

Investigation into the use of Microsoft SharePoint in Higher Education Institutions

Literature Review

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Executive Summary

SharePoint 2007 has spread rapidly in the Higher Education (HE) sector, as in most other market sectors. It is an extra-ordinarily wide ranging piece of software and it has been put to a wide variety of different uses by different UK Higher Education Institutions (HEIs). This literature review is based upon what HEIs have been willing to say about their implementations in public.

Implementations range from the provision of team sites supporting team collaboration, through the use of SharePoint to support specific functions, to its use as an institutional portal, providing staff and/or students with a single site from which to access key information sources and tools.

By far the most common usage of SharePoint in UK HEIs is for team collaboration. This sees SharePoint team sites replacing, or supplementing, network shared drives as the area in which staff collaborate on documents and share information with each other.

In most of these implementations it is left up to each team or department to decide whether or not they wish to have a SharePoint team site, and to apply to the IT department to get one. This makes an interesting contrast with the standard implementation method for enterprise content management systems (ECM) and electronic document and records management systems (EDRMS), where an organisation rolls out the system to all parts of the organisation, or designates centrally which particular parts of the organisation will receive the system.

Some HEIs have identified specific areas or functions which SharePoint will support and has brought (or is expected to bring) benefits. These areas include:

Teaching and learning: Microsoft has described SharePoint as a virtual learning environment (VLE) and has released a free set of open source code to add in specific VLE functionality. There is evidence that SharePoint is seriously being considered as a VLE, but the amount of customization required compared to a specialist VLE system has been cited as a disadvantage. So far SharePoint has failed to dent the market dominance of specialist VLE systems such as Blackboard and Moodle. At this point in time SharePoint is more often thought of as a portal into a specialist VLE than as a VLE in its own right.

Research: Several HEIs have identified supporting research teams as a driver for rolling out SharePoint team sites. The key functionality here is the ability to provide access to SharePoint team sites to people outside the institution - crucial when an HEI is collaborating with researchers at another institution or in the commercial sector.

Student administration: Most institutions have their own student administration database (SITS is the market leader). SharePoint will not challenge that dominance as its strength is in collaboration rather than the management of data. However, there are some examples of HEIs using SharePoint to act as a portal into SITS.

Social computing: SharePoint comes with wikis and blogs. Some HEIs have used SharePoint as their main wiki and blog provider. However in the social computing domain SharePoint has attracted criticism for a perceived lack of usability, and it faces strong competition from free, web hosted rivals. Some institutions have provided staff and/or students with a My Site page, both for them to use as a personal storage area, and to use to share information about themselves, their interests and their expertise. Other institutions have decided not to add My Sites to their SharePoint implementation.

Workflow and process improvement: Simple workflows can be set up within SharePoint. More sophisticated workflows can be set up through the use of electronic forms created in Infopath 2007 (another Microsoft product) and deployed in SharePoint. Several HEIs are using SharePoint to re-design particular processes around their institution.

Business intelligence: Microsoft have recently made their PerformancePoint Server product available as part of SharePoint 2007. Some HEIs have used SharePoint to pull data from various different line-of-business systems and combine that data in dashboards to monitor key performance indicators.

The most extensive implementations of SharePoint in UK HEIs have seen the system used:

- to power the institution's external website
- as a staff portal
- as a student portal
- to provide team collaboration spaces.

In these institutions SharePoint has become a core part of the HEI's information strategy, with the HEI developing SharePoint as the gateway into the other university information systems.

Areas for further research

The published literature about SharePoint implementations in UK HEIs is relatively small and focuses on the experience of a few HEIs. Whilst this is invaluable, rich, organisation-specific experience there is a need for further research to capture the reactions of key stakeholder groups in Higher Education to the product viz. students, researchers, learning technologists, lecturers, administrators.

There is also a need to capture reflections from HEIs on their implementations, to evaluate the extent to which SharePoint has proved beneficial and useful to different areas of an HEI, and to start to identify learning from early implementations.

As well as the point of view of the individual and the institution there is a need to take a sector view, and look at what opportunities and threats SharePoint presents to the sector as a whole, and what support, help or advice HEIs need in relation to these opportunities and threats.

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1. About this research project: Investigation into the use of Microsoft SharePoint by Higher Education Institutions (HEIs)

There is some evidence that interest in Microsoft SharePoint solutions is growing within the UK education and wider public sector. This study is being funded by Eduserv under their Research Programme, for two reasons:

- to improve HEIs' understanding about the level and nature of interest in SharePoint and whether it is justified in terms of accepted good practice
- to enhance Eduserv's understanding about the uptake and usage of SharePoint solutions in the UK HE community and influence their 2-3 year plans for service provision in line with their charitable mission.

