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## **JUBILEE: monitoring user information behaviour in the electronic age**

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### **Introducing JUBILEE**

In the UK, the Joint Information Systems Committee (JISC) funds a wide range of electronic information services (EIS) to support teachers, researchers and administrators in the higher education sector in their use of information and communication technologies. "JISC-funded services promote best practice and the use of agreed standards" (JISC, 1999a). Following a revision of strategy in 1998, the JISC's interests have recently expanded to incorporate the field of learning and teaching, in particular its relationship with IT networks and EIS. Its strategy is in turn informed by the strategies and agenda of the Higher Education Funding Councils and national government. Issues now underpinning JISC policy include widening participation, equal opportunities, lifelong learning, regionalism, and international recognition (JISC, 1999b). The JISC funds research and development work through several of its committees such as JCALT (JISC Committee for Awareness, Liaison and Training) and JCEI (JISC Committee for Electronic Information).

The three-year JUBILEE project is being funded through a JCALT research program which aims to monitor and evaluate user behaviour in information seeking and use of information technology and information services in higher education in the UK. Strand D of the program is entitled "A qualitative longitudinal monitoring of EIS use". The JUBILEE project – JISC User Behaviour in Information seeking: Longitudinal Evaluation of EIS – is seeking to predict, monitor and characterise information seeking behaviour in relation to EIS and will provide illuminative and contextualised pictures built up over time, in different disciplines. The JISC is looking to the project to inform it about variations of experience at the level of the individual student and academic. Managers are seen as change agents who can drive practice and thereby influence that experience. The project is designed in three annual cycles of investigation, with each cycle focusing on three disciplines, in six case study institutions. Data are being collected and analysed in each cycle, with findings being used to inform subsequent cycles. For the first cycle the focus disciplines

are health sciences, business studies and English.

The focus of the paper is to use the preliminary findings from the first annual cycle of the project to identify and examine themes, which are emerging from the fieldwork. JUBILEE is discipline based. So, what variations in user information behaviour are there between the disciplines so far examined? What are the common themes? Are things really so different for users in the electronic age from how they were in the good old days?

### **On information behaviour in the electronic age**

The impact of information technology networks and electronic information systems and sources on academic users is potentially enormous, whether in support of research, teaching, publishing or communication. The following quote, from a lecturer in the "user" strand of the IMPEL2 (Impact on People of Electronic Libraries) eLib project, undertaken by researchers at the School of Information Studies at Northumbria, typifies the need for JISC to have information based on users and potential use of IT networks and EIS from a real world perspective, where the take up and use of networks is affected by a whole range of issues viewed from highly individual standpoints:

A lot of what I do depends upon what I can access from my desk. There needs to be a critical mass of easily accessible relevant information to make electronic sources worth while developing the skills to use them (IMPEL2, 1998).

Users need to keep abreast of an increasing range of electronic services, but before they can exploit the potential of IT networks as part of the overall academic endeavour they are presented with challenges such as acquiring the necessary skills and understanding the variety of access procedures. The Discussion Paper on electronic information use commissioned by the JISC Committee for Electronic Information concluded with the need to place the user as the centre of attention, to cover the whole range of information seeking behaviour, not just EIS (Day *et al.*, 1997). It is this holistic approach which is being used in JUBILEE, where all

aspects of the user experience are recognised as needing investigation to inform an understanding of user information behaviour.

Some evidence, now several years old, was also collected on the use by academics of electronic information resources, also as part of the IMPEL2 study (Jackson *et al.*, 1999). Researchers found that the Internet and electronic mail were used a lot, with some use of CD-ROMs and online open access catalogues in libraries. Less use was made of electronic journals and electronic databases, both of which were used mainly by lecturers in science subjects.

Whilst it seems a given that EIS are seen generally as "a good thing", indeed, a *very* good thing, for users, it is interesting to note that studies are beginning to be published which sound a note of caution. Nicholas and Williams (1998) found in their study of Internet use by journalists, whom they had assumed to be "in the advanced guard of Internet users", that in fact less than one in five national journalists in their sample used the Internet, and that the figure for regional journalists was much less. In addition, the users tended to be middle-aged, experienced professionals, often senior managers and editors, and not the anticipated young and male stereotypical Internet user. The JUBILEE project was poised from its start to be making new and possibly radical findings.

