

Encouraging and Facilitating the Use of EIS

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Abstract: *JISC, the Joint Information Systems Committee, established a User Behaviour Monitoring and Evaluation Framework to investigate and profile the use of electronic information services within higher education in the United Kingdom. This article discusses aspects of the methodology of the Framework, and preliminary findings from the first annual cycle of the Framework. Findings are based on interactions with 1500 users, including academic staff, LIS staff, and students. Executed through 3 strands, the framework methodology uses an array of quantitative and qualitative approaches to lend a variety of insights into user behaviour with EIS, factors that encourage the use of EIS, and those that act as barriers to the effective integration of EIS into the learning experience.*

Introduction

The impact of IT networks and electronic information services and sources on academic information users is potentially enormous, and permeates all of the arenas of research, teaching, publishing and communication. The change provoked by the emergence of electronic information services (EIS), is only one of many changes taking place in higher education, which affect the nature of academic jobs and roles, research and knowledge, student profiles and learning. In an environment characterised by several drivers for change, it is important that information professionals and policy makers are able to make well-informed decisions concerning the development, provision and funding of EIS. To this end, JISC, the Joint Information Systems Committee, established a User Behaviour Monitoring and Evaluation Framework to investigate and profile the use of electronic information services within higher education in the United Kingdom. This article discusses aspects of the methodology of the Framework, and preliminary findings from the first annual cycle of the Framework. Findings are based on interactions with 1500 users, including academic staff, LIS staff, and students. Executed through 3 strands, the framework methodology uses an array of quantitative and qualitative approaches to lend a variety of insights into user behaviour with EIS, factors that encourage the use of EIS, and those that act as barriers to the effective integration of EIS into the learning experience.

The User Behaviour Monitoring and Evaluation Framework

The Framework is of particular interest because it is the first and only attempt to provide a sector wide picture of the nature and extent of the use of EIS within the academic community. During the next two years, the Framework will be further developed to monitor the development of user behaviour over a period of years, and to lend a longitudinal perspective. The methodology will also generate an evaluation toolkit that allows institutions to benchmark their progress in the content of the use of EIS. This toolkit, like the Framework methodology will have qualitative and quantitative elements. This multidimensional methodology executed by two research teams allows the voices of stakeholder groups, such as students, academic staff and LIS staff to be heard.

Three strands of the Framework were contracted in the First Cycle:

A general survey of end users of all electronic information services

A single (but differentiated broad based sample survey of patterns of use and non-use of all electronic information services by librarians, academics and students administered through face-to-face or telephone interviews to ensure accurate sampling of all relevant sub-populations'. This strand was executed as part of the JUSTEIS (JISC Usage Surveys: Trends in Electronic Information Service) Project, by a project team in Department of Information and Library Studies at the University of Wales, Aberystwyth.

A general survey of EIS provision

A combination of a Web survey of resource access provided by individual HEI's, with telephone polls of purchasing intentions, backed up by a small number of detailed (face to face) interviews with key informants to profile service provision. This strand was executed as part of the JUSTEIS (JISC Usage Surveys: Trends in Electronic Information Service) Project, by a project team in Department of Information and Library Studies at the University of Wales, Aberystwyth.

A qualitative longitudinal monitoring of EIS use.

A linked ongoing programme of longitudinal qualitative evaluation centred around a selection of actual and virtual sites within UK HE,

and an associated programme of once off studies on the behaviour and needs of specific disciplinary groups.' This strand was executed as the JUBILEE (JISC User Behaviour in Information Seeking: Longitudinal Evaluation of EIS) project by a research team in The Information Management Research Institute, School of Information Studies at the University of Northumbria at Newcastle.

Barriers and Facilitators

The First Cycle has established and tested the methodology and its associated instruments. Modest adjustments have been made to the methodology during the First Cycle, where initial approaches proved unsuccessful. This section summarises some of the key messages that emerge.

