



Kelly, B. and Hollins, P. (2013) Reflecting on Yesterday, Understanding Today, Planning for Tomorrow. In: Umbrella 2013, 2013-07-02 - 2013-07-03.

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Reflecting on Yesterday, Understanding Today, Planning for Tomorrow

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ABSTRACT

The JISC Observatory provides horizon-scanning of technological developments which may be of relevant for the UK's higher and further education sectors.

The JISC Observatory team has developed systematic processes for the scanning, sense-making and synthesis activities for the work. This paper summarises the JISC Observatory work and related activities carried out by the authors.

The paper outlines how the processes can be applied in a local context to ensure that institutions are able to gather evidence in a systematic way and understand and address the limitations of evidence-gathering processes. The paper describes use of open processes for interpreting the evidence and suggests possible implications of the horizon-scanning activities for policy-making and informing operational practices.

The paper concludes by encouraging take-up of open approaches in gathering and interpretation of evidence used to inform policy-making in an institutional context.

1. THE JISC OBSERVATORY

The educational sector is facing a 'perfect storm'. The rapidly changing technical environment is exacerbated by the economic downturn which affects the economy throughout the UK and beyond. The UK's higher education sector is beginning to see the effects of significantly increased tuition fees. Students who are paying ~£9,000 per year have increased expectations of the student experience during their time at university.

Technological developments often promise significant benefits. The 'perfect storm' is focusing attention on the identification of appropriate technological developments which can enhance working practices across a range of institutional activities.

This background provides the context for the establishment of the JISC Observatory, which was set up to provide considered and prioritised information, analysis and recommendations with regard to emerging developments and their usage. The JISC Observatory has been provided by UKOLN and CETIS, the JISC Innovation Support Centres based at the Universities of Bath and Bolton. The JISC Observatory Web site¹ provides access to the team blog together with TechWatch reports which have been published by the service.

2. OBSERVATORY PROCESSES

The JISC Observatory processes are summarised below:

Evidence-gathering: The JISC Observatory's scanning activities draw out tacit knowledge and informed experience of staff working at UKOLN and CETIS. The staff use evidence-gathering processes to identify early signs of signals and trends as well moves away from well-established technologies.

Sense-making: The evidence gathered is then interpreted. An open approach to the sense-making activities is used to help to maximise involvement in the sense-making processes. It should be noted that the discussions about the relevance of the sense-making processes include addressing the mechanisms used to gather the evidence, including survey 'paradata' [1] as well as the evidence itself.

Synthesis: Synthesis work is provides materials for the JISC Observatory's target audiences. Such synthesis work includes the commissioning and production of JISC Observatory TechWatch reports².

In addition to the JISC Observatory Web site and blog, team members also use their own blogs to write about technological developments.

3. INVENTION, INNOVATION AND IMPROVEMENT

Although JISC Observatory processes seek to identify innovative practices which can support institutional activities there is also a need for evidence-gathering approaches to gain a better understanding of best practice to ensure that such practices can be shared widely.

It is useful to distinguish between invention, innovation and improvements. Wikipedia provides the following summary of how these terms can be differentiated³:

Invention: the creation of the idea or method itself.

Innovation: the use of a better and, as a result, novel idea or method.

Improvement: doing current activities better.

It may be that potentially innovative approaches may fail to have an impact if significant improvements can be made to the existing infrastructure. This paper therefore describes evidence-gathering approaches which help to understanding usage patterns and emerging best practice, including evidence of significant usage of existing systems which may make it difficult for innovative approaches to become embedded.