### **On JUBILEE**

#### **Methods, fieldwork**

Following a literature review (Banwell and Gannon-Leary, 2000) the fieldwork methodology was firmed up. Methods being used are taken from the toolkits of both the qualitative and quantitative fields with an overall framework of acquiring and modelling longitudinal data. The mix of methods consists of:

Questionnaire to collect background data on information behaviour, especially in relation to EIS. These are being distributed in both electronic and paper forms, and the relative response rates monitored to inform practice in subsequent cycles.

Interviews: one-to-one with key informants (e.g. senior academic managers and



academic staff), or focus groups (e.g. with library/information staff or students).

Themed snapshots are being used with panels of staff and students within disciplines, and virtually through observatories established as electronic discussion lists in the wider disciplines (Gannon-Leary, 2000).

Observation of information seeking behaviour is also being undertaken at fieldwork sites.

A colloquium of representatives from sites and disciplines will be held towards the end of each cycle to provide summative evaluation on the cycle, and which will be used as formative evaluation for the project as a whole.

Through the use of multiple techniques of investigation, a range of datasets are being built up which will permit analysis to be carried out of any gap which may exist between the expectations of service and the reality of that service as seen through users' eyes.

Some two-thirds of the way through the first cycle, the following data have been collected from four sites:

- (1) A total of 336 questionnaires on information use from staff and students in the target disciplines and including LIS staff. Broken down by discipline, figures are:

- business studies (137);
- English (77);
- health (83); and
- LIS staff (37).

Responses include 217 questionnaires returned by students.

Questionnaires are returning daily and fieldwork is currently underway in two further sites.

- (2) Key informant interviews and focus groups in all target disciplines and with LIS staff are producing rich qualitative data to supplement and add meaning to the questionnaire data.

### Research findings

Already, themes are emerging from the work undertaken, which will be further developed in subsequent cycles of the project, at other sites and in other disciplines. There are some general

themes, which seem to be common to the disciplines studied to date:

Students are generally at a fairly basic level: EIS for them means e-mail and word processing; it is very difficult to establish any actual usage of EIS or any depth to answers on the subject. Students are using the library more, but primarily to access the Internet, with chatrooms being very popular.

Academics are using the library less because of desktop access; the effectiveness of such unmediated self-service is likely to vary widely given the very wide variations in academics' knowledge and understanding of EIS and skills with IT.

There is widespread concern surrounding the quality assurance of information on Web sites. "There is a lot out there ... undisciplined in all of its chaos" (quote from English academic).

An interesting methodological dilemma is already evident: it is a very real problem for researchers and library staff to collect data on information behaviour. Patterns are changing and the old survey instruments are not good enough by themselves; but the real problem seems to stem from user disinterest or unwillingness to consider such matters – it also seems that loss of face is important too, with a fear of admitting to lack of knowledge.

Variations do exist between disciplines, but the picture is not straightforward. Fairly predictably, the use of EIS in English is much less than in business studies and health sciences, although there are undoubtedly enthusiasts who disseminate good practice, and if that individual is a head of department or course leader then the impact on the students' learning will be considerable. Some colleagues "don't turn machines on from one week's end to the next"; "some use it for a great deal of research ... other people use it more or less as a typewriter" (quotes from English academics). On the other hand, one head of department interviewed used EIS daily and said he could not do his job without them; he develops his own course-related Web sites and uses others in support of his teaching.

Where open or distance learning is a characteristic of the course, as in many health

studies courses, students have to take more responsibility for their own learning, and will probably use EIS more, especially if they have home access. In one example, the course has a distance learning element. Students are given a textbook, online software and Web sites: "it has a spine of taught sessions . . . but the emphasis is on self-directed". The general feeling amongst health academics is that "all staff are using [EIS], but to a greater or lesser extent".

In business too, the picture is mixed. It is "very much down to the individual tutors how they are accessing and using information". There is a wide variety of topics taught within business, and there was a general feeling that use of EIS, as well as being reflective of the individual, will also be reflective of the area taught, teaching materials, lecture styles and delivery methods.

Findings from the JUBILEE project will result in the design of an evaluation toolkit for use by the JISC and managers in higher education institutions. It will present an analysis of the drivers, barriers, enablers and dilemmas, which impact on service development and thereby on the experience of individual students and academics. Already identified are:

Enablers are likely to be individuals especially academics, who for a variety of reasons, probably independent of discipline, are beacons of good practice of EIS use.

