventional and traditional methods of CAS

§ as part of a support service provided by information services

5 Some suggestions for an empowerment programme

Information specialists involved in bibliographic instruction and end-user training programmes have found them to be a very rewarding, but also a daunting and time-consuming task. It should be clear from the preceding sections that CAS empowerment programmes will require even more resources. The following suggestions are therefore made in an effort to streamline the process:

1 In the first place empowerment programmes should be worthwhile. To this can be added Dutton's statement (1990:12): "End-use must be fun and not inflict boredom or stress."

2 Existing information skills should be taken as the point of departure and be added to. Here careful note should be taken of the skills set out in section 4.2. Clientele's mental models of CAS services and the limitation of each (not all information can be gathered), their browsing skills and their need to use the information (e.g. in decision making, communicating research results) require special attention.

3 Co-operation between organisations on preparing guidelines on the general principles underlying CAS can help to cut down on the time spent on empowerment programmes. These could include the general reasons for CAS, the compiling of search profiles and the formulation of search strategies. These could, for example, be covered by CAI tutorials.

4 Co-operation on the development of guidelines concerning the CAS infrastructure (i.e. the different services available) and how to use the individual services. Maintaining such guidelines could be very time-consuming since the Internet resources are constantly changing. Such guidelines should cover the aspects mentioned in 4.1, and the following could be added: contact persons for passwords where necessary and where to find interactive how-to-use guides.

5 Individual negotiations with clients about their interests and the selection of suitable CAS. The latter could also be supplemented with retrospective searches when necessary. It is important to consider empowerment as part of a *partnership* between the information service and its clients, and not merely an attempt to shift the workload of information specialists to their clientele.

6 Individual analysis sessions with clients to evaluate their search results and adapt profiles accordingly. (In the beginning these could be time-consuming, but the time required should level off as clients become more empowered and able to operate at a higher level.)

7 Organising access to Internet CAS. The latter could be organised on a Web site. Such a Web site would depict the Internet CAS infrastructure. CAS can be grouped according to categories, type of entity covered, et cetera. Links should also be provided to information on conventional methods of CAS as well as methods for retrospective searching.

Apart from information on the CAS, such a site should also provide users with guidelines on the following: the evaluation of information sources,

citing techniques, advice on methods to supplement Internet CAS, advice on updating interest profiles, reminders to update/adapt search profiles, contact details of information specialists, reading matter on CAS (the latter especially should be viewed as part of the "empowerment" to enable the interested client to learn more about CAS).

8 Developing personal Web sites for clients to organise their search profiles, selection of CAS, and search results.

6 Conclusion

Internet CAS offer numerous possibilities for keeping track of new developments and keeping up in a rapidly changing environment. Because these services can be easily accessed by anybody with Internet access, information specialists have a golden opportunity to secure their position in the information world by empowering their clientele to use Internet CAS. In spite of the benefits envisaged, such empowerment programmes will not be without practical problems and hazards.

Empowerment should be seen as a gradual growth process and a change in attitude which eventually will benefit all parties involved. In a CAS empowerment programme a holistic approach should be taken to Internet CAS within the wider information infrastructure, traditional methods of CAS and general information literacy skills.

This paper has explored some of the possibilities of a CAS empowerment programme. There are, however, many more aspects and finer details that warrant attention.

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- Alta Vista: <http://www.altavista.com>
- AJR Newslink: <http://www.newslink.org>
- Amazon.com: <http://www.amazon.com>
- Bell + Howell (formerly UMI): <http://www.umi.com>
- British Library Inside: <http://bl.uk/online/inside>
- Carl Uncover: <http://uncweb.carl.org>
- CataList: <http://www.lsoft.com/lists/listref.htm>
- CRAYON: <http://crayon.net>
- Current Cites: <http://sunsite.berkeley.edu/CurrentCites/>

Daily Briefing: <http://www.dailybriefing.com/>

Daily Diff: <http://www.dailydiffs.com>

Daily Mail & Guardian: <http://mg.co.za/mg/>

Dialog: <http://www.dialog.com>

Directory of Scholarly and Professional E-Conferences: <http://www.n2h2.com/KOVACS>

Elsevier ContentsDirect: <http://www.elsevier.com>

The Electronic library: <http://www.learned.co.uk/tel/index.asp>

Hotbot: <http://www.hotbot.com>

IFLA: Internet Mailing Lists Guides and Resources:
<http://www.ifla.org/ifa/I/training/listserv/lists.htm>

Information Express: <http://www.express.com>

Information Quest: <http://www.eiq.com>

The Informant: <http://informant.dartmouth.edu>

Inquisit: <http://www.inquisit.com>

Internet Explorer 4.0: <http://www.microsoft.com>

Internet Public Library: Online Newspapers: <http://www.ipl.org/reading/news>

Institute for Scientific Information: <http://www.isinet.com>

The Internet Scout Project: <http://scout.cs.wisc.edu/scout/report/index.html>

MetaPlus News: <http://www.metaplus.com/pv/news.html>

My Excite Channel: <http://my.excite.com/>

MyYahoo: <http://edit.my.yahoo.com/config/login>

NetMinder — Mind-It: <http://www.netmind.com/>

Netscape: <http://www.netscape.com>

NewsAlert: <http://www.newsalert.com>

NewsPage: <http://www.newspage.com>

New York Times: <http://www.nytimes.com>

Northern Light: <http://www.northernlight.com>

Online: <http://www.onlineinc.com/online.mag/index.html>

Pointcast: <http://www.pointcast.com/>

PortalSeek: <http://www.portalseek.com>

Search Engine Report: <http://searchenginewatch.com/list.htm>

SilverPlatter: <http://www.silverplatter.com>

SwetScan CISTI: <http://www.nrc.ca/cisti>

The Sunday Times: <http://www.suntimes.co.za>

The Times: <http://www.the-times.co.uk>

TracerLock: <http://peacefire.org/tracerlock>

WiseWire: <http://www.wisewire.com>

World Radio Network — Audio on demand: <http://www.wrn.org/ondemand/>

Yahoo — Newspapers by country:

http://dir.yahoo.com/News_and_Media/Newspapers/Browse_By_Region/Countries

Yahoo News: <http://www.yahoo.com>