Diversity of the UK HE Community

Before launching into more specific issues it is important to comment on one overarching characteristic of the UK HE community which affected the execution of the methodology for the Framework, and is reflected in the findings. The UK HE community is diverse. There are institutions where staff and students have very limited access to EIS, and library web sites are only just being established. There are academic staff who demonstrate innovative approaches to the integration of the use of EIS into student (and their own) learning, and there are other staff who believe that EIS have little, if any relevance for their activities as a researcher, scholar and teacher. Similarly students can have very different levels of IT and information skills. It is this diversity that is the most difficult to profile and manage. JISC initiatives, specifically JANET and BIDS, are clearly having some impact in 'levelling the playing field', and it is important that this process is continued not only to support institutions that, for a variety of reasons, are not able to make sufficient investment without additional support, but also to contribute to the cohesiveness of the HE community.

Context for UK HE

The development of ICT and the opportunities that it offers for learning, research, scholarship and communication is only one of many changes that are affecting UK HE. For example, the Widening Access agenda creates greater problems in terms of providing access to students who never, or only infrequently visit a university campus. In relation to the issue of access, the matter of licenses for EIS and specifically e-journals is also problematic. QAA Subject Review visits can influence attitudes to EIS either negatively or positively, depending upon the position taken by and attitudes held by peers involved in the Subject Review process.

Contributions from Library and Information Services

Library and information services are actively engaged in developing web sites, and purchasing EIS such as electronic journals. All sites linked to their own OPAC. Almost all sites provided access to JISC services, Web databases and electronic journals. Many sites link to other sites. Collection development and budgetary control are bedevilled by change in the purchase arrangements for sources such as electronic journals. Further, in institutions in which budgetary control is split between LIS and the Faculty, liaison associated with the acquisition of EIS can be a long and complex process.

Academic Staff are Gatekeepers in the Student Learning Process

Academic staff have a privileged relationship with students, even in large classes. LIS staff find it much more difficult to establish relationships with students and students perceive them to be remote and not always there when they want them. On the other hand, LIS staff offer group sessions, and individual help on the use of EIS, for which the take-up is often disappointing. Most importantly by defining assessment and the curriculum, academic staff have the power to define expectations. Further they have the subject and pedagogical understanding to be able to evaluate EIS and make targeted recommendations to their students.

Academic staff have difficulty in keeping up to date. They perceive EIS to be a very fast moving field. In some areas, academic staff have not acquired the requisite basic IT and I competencies.

Student Use Behaviour in respect of EIS.

Students make a low level of use of EIS. Their use is focussed on the Web, e-mail and OPACs. Search engines and known sites are the first resort for most academic queries, as well as for many personal domestic queries. Internet use has spread into the routine activities of daily living: travel, job searching, and shopping were all popular purposes of use, mentioned by interviewees at several institutions. On the other hand, search strategies do not suggest a very structured or informed approach. There is little if any evidence to suggest that they use subject trees and other tools designed by their institution's LIS. Perhaps it is significant that they use search engines; search engines usually appear on the first screen that displays as they enter the Web, and, further, offer what students perceive as a 'one-stop shop'. Also this generation of students are accustomed to active promotion of products that others want them to know about, and are rarely encouraged to find things for themselves.

Students learn a lot from each other, but ultimately their learning through this route will be constrained by what their friends know.

In their use of the web students integrate information seeking in support of both academic and leisure activities. Leisure related use of the Internet should not be dismissed, but student learning from this source needs to be viewed as part of the student experience of higher education. Library and information providers have always straddled leisure and education, and it should come as no surprise that students do not make a rigid distinction between the sources of information that they use for leisure and those that they use for study. An optimal, but possibly unrealistic scenario is would be to persuade students that the work that they need to do using EIS is leisure!

Student Use of E-mail

E-mail is widely used to complement informal communication and provide an easy means of contacting organisations. E-mail would appear to be supplementing rather than replacing other means of communication. For example, students are able to e-mail a foreign company, when their language skills would act as a barrier to a telephone conversation.

A particular issue raised regularly was the popularity of Web-based systems (e.g. hotmail) for personal e-mail, which are accessible from a multitude of different locations. The use of these instead of institutional e-mail systems could hinder the use of e-mail for administrative and academic purposes.