The final report from the study will be made freely available to the community under a Creative Commons licence.

The work is being undertaken by Northumbria University using a team of internal and external staff. It will include a mix of telephone interviews, face-to-face meetings and an online public consultation. Please see the project website for further details.

http://www.northumbria.ac.uk/sharepoint_study

Eduserv is a not-for-profit IT service provider with a charitable mission to realise the benefits of ICT for learners and researchers. Eduserv is dedicated to developing effective technology solutions that meet the needs of universities, colleges and public sector organisations.

<http://www.eduserv.org.uk/research>

2. Approach: method and literature searched

Because SharePoint 2007 is a relatively recent phenomenon and a proprietary product, little has been published in peer-reviewed academic literature. This was established through searches of relevant abstracting and indexing databases (i.e. LISA, ERIC and the British Education Index) and a journal contents page search (via Zetoc). To ensure coverage of current information the searches were conducted for:

- References to SharePoint on the websites of HEIs (to find descriptions of SharePoint implementations by the HEIs themselves)
- Google searches on combinations of the word SharePoint with other concepts unique to the Higher Education sector (such as 'SharePoint + VLE', 'SharePoint + student information system', 'SharePoint + portal within domain ac.uk').

The literature review was largely confined to the UK HEI sector, although examples from overseas (US and the Netherlands) have been covered because they illustrate specific points of debate in relationship to SharePoint as a Virtual Learning Environment (VLE).

All of the websites mentioned in this paper were accessed between 24 July 2009 and the 31 August 2009.

3. The nature of SharePoint 2007 as an information system

SharePoint is a collaborative system, based around sites that can be viewed and interacted with through a web browser (<http://sharepoint.microsoft.com/>).

3.1 Types of SharePoint site

SharePoint provides three main types of site:

- i. **Team sites:** these sites enable groups of colleagues to work together and share documents and information. Organisations have implemented SharePoint as a replacement for, or supplement to, shared network drives. Compared with shared drives, team sites are:
 - o more flexible - site owners can determine who within the HEI can have access to the team site, and what they can do within the site, without having to refer to an IT administrator
 - o more powerful in terms of the collaboration functionality that they provide, including discussion boards, task lists, shared calendars, document management features such as version control and metadata.

The flip side of this increased flexibility and power is that team sites are more complex for individuals and teams to learn and to administer than shared drives.

[See Section 5: Use of SharePoint 2007 for document management and team collaboration for a discussion of the use of team sites by UK HEIs].

- ii. **My Sites:** My Sites provide an individual with their own personal SharePoint site. By default a My Site contains two pages:
 - o **a personal page** (My Home) - this part of the My Site is private to the individual. It allows individuals to manage their own documents, tasks etc, and to manage their subscriptions to information from elsewhere in SharePoint. An individual can allow selected colleagues to view particular parts of their private page, for example to collaborate on a document.
 - o **a public page** (My Profile) – this part of the My Site is accessible to everyone. It enables individuals to describe themselves, and to provide such information as they wish to make generally available to colleagues, for example contact details, skills and experience, role and job title. Individuals may also use it to maintain a blog accessible by the rest of the institution.

[Some of the HEIs that have implemented SharePoint have chosen to roll out My Sites to staff and students. Other HEIs have either not implemented My Sites at all or restricted them to staff. See Section 9 for the use of SharePoint My Sites in HEIs].

- iii. **Publishing sites:** these are intended to be generally accessible via the Web, or accessible to the whole organisation. They enable SharePoint to be used to power an organisation's external website, and/or its intranet. The templates on which publishing sites are based can be customised to enable the organisation to establish their desired branding, look and feel.

[In the UK HE sector some of the most ambitious SharePoint implementations involve the use of SharePoint by an HEI to provide staff and/or students with a portal, which connects them to key information systems within the institution. See Section 12 for the use of SharePoint 2007 as an institutional portal, intranet and/or for managing websites].

3.2 SharePoint web parts

SharePoint enables site owners to utilise a wide variety of collaborative tools within the three types of site described above. These tools take the form of web parts which can be placed on a page within the site. SharePoint provides a wide variety of web parts including:

- **libraries** for the storage of resources (i.e. document libraries, picture libraries, slide libraries, form libraries). Document libraries are the most common- they can be used to store documents, capture metadata about documents and to impose version control on documents.
- **lists** for the storage and display of data. Lists take many different forms, including calendars, contact lists, discussion boards, task lists, and announcements.