¹ <http://observatory.jisc.ac.uk/>

² <http://blog.observatory.jisc.ac.uk/techwatch-reports/>

³ <http://en.wikipedia.org/wiki/Innovation>

4. WORKSHOP AT CETIS 2013

At the CETIS 2013 conference⁴ Observatory staff undertook technology horizon scanning activities applying a lightweight version of the "Delphi" process in order to predict the potential impact of technology on learning and teaching in the short, medium and long term. The Delphi process is an established and structured communication technique for interactive forecasting reliant on a selected panel of experts. The technique has been adopted by the US-based New Media Consortium (NMC) for the NMC Horizon project⁵ centrepiece activity charting the international landscape of emerging technologies initiative as they relate to "teaching, learning, research creative inquiry and information management". The NMC publishes annual reports [2] based on its activities. JISC Observatory staff have participated in the Delphi process over last three years of NMC horizon scanning activity. Given the time constraints of a session at the CETIS 2013 conference a lightweight process was used with the group of approximately twenty five experts gathered.

The group was presented with a number of key trend statements, as identified by the NMC horizon scan activities 2013, an example of which was "*Openness; concepts like open content, open data and open resources, along with notions of transparency and easy access to data and information, is becoming a value*" and significant challenges such as "*Faculty training still does not acknowledge the fact that digital media literacy continues to rise in importance as a key skill in every discipline and profession*". Participants were split into smaller groups and posed a series of response questions; Question 1 being "*Given the technology trends and challenges just discussed which technologies do you think will have greatest impact on Higher Education (Teaching and Learning from the CETIS 13 expert group) over the next twelve months (near term)?*" The expert groups were given ten minutes to discuss the question, collectively agree and provide three technologies identified. The technologies identified by the expert groups were listed and presented to the whole group. Each of the smaller working group were given a further five minutes to discuss the other groups suggestions asked to vote for the suggestions, excluding their own. The scores were collated and the three technologies emerging with the highest overall group scores were put forward as the three technologies with potentially greatest impact on teaching and learning in the near term.

The process was then repeated for the medium (2-3 years) and long term (3-5 years) questions. In an hour the expert group were able to produce a list of technologies that they considered would have impact on higher Education in the short, medium and long term the results of which were then compared with the NMC Horizon scan findings and other group findings for further discussion and debate. The value of such a process is two-fold; firstly the finding and outputs and secondly as a process by which to instigate discussion and debate around technologies amongst experts.

⁴ http://wiki.cetis.ac.uk/Conference_2013_programme

⁵ <http://www.nmc.org/horizon-project>

5. FURTHER EVIDENCE-GATHERING ACTIVITIES

Institutional Use of Social Media

A series of surveys of institutional use of social media services such as Twitter, Facebook, YouTube and iTunes have been published on the UK Web Focus blog since 2007. The surveys have helped to provide a benchmark of activities of early adopters of the services (e.g. UK universities on Facebook in 2007 [3], Twitter in 2011 [4] and iTunes in 2010 [5]) followed by more recent surveys which help to identify trends (e.g. institutional use of Facebook [6] and Twitter [7] in August 2012).

As well as providing snapshots of activities by early adopters, trends over time and comparisons with one's peers, such surveys can also be useful in identifying emerging patterns of best practice.

In the context of identifying alternatives from emerging new technologies and services, such surveys can be useful in gauging the challenges which may be faced in implementing such alternatives. It should be noted that, in light of concerns over Facebook's approaches to privacy the take-up of alternatives, such as Diaspora⁶, should be monitored. However at present there seems to be little evidence of take-up of this service.

Similarly concerns over Twitter's approaches to use of its APIs [8] have led to an interest in app.net⁷. At the time of writing (April 2013) it is too early to say whether this will provide a realistic alternative to Twitter, However the survey methodologies which have been described can be used to identify early uses of app.net which may have a wider impact.

It should be noted that since app.net is not currently available as a user service and Diaspora's usage level is low, evidence-gathering approaches should be employed to give early indications of trends.

Figure 1 shows trends for searches for the string "app.net". As would be expected, the growth in searches began following the announcement of this development.



Figure 1: Google Insights searches for "app.net"

Trends for searches related to the Diaspora service are more difficult to detect due to the word's usual meaning. However, as shown in Figure 2, there was a significant growth in searches for "diaspora.net" in 2009 and another peak in 2010, but searches for the term have declined since then.

