Activity Data - Business Benefit & Strategic Imperative

JISC

Headline messages arising from the 2011 JISC Activity Data programme

Why activity data?

The collection and analysis of activity data[1] is now vital to successful customer facing businesses and is an everyday aspect of customer experience.

This is most visible in online settings where patterns of client activity make it possible for brands such as Amazon and iTunes to personalize services and to make recommendations. Meanwhile our supermarkets demonstrate the potential of a variety of data capture mechanisms to support core business processes such as resourcing and stocking as well as offering direct customer benefits, underpinned by personal profiles captured through loyalty cards.

What's in it for Higher Education?

The Higher Education sector is potentially in an advantageous position. Thanks to detailed knowledge of each user's context held in such as registration and learning systems (such as level of study, course or specialism, course module choices and even performance), Higher Education providers have a powerful basis to analyse and exploit activity data.

Activity data allows an institution or service to understand and support users more effectively and to manage resources more efficiently. Three examples illustrate direct benefits for Higher Education:

- **Student Success** - Patterns of student behaviour (such as VLE use, library resource access, attendance) may help identify students at risk of performing poorly or leaving the education system, thereby enabling early interventions for success
- **Learner Experience** - Using activity patterns to recommend library resources which may be of particular relevance in the individual's academic context and which will meet student expectations of a quality online experience
- **Resource Management** - Analysing how resources are actually being used should enable services to budget more economically and plan more effectively

Strategic Institutional Response

In 2011 JISC funded a group of institutional projects to test these and other hypotheses and to identify tools and techniques beneficial to the user experience and to the management of university services. The project results indicated an important role for activity data in teaching and learning, in supporting research and in resource management.

The project findings cover areas ranging from learner success to service impact and resource utilization, and from library recommendations to research dissemination. They chime strongly with complementary project work in the broader area of institutional Business Intelligence. The underlying messages are that:

- **Users** will increasingly expect services to be enhanced through the use of such intelligence
- Most HE business and educational processes are enabled by **IT systems** that already collect or could be collecting such data

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1 In this context we define 'activity data' as the record of relevant human actions in the online or physical world that can be captured by computer. Phrases such as usage data, business intelligence and analytics are used to describe this type of data.

- Anticipated **inhibitors** such as privacy and data protection can be appropriately addressed
- The **intelligence** to be gained increases as more activity data is accrued day by day and year on year – so collection should start now even if business analysis is deferred

The findings of these projects indicate that **service directors** should prioritise identification, collection and preservation of such data

- **Activate collection** - Data collection capabilities should be activated for existing systems
- **Include in system requirements** - New implementations should include a requirement for accessible activity data logging
- **Harvest across systems** - Connections between activity data sources are a key consideration
- **Acquire skills** - Key skills need to be developed in new types of storage, analysis and visualization

Information and Resources

The http://activitydata.org web site synthesises the work of the JISC projects in order assist decision makers and practitioners in identifying and achieving the benefits to be derived from activity data. The site contains a set of guides that provide an overview of key topics and, for the technically minded, detailed “recipes” where projects explain how they undertook some of the technical tasks.

For an overview you will probably find the following sections most useful:

- Benefits of using activity data
- Data protection
- Guides

For more detail, you might additionally look at:

- Collecting, processing and presenting activity data
- Licensing and sharing activity data
- Lessons learnt by the projects
- Technical Recipes

The Synthesis Project

This online resource was produced by the JISC-funded Activity Data Synthesis Project at the School of Computer Science, University of Manchester. The project team consisted on Tom Franklin, Helen Harrop, David Kay and Mark van Harmelen.

The project was tasked with synthesising the results of nine JISC-funded activity data projects. The output of this activity is published at http://activitydata.org. We thank the projects for their support in providing this material, some of which as been drawn from individual project websites and incorporated without specific attribution.