23 PROBLEMS OF INFORMATION SYSTEMS

A BRIEF REVIEW OF THE GUYANA POSITION

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Faced with the challenge of preparing this paper for this workshop I was determined to do something rather impressive, but to be frank it just has not turned out to be that way. I encountered problems in determining what the specific aim of my contribution should be and thereafter my thoughts on the subject changed several times during its preparation. However, the experience gained in its preparation brought me face to face with new ideas about aspects of our information problems in Guyana. As a result I think what you are about to hear is not so much a conference paper but a review of some of the problems - perhaps what emerges here may be more a position paper rather than a case study.

So much has been published on designing and planning information systems and on aims and objectives and functions - there are several volumes available right here in Guyana. One treats them with respect and awe because these are the works of eminent people in the field many of whom are consultants, they are well written scholarly works which carry flow charts, diagrams and many illustrative techniques, but after carefully pondering a number of these, I wondered to what extent they could help when it comes to designing a real life system for our situation. And here you have the starting point for the thoughts which follow - the gap between the theoretical presentations and the actual problems we faced in organising the flow of information in a developing country.

I guess that I have a very definite view on the problems of information systems and their designs because of my firm belief that librarianship, documentation and information work are basically very practical activities in which things are done systematically for producing certain results. I know that what I am going to say may be considered by some as being an absurd comparison, but I have often thought of designing an information system as a meccano set where if one puts the correct parts together, the thing gets moving. Why can't we just do the same for an information system? I think that it is true to say that an information system comprises an input sub-system, a retrieval sub-system and the users who should provide a feed back which should influence the input. Obviously the system cannot function without a document supply system. These are the recognisable components, but yet they are not as readily put together as our meccano set.

This paper will attempt to review the problems which must

be faced in Guyana when contemplating the design of our information and documentation system. There are hosts of problems - social, cultural, linguistic, - attached to this undertaking which will not be considered in this paper. I will try to consider the more technical problems, the first of which is the fact that we have to establish this service almost in vacuum. There is no library of the stature of BLL, no network of specialist information services, there is one relatively small University Library, a National Library of similar standing, a small Medical Science Library, a few Special Libraries, most of which are unorganised collections in the various Government Departments and no information scientists in the library sense. To quote Peter Vickery of ASLIB "This is rather like trying to design and build an aircraft for a place where there are no airfields, no trained pilots and limited fuel supplies. Also we are not sure just how many passengers might want to use the aircraft and what their travelling habits will be".

To start, let us assume that we have done a survey to determine our user needs in Guyana, it will be seen that there is the potential demand for information in the field of science and technology, in many sectors of our community - in education, teaching and research, in government, industry and commerce. It might not be practical to attempt to meet all these demands at once, so it may be necessary to make a decision as to the priorities to be recognised. In this situation even making the decision might be a problem.

It should be said at the outset that even though designing a system implies pretty detailed planning, in our circumstances there are a number of details which our system will have to overlook, for instance, performance specifications cannot be estimated with any amount of accuracy, because it is not easy to tell how long it will take to obtain certain documents many of which may have to obtained from abroad.

Of material importance is the information which will be fed into our system. Information from the traditional sources, that is - published information poses only minor problems which are identified as lack of finances or inadequate machinery for the acquisition of material. The major problem is locating and acquiring the material produced at a country or national level. The whole concept of a successful system could only materialise if sufficient of the required information is pumped into the system.

But before discussing the thorny problem of locally generated information, I must make it clear that I am not attempting to minimise the importance of published material. Access to such information is just as vital, and it is important that the system provides adequate means of access. We know that in the field of science and technology there are approximately 30,000 periodical titles published annually and that there is an exponential growth rate of information in the field of science and technology. In Guyana, the same as any developing country, it is expected that our science information

systems would be equipped with some of the essential catalogues, indexes and abstracts through which users would locate information from the vast resources. Perhaps the crux of the problem in considering published information is how best to select from the world's store, the information that has particular relevance to the needs of the country as a whole, how to acquire it and how to ensure that it is made readily available to users.

Now we come to the second and most difficult problem to be solved, and that is the access to scientific and technical information generated within the country. There are four aspects of this problem:

1. Ignorance of work being currently pursued. A common complaint by researchers is that they have no certain means of knowing what research is in progress in the country. The danger here is unwitting duplication of efforts which would result.

2. Difficulty of access to reports of completed work. Much basic information in unpublished form is available, but as is well known are located or shall I say hidden in files marked confidential and are therefore not available to certain agencies or individuals. A corollary to this specific aspect of the problem is the lack of machinery for declassifying confidential documents. It has been our experience to trace and discover documents which have been classified as confidential and later slated for destruction by the shreading machine or incinerator or more commonly the refuse dump without having been released. In fact but for the word "CONFIDENTIAL" the document may have been allowed a longer life.

3. Absence of any comprehensive and up-to-date listing of scientific and technical papers which have been issued locally.

