

HESA and Jisc Business Intelligence Project update

HSG/15/01/04

Background and desired outcome

This paper provides an update on progress with the HESA-Jisc Business Intelligence Project. The Heidi Stakeholder Group is asked to review the information provided and to raise any observations, concerns or questions, continuing to act in an advisory capacity to help ensure a successful outcome for the current and potential Heidi user community. A full copy of the original project specification is provided in Annex A for reference. The Group is also asked to confirm its willingness and availability to support the activities listed in section 6 of this paper.

Progress since the last meeting of the Heidi Stakeholder Group

1. Project website

A project website was launched at the HESPA conference on 6 February 2015 – www.business-intelligence.ac.uk. This provides a range of information about the project and is intended to provide regular updates on progress as well as communications and development activities.

2. Procurement

During October and November 2014 HESA and Jisc undertook a procurement process to select the new data explorer tool to be used in the delivery of the new Heidi services. An invitation to tender was prepared incorporating an extensive requirements matrix, and this was issued to eleven software vendors/resellers. The selection panel included members of HESA and Jisc as well as Giles Carden and Jackie Njoroge (Head of Strategic Planning & Management Information, Manchester Metropolitan University). Seven responses to the ITT were received. Following review by the selection panel, two vendors were invited to interview. Following the interviews Tableau was selected as providing the closest fit to requirements. During January and February 2015, Tableau licences have been procured and the Tableau server and desktop instances have been installed at HESA and Jisc. Tableau is currently undergoing configuration and key staff are being trained in its use.

In addition Alteryx has been procured as a data blending/Extract, Transform, Load tool. This will be used to facilitate efficient data ingest and transformation to the data warehouse.

3. Data warehouse development

One of the key activities in developing the new Heidi Plus service is to design and build a new data warehouse to feed the Tableau analytics environment. An experienced BI analyst/developer contractor

has joined the team, tasked with the design and implementation of the warehouse. At present he is developing the requirements specification and is familiarising himself with the current Heidi and HESA data structures/collections.

4. Communications

A communications plan has been drafted and this is underpinning communications and engagement activities. The project was launched at a workshop session at the February HESPA Conference, during which delegates were asked to feed in their thoughts on key business questions that will drive the design of analyses, visualisations and further features to be delivered through Heidi Plus and Heidi Lab. The workshop was oversubscribed and delegate feedback was very positive and supportive of the project. A blog of the session and a link to the business questions posed can be found at <https://www.business-intelligence.ac.uk/blog/>

Further sessions will be held at the Jisc Digifest and Tableau HE User Group conferences in March, with appearances at other events later in the year.

The existing Heidi User community have been informed of the project through the Heidi User and Local Administrator email lists, as well as by Heidi news articles.

A range of other communications activities including blogs and press articles are under development, along with use of social media and a new Jiscmail discussion group.

5. Development of Heidi Lab activities

Myles Danson, Project Manager (Jisc) will provide a verbal update on the developing shape of the Heidi Lab project at the Stakeholder Group meeting, including Business Intelligence maturity and professional services cost benchmarking.

6. Role of the Heidi Stakeholder Group in the HESA-Jisc Business Intelligence project

In addition to the regular progress updates and opportunity to raise issues and influence the project on behalf of the Heidi user community, we see a number of specific activities for members of the Heidi Stakeholder Group. We would welcome confirmation from the Group as to the willingness and availability to engage with these activities, and in due course to nominate specific members of the Group to undertake tasks. These activities are as follows:

- a. Configuration of the Tableau environment. There are a number of configuration options that will have an impact on how the new Heidi services are deployed, how users are authenticated, accounts managed, and object access permissions are assigned. HESA and Jisc will be working through those over the coming weeks. The experience and insights of Stakeholder Group members into how the current Heidi system and other BI resources are utilised within HE providers will be very helpful to ensure that the configuration decisions we take are appropriate for users.

- b. Data structures within the data warehouse. Similarly we would wish to consult members of the Group from time to time on aspects of the proposed data structures underpinning the new Heidi services.
- c. Alpha testing of the Heidi Plus service. It would be extremely helpful for members of the Stakeholder Group to undertake some testing of the new Heidi Plus service prior to launch of the Beta version at the end of July. Precise timescales for such alpha testing will be refined over the coming weeks.
- d. Review and testing of training materials. A specific objective within the project is to develop a range of new training materials and delivery mechanisms. Review and testing of these materials by Group members would ensure optimal training support for service users.
- e. Piloting of the professional services cost benchmarking service. During February 2016 we aim to commence pilots with HE providers trialling the new data capture and integration service.
- f. Heidi Lab involvement – to be discussed and refined.

Annex A - Project Specification for JISC – HESA Business Intelligence Project

Project duration:

Start date: 1 July 2014

End date: 31 December 2016

Summary of project

Phase 1: To replace the software platform for the Higher Education Information Database for Institutions (Heidi) and enhance its functionality as a business intelligence (BI) tool, serving a wider range of staff roles and supporting BI capability improvement across the sector. The working title of this will be 'Heidi-Plus'.

Phase 2: To build a developmental area which will provide an environment within which new features can be developed and tested including a data capture and integration service for professional service cost benchmarking. Successful features being migrated to Heidi-Plus or elsewhere to be agreed between Jisc and HESA, Unsuccessful features will be discontinued. The working title of this development area will be 'Heidi-Lab'. This area will facilitate cross-institutional collaborations in the identification, design, development and testing of new features.

