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# What Next for Libraries?

## Making Sense of the Future

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### ABSTRACT

The JISC Observatory provides horizon-scanning of technological developments which may be of relevance to 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 work of the JISC Observatory and related activities carried out by the author.

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 the take-up of open approaches to the gathering and interpretation of the evidence used to inform policy-making.

### 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 will be paying approximately £9,000 per year have increased expectations of the student experience over their three years 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 has been set up to provide considered and prioritised information, analysis and recommendations with regard to emerging developments and their usage.

The JISC Observatory is provided by UKOLN and CETIS, the JISC Innovation Support Centres based at the Universities of Bath and Bolton, together with the JISC itself. The JISC Observatory Web site<sup>1</sup> provides access to the team blog together with TechWatch reports which have been published by the service.

### 2. JISC OBSERVATORY TEAM 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 make use of evidence-gathering processes which can help to identify early signs of signals and trends as well moves away from well-established technologies.

The evidence-gathering processes are primarily the responsibility of JISC Observatory team members, who carry out such activities as part of their regular work in keeping-up-to-date with technological developments. In addition interviews are carried out which aim to provide professional insights into future developments across the higher education sector. An example of such interviews is available on UKOLN's ISC blog in which Dr. Mark Cox of King's College London gives his thoughts on how mobile devices are re-shaping support for e-learning in Higher Education [1].

**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' [2] 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 reports<sup>2</sup>. At the time of writing, TechWatch reports on *Augmented Reality for Smartphones*, *Delivering Web to Mobile* and *Preparing for Data-driven Infrastructure* have been published with an additional reports on *Preparing for Effective Adoption and Use of eBooks in Education* currently being reviewed.

In addition to the JISC Observatory Web site and blog, team members also make use of their own existing blogs in order to post about technological developments for their own blog communities. Such posts are made accessible from the JISC Observatory Web site.

<sup>1</sup> <http://observatory.jisc.ac.uk/>

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

### 3. INVENTION, INNOVATION AND IMPROVEMENT

Although the JISC Observatory processes seek to identify innovative practices which can support institutional activities, there is also a need for evidence-gathering approaches to help gain a better understanding of best practice which help to ensure that existing practice is being implemented effectively.

It may therefore be helpful to distinguish between invention, innovation and improvements. Wikipedia provides the following summary of how these terms can be differentiated<sup>3</sup>:

**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.

### 4. WORKSHOP AT IWMW 2012

Workshop sessions at the CETIS 2012 annual conference [3] and UKOLN's annual IWMW 2012 event provided an opportunity for the JISC Observatory team to describe the work being carried their work. The sessions provided opportunities to share the methodologies which have been developed in order to enable participants to make use of the approaches to support institutional evidence-gathering and sense-making activities in order to support local decision-making processes.

A session at the annual Institutional Web Management Workshop, IWMW 2012. As summarised in [4] participants were asked to describe how they would respond to a Pro Vice Chancellor or other senior manager who asked for strategic recommendations on how the institution should respond to developments in the following areas and with the following contexts provided:

**Open Data:** Is open data really "the new content" which will be of importance to the Web team as well as the University? Or might it be simply the latest fashionable term? And in a time of cuts, increased fees and competition for students and research funding, won't institutions be less inclined to provide open access to data, their crown jewels?

**Social Media:** Does social media have a significant role to play across a range of university activities, or is it 'hype' or primarily for personal use? How should institutions respond strategically in their use of social media?

**Collaboration Tools:** Will online conferencing and collaboration tools have an impact on traditional

approaches, ranging from conferences, events for practitioners through to student lectures? How might this affect plans for building a new conference centre and lecture theatre block?

**Metadata Developments:** Will developments such as schema.org provide better searching for structured resources? Should we be implementing such developments? But did we not hear promises that Dublin Core metadata in Web pages or the use of RDF would deliver this in the past?

It should be noted that the exercises required responses on the methodologies which should be gathered in order to identify appropriate institutional reactions. In addition the groups were briefed that the Pro Vice-Chancellor and colleagues would be sceptics and would require tangible evidence of benefits before committing any resources to the relevant area.

The responses given in the reporting identified the following methodologies:

**Reviewing the current position:** What are we currently doing in this area?

**Looking at our peers:** What are other institutions doing, especially those we regard as our peers?

**Industry developments:** What is happening outside our sector?

This feedback reflects approaches which have been used across a number of additional activities. They have helped provide benchmarks of current uses of online services, make comparisons with one's peers, observe trends over time and observe developments across the wider sector.