4. The legal deposit law does not require the deposit of unpublished items such as reports etc. emanating from Ministries, Institutes, or such Organisations. This situation has contributed to serious gaps in our efforts at collecting local material comprehensively.

Without these bibliographical control, much valuable original work which has been completed and distributed in a limited sense fail to reach the attention of those information users who would most benefit by it.

In the Guyana situation one has recognised the problems of the "input" into an information and documentation, some thought must be given to the logical sequence of the system.

How does the user get his information? We turn to the traditional methods - our users must be trained to accept all the indexes, abstracts, annotated bibliographies, our card catalogues and all the documents we throw at our users.

However, the problem now encountered may be one of adequate training to provide the service, which is acceptable to the users of information. Most of us in information must ask ourselves how much do we know or understand about the psychology of information use. Most of us providing the service tend to view the user as a distinctly different person from "us". The truth is that as librarians and information officers we are information users too with the same natural aversion to many of the characteristics of the service we offer to others. We should perhaps pause and ask ourselves, in what terms would we define the kind of information services that we would like to receive to help us on our own jobs.

But let us get back to the practical realm of the science information and documentation service. Three important characteristics that I believe users look for in an information system are simplicity, reliability, and speed - reliability being the most important characteristic of the three. The resources and service offered in the system will largely determine the extent of reliability. Yet in a sense the effective use of information is more difficult to achieve than the adequate resources of information and competent handling of it by librarians or information officers. Even developed countries are still trying by various means to improve what is essentially a human problem. It is said that to a large extent low use of information and documentation services correlates directly with inadequate and badly organised collections. Where a system provides a useful range of material on which is based a good service it is rewarded by regular and efficient use. But in Guyana and doubtlessly other developing countries inadequate use of information services may also be related to another totally unrelated problem. The view has been expressed that some of our scientists, and researchers in many fields have been educated in an environment in which there was very little literature. The habit of reading then has not been well formed at the crucial stages in education, and like so many other habits it is difficult to acquire it at a later stage.

There are a number of techniques which might be adopted in our information system for promoting its use. Recent research on patterns of information flow suggests that there are in many research organisations one or more specialist scientists who have become widely known as "gatekeepers" who have a natural interest in, and aptitude for transferring information from one place or individual to another. It would seem useful to identify such people in organisations such as NSRC, our local scientific societies, or any of the faculties of the University, and to solicit their interest in assembling resources which will eventually flow into the system. These very "gatekeepers" may be useful in helping to stimulate greater use of information and help to provide constructive ideas for the improvement of the system generally.

The concept of an information and documentation system throughout this paper may have evolved as the usual centralised system which will be supported by the now traditional network pattern which has been accepted as the most sensible plan for societies such as ours. The details of the network system would have been dealt with in a substantial way by other speakers. I would, however, like to touch on certain aspects of these component libraries which will be part of the network.

We have accepted the view that a national information and documentation system would be supported by the total resources of a number of existing libraries, but to activate such a system one must rely on three important factors - recognition by the appropriate authorities, a sound legal base, and adequate funding - none of which this paper will discuss. I would however like to look briefly at the position of government and the concept of information before closing.

In Guyana there is a great concern among librarians about the inadequacy of many of our libraries to cope with the demands which must arise from our Development Programme. This Programme has made it clear that active and direct participation in industry, and agriculture is to be a major weapon in the attack on the problems of eradicating poverty and restructuring Guyanese Society. The key role of science and technology in such a plan is self-evident. Examples that come to mind are modern agriculture projects - the fishing and shrimping industry, forestry products, improved health and medical services, rural drainage and irrigation schemes, new industrial enterprises away from the city - (leather manufacturing and the production of leather goods in New Amsterdam), the generation of hydro-electric power - all designed to maximise our natural resources - both human and physical with which Guyana is blessed.

Comparison with the national development plans for other developing countries, even here in the Caribbean, however, does reveal one national resource that is being neglected - the wealth of information available in libraries in Guyana.

It has been noticeable that the planning and co-ordination of information systems has engaged the attention of policy makers in other developing countries, where previously it was the concern only of Librarians. As explained by UNESCO "The reason for this is clear, policy makers in these countries have learned to consider information as a national resource to be incorporated in their formulation of national policies in the same context as man-power and natural resources".

No one would dispute the value of libraries in a developing country where it is doubly important to ensure an adequate flow of information, not only because we are labouring under the handicap of starting later than the developed industrial countries, but also because we lack the accumulated experience that only time will bring. It is perfectly possible, however, in many instances to bypass the long road of experience by drawing on the published and freely available

accumulated data furnished by the more developed and experienced countries. Experience in other developing countries has demonstrated that with access to reliable information, the manufacturer for instance can sometimes leap over technological periods and adapt systems without going through painful and costly development periods.

We in Guyana are faced with a situation in which libraries do not appear to be given more than a token recognition, despite the fact that Government is actively pursuing a programme of accelerated development. How then would the planners of information systems cater for the support of authorities? These therefore are aspects of the general problem of information which planners, systems designers, administrators and users of information must take into consideration when considering the Guyana position.

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