Phase 1

Phase 1 comprises replacing the Heidi software platform to deliver enhanced data resources, BI functionality and visualisations. It will be delivered using a commercially-available or open-source data explorer tool in place of the current Heidi interface.

HESA work packages

1.1 Selection and procurement of data explorer tool

Milestone: Phase 1 tool selected and procured by end December 2014

1.2 Establishment of phase 1 and 2 technical infrastructure

Milestone: Functioning data warehouse and load processes end April 2015

1.3 Population and quality-assurance of data resources for Phase 1

1.4 Design and production of suite of training and support materials for Phase 1.

Milestone: Delivery of training events by end January 2016

1.5 Design, production and quality-assurance of analyses and visualisations for Phase 1

1.6 Review of access policy and contractual terms for Heidi-Plus and Heidi-Lab

1.7 Launch and review of field testing, beta (Heidi-Plus and Heidi-Lab) and production (Heidi-Plus) versions

Milestones: Field testing (to include Jisc and staff involved in cross-institutional projects), HESPA and Heidi Stakeholder Group – completed end May 2015 Beta version released end July 2015 Production version released end November 2015

1.8 User migration to Phase 1 service and decommissioning of existing Heidi

Milestone: Decommissioning of existing Heidi service end November 2016

1.9 API redevelopment Milestone: Release of Heidi-Plus API end November 2015

Deliverables for HESA work packages

1. A new software platform for Heidi that delivers current Heidi data sets as a minimum through a new data explorer tool. To include functionality for users to create their own data tabulations, analyses and visualisations.
2. A community-generated priority list of key business questions requiring insight.
3. A range of analyses delivered through Heidi-Plus to address the key business questions, including visualisations and contextual supporting information (e.g. narrative of intended application) for safe onward use developed in collaboration with relevant professional associations representing a range of HE staff roles.
4. An updated Application Programming Interface (API) to facilitate automated data extraction from Heidi-Plus.
5. A suite of training and support materials to enable best use of the service, analysis techniques, understanding data content and using it effectively.

Phase 2

It is intended that Heidi-Lab will include the following features, with other opportunities to be identified and agreed by HESA and Jisc during the course of the project:

1. Inclusion of a wider range of data sets than currently available from Heidi exploring other data sources beyond HESA and those already included in Heidi. New candidate datasets will be approved by both HESA and Jisc taking into account quality and reputational considerations and subject to appropriate licencing terms.
2. A data capture and integration service for professional service cost benchmarking. This will enable Higher Education Providers to upload cost data conforming to a taxonomy developed by the Universities UK led 'Delivering efficiency through effective benchmarking' project. Such data will undergo basic quality assurance by HESA before being disseminated through Heidi-Plus to a group of users which the submitting institution has selected.
3. New user interface / experience features. Such user interface/experience features may include aspects such as greater interactivity between users and those developing new tools, services or visualisations and may include greater signposting to other useful resources outside the environment of the Heidi system.
4. Production of training and support materials to help ensure end users are able to maximise the benefit from Heidi-Plus and Heidi-Lab.
5. Jisc and HESA will explore the effectiveness, demand, barriers and viability of offering new analytics based services through Heidi-Lab, e.g. Learning Analytics.

HESA work packages

2.3 Heidi-Lab content acquisition and load

2.4 Selection and procurement of data capture tool(s) for phase 2 professional services costs benchmarking

Milestone: Data capture tool(s) procured – end November 2015

2.5 Deploy phase 2 - professional services benchmarking data capture tool and establish service processes.

Milestone: Functioning tool and processes ready for pilots end January 2015

2.6 Pilot testing of phase 2 professional services costs benchmarking data capture tool with HE providers.

Milestones: Launch of professional services costs benchmarking pilots early February 2016 Launch professional services costs benchmarking beta early April 2016

2.7 Develop and deliver professional services costs benchmarking training materials

Milestone: Training materials ready for pilots – end January 2016

Deliverables for HESA work packages

1. A delivery mechanism for Heidi-Lab which may include an 'instance' of the software tool selected for Heidi-Plus (or may share a single instance with Heidi-Plus) alongside some capacity within the data warehouse that will host new data sets.
2. Documented options for new data sets for Heidi-Lab initially with the expectation that, if successful, these will likely migrate to Heidi-Plus as soon as is reasonably practical.
3. A functioning data capture and integration service for professional cost benchmarking.

Jisc work packages

2.1 Commission and run cross-user institution based projects (to support Phase 2 - Heidi-Lab)

2.2 Develop and deliver Heidi-Lab training materials

Milestone: Provide training materials to project – end May 2015

Deliverables for Jisc work packages

1. Documented options for user interface/user experience features and enhancements.
2. A suite of training and support materials aimed at assisting in BI uptake and maturity enhancement.
3. Documented options for new analytics based services such as Learning Analytics.

General Jisc work packages (covering phases 1 and 2)

G.1 Communications

Milestones: Launch of agreed project electronic communication mechanisms via microsite end October 2014

Quarterly news letters to key stakeholders October 2014 onwards

G.2 Market research for sustainability options including baseline analysis of current state of maturity of BI in UK HE and HE in FE.

Milestones: Baseline report of UK capability - March 2015

Landscape study of related initiatives, user needs and gap analysis March 2015

Impact measurement and sustainability options report May 2016

Recommendations paper June 2016

Selection of preferred sustainability option agreed July 2016.