In addition to the default library and list web parts provided by SharePoint, organisations are able to define their own web parts, to perform specific functions required by the organisation. Once a web part is defined for one SharePoint site the code can be saved and then uploaded and redeployed elsewhere. A saved web part could be deployed by the same organisation elsewhere in their SharePoint implementation or by another organisation in an entirely different SharePoint implementation.

The ability to deploy web parts is one of the reasons why an 'ecosystem' has arisen around SharePoint, with developers creating web parts, for re-use by others. Web parts have been developed on a commercial or a community basis. Microsoft say in their marketing brochure "Microsoft Office SharePoint Server 2007: Teaching and Learning for the 21st Century'

"Over 100 educational applications now integrate with SharePoint to meet the needs of education in the UK." (Brochure available from <http://blogs.msdn.com/ukhe/archive/2008/12/19/sharepoint-in-education-putting-students-at-the-centre-of-learning.aspx>)

3.3 Additional SharePoint functionality

SharePoint 2007 also comes with functionality for:

- **Single sign on:** enables the organisation to connect SharePoint to other information systems. Users sign on once to SharePoint, and once SharePoint has authenticated them they can access the other information systems without having to provide their username and password.
- **Wikis and blogs**
- **Enterprise search:** the ability to set up connectors from SharePoint to other systems to enable people to search across several different organizational systems from within SharePoint
- **Business Data Catalogue:** ability to draw in data from other systems and display it within SharePoint
- **Business intelligence:** ability to use data from SharePoint and from other systems to report on Key Performance Indicators and to present performance management

dashboards.

4. The spectrum of SharePoint 2007 implementations in UK Higher Education

SharePoint implementations in HEIs can be grouped according to how central SharePoint is to information management and communication in that institution. A spectrum of implementation types can be identified:

- at one end of the spectrum there are implementations which involve the provision of team sites to those teams or groups that want them
- in the middle of the spectrum are implementations which in addition to providing team sites, involve the planned use of SharePoint to support specific functions and achieve specific benefits
- at the other end of the spectrum there are implementations which, in addition to the provision of team sites, involve the use of SharePoint as a portal, connected to the other key information systems in the institution, aiming to provide staff and/or students with one place to access the institution's key information systems and collaborative tools.

Note that the spectrum simply indicates the extent to which the HEI has decided to base its information management strategy around SharePoint; it does not imply that any position on the spectrum is better than any other or that being on the spectrum in the first place is better than using systems other than SharePoint. Sections 5-12 examine published examples of SharePoint implementations in the HE sector which span the full spectrum.

5. Use of SharePoint 2007 for document management and team collaboration

5.1 *Examples of SharePoint's usage for document management and team collaboration in UK HEIs*

In many UK HEIs SharePoint 2007 is being rolled out as a tool for staff to use to collaborate on and store documents. In this sense SharePoint is effectively being rolled out as a replacement for, or a supplement to, the shared network drive.

SharePoint has the following advantages over shared network drives as a document management and team collaboration environment:

- **Flexibility of access:** shared drives tend to be set up for specific teams or organisational units. For a colleague elsewhere in the HEI to access the shared drive they have to be mapped to the specific drive by an IT administrator. In contrast the owner of a SharePoint team site can allow access to the site for any member of the HEI, without having to go through an IT administrator. It is also possible for site owners to allow access to their site to people external to the HEI
- **Metadata and version control:** documents in team sites are stored in document libraries. These can be configured by teams to capture metadata about documents and to impose version control and check in-check out on documents
- **Collaboration tools:** alongside the document management facilities offered by the document libraries, SharePoint team sites provide the ability to set up shared collaborative resources (such as discussion forums, wikis, blogs, calendar). In contrast, shared network drives only offer the ability to store documents in folders.

The increased functionality of SharePoint 2007 team sites over the shared drive is likely to mean that more and more IT departments in HEIs will be keen to roll out SharePoint team sites as a replacement for network shared drives.

The University of Kent say on their website that SharePoint will be rolled out to staff from August 2009. The University of Kent Information Services describe SharePoint as a system...

“which enables team collaboration, workflow automation, discussion and information sharing with an easy to use web interface”

<http://www.kent.ac.uk/is/news/issue13/sharepoint.html>

As a result of the University of Oxford’s planned SharePoint roll out:

“Up to fifteen hundred Research Groups, University Committees, and University Clubs will be able to create Sites within the SharePoint system (shared web space for activities to store, retrieve and maintain documents), each with between 1-5GB storage”

(<http://www.oucs.ox.ac.uk/groupware/docs/GroupwareProjectSpecificationv1pt1.pdf> section 3.1.3)

Elsewhere in the same document the University describe their SharePoint system as:

“A shared data repository enabling individuals and groups within the University to store, retrieve, and maintain documents flexibly and securely across different platforms”

(<http://www.oucs.ox.ac.uk/groupware/docs/GroupwareProjectSpecificationv1pt1.pdf> section 3.)’