⁶ <https://joindiaspora.com/>

⁷ <https://join.app.net/>



Figure 2: Google Insights searches for “diaspora.net”

It will be important to monitor other social media services which may have a significant role to play in supporting institutional needs. However the evidence to date, including the survey carried out in August 2012 which identified over a million Facebook ‘likes’ for UK Russell Group Universities [6] and the social media analytics survey of Twitter use by these institutions [7] suggests that institutional activities should be focused on developing best practice for these services rather than implementing alternative offerings.

Use of Institutional Repositories

The evidence-gathering and open sense-making approaches have been used to gain a better understanding of strategies to enhance the discoverability of research papers hosted in institutional repositories.

Kelly and Delasalle asked the question *Can LinkedIn and Academic.edu Enhance Access to Open Repositories?* in a recent paper [9]. This paper was based on observations that the lead author (Kelly) had the largest number of downloads from the University of Bath repository. A survey [10] published findings on usage of researcher profiling services such as LinkedIn and Academia.edu. Given these services’ popularity across the UK’s Russell Group Universities (with over 100K followers identified in the survey) it was suggested that repository managers or research support staff would benefit from actively promoting use of these services by their researchers to link to papers hosted on institutional repositories.

Additional evidence-gathering activities which aim to identify the approaches which may have a significant role to play in enhancing traffic to institutional repositories include an SEO survey of the repositories provided by Russell Group Universities. The findings suggest that blogs hosted in the Cloud – Wordpress.com and Blogspot.com – have an important role to play in maximising traffic delivered to the repositories [11].

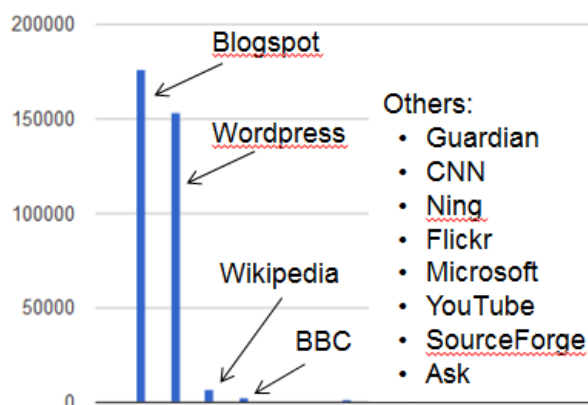


Figure 3: Numbers of incoming links from top-ranked domains linked to Russell Group repositories

These examples illustrate the insights which evidence can provide on effective practices for services and how such insights should inform practices. In particular it would appear that social media services support a key objective of institutional repositories: maximising access to research publications.

6. WHITHER LIBRARIES?

Librarians would probably welcome reading an optimistic vision of the future for libraries. Such a vision might predict that in light of developments such as mobile computing, social media and open data there will continue to be a growing need for librarians. But there are dangers in making such assumptions; particularly during this ‘perfect storm’ when the IT developments which are providing fresh opportunities arrive at a time when economic challenges confront the public sector in general, and the higher education sector in particular.

It has been suggested in some quarters that the higher education sector should be radically restructured. In a series of blog posts on the flattening of higher education⁸ Mark Greenfield, a consultant to the higher education sector in the US has reported on structural changes on US campuses, including a post on *The Flattening of SUNY* [12] which highlighted a white paper providing “*details how higher education is starting to function as a market economy and that higher education institutions must transform the way they do business*”.

Closer to home a recent article in the Guardian [13] argues that “*Outsourcing services allows academics to concentrate on what they do best*”. The article highlighted the announcement that “*London Metropolitan University [is] to outsource most services to [a] private firm. Contract valued at £74m includes handing over IT, library facilities, student counselling and careers advice.*” [14].

Despite suggestions that we are facing a crisis of our own making [15], in light of such decisions, there is a clear need for libraries to be able to demonstrate the value of the service they provide and the continued relevance of academic libraries to support institutional requirements in a cost-effective manner. In addition trends in technology must be identified in order to inform long-term strategic planning. The analysis of trends can also be valuable in identifying successful patterns of use which may influence operational practices.