### 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 [5], Twitter in 2011 [6] and iTunes in 2010 [7]) followed by more recent surveys which help to identify trends (e.g. institutional use of Facebook [8] and Twitter [9] 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 [10], the take-up of alternatives, such as Diaspora<sup>4</sup>, should be monitored. However at present there seems to be little evidence of take-up of this service.

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

<sup>4</sup> <https://joindiaspora.com/>

Similarly concerns over Twitter's approaches to use of its APIs [11] have led to an interest in app.net<sup>5</sup>. At the time of writing (September 2012) 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: Google Insights searches for “app.net”**

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.

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.



**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 [8] and the social media analytics survey of Twitter use by these institutions [9] suggests that institutional activities should be focused on developing best practice for these services rather than implementing alternative offerings.

## Use of Institutional Repositories

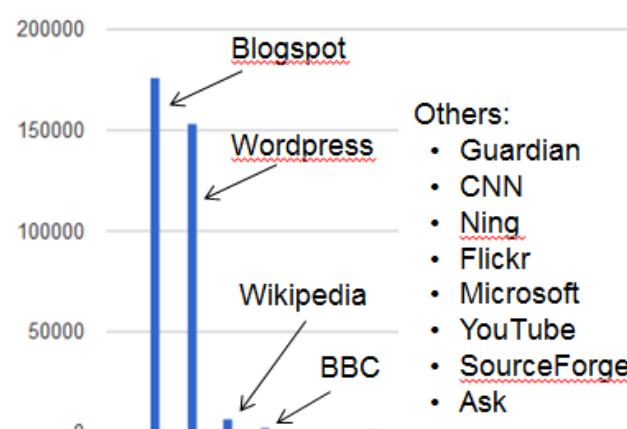
The evidence-gathering and open sense-making approaches have been used to gain a better understanding of strategies to enhance the discoverability of research papers hosted in institutional repositories.

Kelly and Delasalle asked the question *Can LinkedIn and Academic.edu Enhance Access to Open Repositories?* in a recent paper [12]. This paper was based on observations

<sup>5</sup> <https://join.app.net/>

that the lead author (Kelly) had the largest number of downloads from the University of Bath repository. A survey [13] 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 main repositories provided by the 24 Russell Group Universities. The initial 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 [14].



**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 education<sup>6</sup> 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*

<sup>6</sup> <http://www.markgr.com/category/highedwebflat/>

[15] 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 [16] 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.*” [17].

Despite suggestions that we are facing a crisis of our own making [18], 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.

### Social Web

We have seen evidence of growth in use of social web services such as Facebook and Twitter 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 [19], Twitter can raise the visibility of items hosted in an institutional repository. Similarly Kelly and Delasalle [12] have described how incoming links from services such as LinkedIn can provide similar benefits. Hirst [20] 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 now required to provide open access to Key Information Sets (KIS) on institutional Web sites from September 2012<sup>7</sup>.

A report entitled “*Redesigning the higher education data and information landscape*”<sup>8</sup> 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* [21]

The management and curation of scientific data is another area of growth which may provide opportunities for library staff. The library at the University of Northampton is “*an organisational restructuring of library and IT services resulted in the creation of a dedicated post for research support*”. This work of this post has focused on data management initiatives at the University. As described by Pickton *et al* “*Northampton is not alone in having librarians lead the way in promoting and embedding good research data management practices*” [22].

### 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 [23] [24]. 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 Jorum<sup>9</sup>.

### 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 2012<sup>10</sup>. 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.

### Amplified Events

The term “Amplified conference” was coined in 2007 to describe “*an event in which the talks and discussions at the conference are 'amplified' through use of networked technologies in order to extend the reach of the conference deliberations*” [25]. We are seeing the development of a range of tools and services which enhance such event amplification. In a variety of disciplines there is an expectation that organisers will provide access to a WiFi network and propose a conference hashtag.

<sup>7</sup> <http://www.hefce.ac.uk/whatwedo/lt/publicinfo/kis/>

<sup>8</sup> <http://landscape.hesa.ac.uk/>

<sup>9</sup> <http://open.jorum.ac.uk/>

<sup>10</sup> [http://uk.wikimedia.org/wiki/EduWiki\\_Conference\\_2012](http://uk.wikimedia.org/wiki/EduWiki_Conference_2012)

Amplified events provide an example of an open practice which complements the open access agenda by widening the delivery of new ideas and well as complementing the availability of papers hosted open access repositories. In addition to helping to maximise the impact of new ideas and sharing best practice by maximising the audience, amplified events can also provide environmental benefits by reducing unnecessary travel [26].

## 8. CONCLUSIONS

This paper has described the JISC Observatory service and the processes it employs 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 blog<sup>11</sup> 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 [27]. 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'.

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.

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## ABOUT THIS PAPER

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