Student Information Skills

Students do make use of search engines, and e-mail, and therefore must have at least a basic level of IT skills. Information skills are the real problem, and they appear not to understand the nature of the EIS that they use, even when they do use these sources. Some LIS compound this situation when they design web-sites that do not clearly differentiate between databases of full text journals articles, and electronic journals.

Postgraduate students have often developed knowledge of specific sources relevant to their studies, but in other respects do not exhibit a profile of EIS use that differs much from undergraduate students.

Students are provoked to use sources by instructions, especially those embedded in assignments, from tutors. Assignments and background research are the main reasons for using EIS. Classes embedded in the courses might not always be as successful or wide ranging as might be desirable, but they remain the most effective means of introducing EIS to students. From an institutional perspective this piecemeal approach is difficult to manage, and it is difficult for institutions to be assured that all students are provided with comparable opportunities to enhance their skills in the use of EIS.

OPAC Use

The OPAC is used consistently across the student body and by academic staff. By contrast, the use of other OPACs is low. For LIS staff, however, there is a high incidence of use for both. It is a reasonable assumption that it is used not just for access to books but other resources and the manner in which the OPAC is used and the structure of the options offered may be worth more investigation in the second cycle.

Use of Other EIS

With the exception of LIS staff and academic and research staff, the use of Web databases and BIDS is low. Even for staff the actual incidence is lower than might be expected. Subject gateways are notable only for the lack of mention among students and academic staff, although there is some use among LIS staff. There seems a possibility that, for the student audience, the subjects of the subject gateways do not meet the most popular subject needs. Benefits in terms of time saving may need to be promoted more, as time is a precious commodity to those students who do not expect, or cannot spare the time, to search for lengthy periods. The emphasis on quality resources is of less concern to students if they are simply looking for one or two appropriate references or answers to particular calculation problems. For them any example is better than none at all. Gateways appear to be products looking for a market, which suggests that their marketing is deficient

Differences between Disciplines

EIS are less embedded in English, relative, for instance to Health and Business. In English it is more difficult to raise an awareness of the potential value of EIS, but change is beginning to take place. While use of search engines, and e-mail are universally high, there seem

some distinct differences in the type of source used between the various disciplines. Some disciplines make greater use of BIDS and Web databases than others (Pure and Applied Sciences, and Clinical Medicine); particularly high use of search engines (Humanities and Arts); there may be more use of electronic journals among Pure and Applied Science and Pure and Applied Social Science.

The Development of an EIS Maturity Evaluation Toolkit

The First Cycle has proposed a toolkit that could be used to evaluate the stage of development of engagement with EIS in different institutions, and disciplinary communities. The key themes for this toolkit have been identified in this Cycle, as: Access, Resource base, Skills/knowledge, EIS and course design and delivery, EIS and learning, Quality assurance, and Seamlessness.

Conclusion

Overall, the picture is one of a sector that is energetically tackling the challenges and opportunities that EIS present. LIS staff are recognising and generally relishing the opportunity that EIS gives for greater engagement with the learning process. They are most successful if they can work with academics. In addition, LIS Staff are working, often collaboratively across institutions to make access to EIS easier, and more tailored to the communities that they serve. On the other hand, better web sites gateways and other tools must not be viewed as ends in themselves. Marketing which embraces promotion, but extends beyond it to consider targeting communities, messages and the appropriateness of the design of the offering is essential. Continuing challenges for the provision of an effective resource base lie in the areas of licences and within institutions, the ownership of budgetary control.

Students currently make a relatively low level of use of EIS, and their use is focussed on e-mail (often hotmail), the Web, and search engines, and OPAC's. When students are aware of specific information sources that support their studies, their awareness may have been cultivated through one of a series of different channels including their peers, one-to-one coaching by LIS staff, training sessions, or activities embedded in the curriculum. Instructions in assignments which direct students to use specified EIS are a significant driver in extending their experience of EIS. Academic staff have a key role to play as gatekeepers and role models for students. Yet they often express concerns of reservations about the relevance of EIS to learning, and their competence in the use of IT and EIS. Engagement with EIS differs between disciplines, and any institutional or sector-wide initiatives need to engage specifically with different disciplinary communities.