7. RESPONDING TO THE CHALLENGES AND OPPORTUNITIES

Librarians have an opportunity to respond to these challenges by adopting evidence-based approaches when looking at developments and implications for their organisation, the sector and, indeed, the profession. We will now review evidence of trends in a number of areas and summarise opportunities for library staff.

⁸ <http://www.markgr.com/category/highedwebflat/>

Social Web

We have seen evidence of growth in use of social web services in an institutional context. However it would be inadvisable to dismiss social media as being primarily for marketing purposes and student recruitment. As described by Terras [16], Twitter can raise the visibility of items hosted in an institutional repository. Similarly Kelly and Delasalle [9] have described how incoming links from services such as LinkedIn can provide similar benefits. Hirst [17] has proposed the idea of the 'social librarian'. There would appear to be opportunities for librarians to support researchers by embracing social media services, in order to advise researchers on best practices and perhaps even to tag (or 'like' or '+1' to use the terminology used by Facebook and Google) useful resources to provide such a 'social librarian' function.

Data

UK universities are facing demands for greater transparency in their business processes. For example, institutions are required to provide open access to Key Information Sets (KIS) on institutional Web sites⁹.

A report entitled "*Redesigning the higher education data and information landscape*"¹⁰ has recommended that the sector should collaborate in the modelling, standardization and facilitation of exchange of management information. It would therefore be appropriate for librarians to build on current collaborative work in sharing management data and extend this to provide open metrics for areas such as the provision of open repositories as described by Kelly *et al* [18]

Open Practices

The importance of Open Access to research papers is well understood and recent announcements in the UK have shown that the advocacy has resulted in policy changes [19] [20]. Similarly the growth in importance of OERs (Open Educational Resources) can be seen from the establishment of a national repository of educational resources in the UK which is provided by Open Jorum¹¹.

Wikipedia

A move towards acceptance of a wider range of open practices is now detectable. The first EduWiki conference took place at the University of Leicester in September 2012¹². Themes addressed at the conference included emerging partnerships between Wikimedia and academia. It was suggested that there should be an acceptance of the value of Wikipedia and related open content services in an educational context.

There appear to be opportunities for librarians to engage with Wikipedia. This might include creating and updating articles, supporting others who wish to create entries as well as helping to embed use of Wikipedia in appropriate ways in institutional activities.

⁹ <http://www.hefce.ac.uk/whatwedo/lt/publicinfo/kis/>

¹⁰ <http://landscape.hesa.ac.uk/>

¹¹ <http://open.jorum.ac.uk/>

¹² http://uk.wikimedia.org/wiki/EduWiki_Conference_2012

8. CONCLUSIONS

This paper has described the JISC Observatory and the processes it uses in its scanning activities, sense-making and synthesis work. The use of related approaches in the gathering evidence and interpreting the findings of institutional use of social media and usage patterns across Russell group universities have been described.

The methodology used by the JISC Observatory team and by the author in the evidence-based surveys published on the UK Web Focus blog¹³ may provide the neutral and disinterested approach required.

The quantitative surveys described what appear to have a particular relevance for use with social media services since the network effect can have a significant role to play if social media services are to deliver expected benefits [21]. However there are, of course, many areas in which such approaches will not be applicable. It should also be noted that survey methodologies may not always provide consistent and reproducible findings. Therefore it is important to document the survey 'paradata' [1].

It is not only essential to document such survey processes but also to create an environment in which to discuss the findings and their implications openly. Making sense of the future should be an activity which is carried out in an open fashion and which encourages a wide community to engage in the discussions.

We hope that the sharing of experiences of the JISC Observatory work and the review of additional evidence-gathering approaches described in this paper will be helpful to others in understanding the present and predicting the future. The importance of use of institutional of the approaches documented in this paper will be particularly importance in light of the cessation of core funding for UKOLN and CETIS [22] which leaves the future of the JISC Observatory uncertain.

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