Drivers will include such factors as the institutional context shaping policy on resourcing (how many subscriptions?) and staffing (does the library/information service provide a mediator who can monitor quality of EIS especially Internet sites?). Dilemmas which may be soluble through development of institutional policy include issues such as who will help the student with EIS an academic, a library staff member, or neither.

Barriers to service development include such factors as the changing nature of library use, and the lack of user knowledge of advanced searching techniques, even including simple boolean logic there are training issues here, both for students and library staff.

The second cycle of JUBILEE begins with the new academic year in the autumn of 2000 and the project will conclude in the summer of 2002. The project Web site is regularly updated, and references will be posted to journal articles and conference papers emanating from this very exciting project.

To date, evidence collected has shown real highs and lows surrounding EIS seen from the users' points of view – wonderful when all goes well; a nightmare when it does not. There are hints that it may be a gender thing, a generation thing, a subject thing, a rich versus poor university thing. Almost certainly, there are elements of all of these: definitely it is an individual thing, at present at least. There are a whole mix of variables which are being characterised by the JUBILEE project and which currently cause big variations in practice at the level of the individual academic or student. It remains to be seen what the situation will be in five years' time; the future is a hybrid mix of electronic and paper for the foreseeable future at least. On a wider stage, JUBILEE is showing that more work needs to be done on the link between EIS use and learning – on the nature of relationships, on the future role of EIS in communication, on the nature of work itself as society evolves in the new millennium.

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## Further reading

<http://www.jisc.ac.uk/services/>

## Implications for practitioners

***This summary has been provided to allow a rapid appreciation of the significance of the content of this article. Browsers may then choose to read the article in toto, to derive full benefit from the author's work.***

Information services may change, becoming ever more sophisticated in the electronic age, but the needs of users do not.

It is vital that students and academics in higher education understand how to make full use of the electronic information services (EIS) available to them. To this end, the three-year JUBILEE project is examining information-seeking behavior in relation to EIS in the UK. The project, funded by the UK Joint Information Systems Committee (JISC), is running in three annual cycles, focussing on three disciplines at six institutions.

The project began in August 1999 and is approaching the end of its first cycle. Results will help to shed information on subsequent cycles.

Methods used in fieldwork include a questionnaire to collect background data on information behavior, distributed in both paper and electronic forms. Interviews, both one-to-one and focus groups, are being held with academics, library staff and students. At fieldwork sites, information-seeking behavior is being observed. The range of datasets building up will help to show how the service matches up to, or falls short of, users' expectations.

Themes are already emerging two-thirds of the way through the first cycle, which has targeted

business studies, English and health studies as its three disciplines. One theme is that many students are at a fairly basic level in use of EIS, often little more than e-mailing or word processing. Perhaps this is not surprising: while no one disputes the value of EIS, some previous studies sound a note of caution. Among journalists, for example, use of the Internet appears to be surprisingly limited.

While students are using libraries more, mainly for Internet access, desktop access is having the reverse effect for academics, whose knowledge and understanding of EIS and IT skills vary widely.

The difficulty of collecting data on information behavior has already become apparent, particularly because of a lack of willingness by users to consider the issues; fear of revealing ignorance may well be a factor.

While general themes are emerging during the first cycle, generalisations can be misleading. Some subjects, such as business studies vis-à-vis English, lend themselves to a greater degree of electronic information access. Open or distance learners are more likely to use EIS more. However, much depends on the enthusiasm or lack of it among heads of department and course leaders. At one end of the scale are academics who develop course-related Web sites; at the other, their peers use machines "more or less as a typewriter".

JUBILEE project findings will be developed into an evaluation toolkit for use by the JISC and in higher education. It will analyze enablers (such as "EIS-friendly" academics), drivers, dilemmas (including the issue of who will help students with EIS), and barriers to service development.

The second cycle begins this autumn and JUBILEE will run until the summer of 2002. It has already shed light on users' positive and negative views of EIS and it is possible to see some of those experiences as being related to age, sex, subject matter and type of academic institution.

JUBILEE is already revealing the need for greater examination of EIS and learning. As the bigger picture emerges during the next few years, the results will build on, reflect and occasionally refute findings so far. They should certainly be interesting.