University College London (UCL) provides SharePoint team sites on demand to teams working in the Corporate Support Services Division. Any team wanting a SharePoint teamsite simply applies to the Administrative Desktop Service (ADS) for the site. The ADS describes SharePoint and the uses it anticipates teams will make of their sites as follows:

“SharePoint is a web-based collaborative working tool. It enables you to share documents and communicate with a group of people. This group could comprise immediate colleagues or they could be using separate IT systems and be geographically dispersed and even external to UCL. For example, Management Systems use SharePoint to share project documentation and information amongst stakeholders in their projects.

A wide variety of information such as: documents, calendars, contacts and manage tasks and events can be shared. Because SharePoint sites are websites they are accessible wherever you have access to the Internet.

The sites are created by the ADS Team then handed over to the site owner (or administrator) for day-to-day management.”

<http://www.ucl.ac.uk/management-systems/ads/sharepoint/index.html>

The model employed by UCL, whereby SharePoint is available as a tool if and when teams wish to use it, with an IT department acting as gatekeeper, is also in place at several other universities, including:

- **Aberystwyth University:** teams need to fill out a form (<http://www.inf.aber.ac.uk/advisory/forms/SharePoint.pdf>) and return it to the Desktop Services Software Team in order to get their team site
- **Liverpool John Moores University:** Each team wishing to have a team site must apply to Computing and Information Systems (CIS). When CIS receive an application they arrange an initial meeting to give an overview of the main features of SharePoint ('such as document libraries, lists, alerts, announcements, permissions and so on'). Once the team has decided what features it wants in their team site CIS gives them Site Owner training, and then sets up their site for them. CIS also provide ongoing support and advice. This is an example of an IT department with a very hands-on approach. <http://www.ljmu.ac.uk/cis/SharePoint/index.htm>

The model whereby an IT department provides a team site to any work group that wants one has advantages and disadvantages. The advantages are that:

- user resistance is reduced, the system only goes to teams that have asked for it, rather than being imposed on all teams.
- There is no need for the time consuming (and risky) building of a corporate classification (fileplan) before implementation starts

The disadvantages are:

- The lack of a corporate classification means that implementations risk lacking structure and coherence
- teams and functions that may benefit from SharePoint will miss out on it if they fail to put themselves forward for a teamsite
- the structure of the overall SharePoint implementation will be based on organisational lines, causing disruption in times of organisational change

5.2 SharePoint in the wider context of document and records management in the HE sector

In 2002 JISC published its '*Study of the records lifecycle*' (<http://www.jisc.ac.uk/publications/documents/recordsrslstructure.aspx>). The study took a holistic approach to document and records management. The study consisted of two outputs intended to be of practical use to HEIs:

- **A business function activity model (business classification scheme)** that aims to covers all the activities of an HEI (including teaching and learning, research, student administration together with the corporate administration, marketing and governance functions). The intention was that the function activity model, today more commonly referred to as a business classification scheme, could be used by any HEI as the basis of their fileplan. Their fileplan provides the HEI with one hierarchical structure to manage all the institution's electronic records.
- **A retention schedule**, outlining how long records of each activity outlined in the business classification scheme should be kept.

The Study was published in the context of:

- **Freedom of Information (Fol) Legislation:** the Fol Act for England and Wales had been passed in 2000, and was due to come into force on 1 January 2005. Scotland's Fol Act, passed in 2002, was also due to come into force on the same date
- **The move of central government towards electronic records management:** UK

central government had set itself a target of 2004 to manage all records electronically (though this was later changed to 2005 to coincide with Fol legislation enforcement). Many government departments were implementing or planning to implement electronic document and records management (EDRM) systems in their attempt to meet this target. The UK National Archives had in 1999 and 2002 issued a statement of functional requirements that defined EDRM (<http://www.egovmonitor.com/node/181>).

EDRM systems allow an organization to store its corporate fileplan and its retention rules. Teams starting new pieces of work would create folders for that work and classify them within the corporate fileplan, from which they would inherit the appropriate retention rule.

By providing a generic fileplan and retention schedule for the sector, JISC was offering significant practical help to HEIs wishing to move down the EDRM route. They also published in 2004 a toolkit entitled 'Implementing an Electronic Document and Records Management System'. <http://www.jiscinfonet.ac.uk/InfoKits/edrm/index.html>

In the event, UK Higher Education as a sector did not follow central government's lead. Where HEIs have introduced EDRM systems they have tended to do so in a limited number of areas, rather than across the whole institution. When HEIs realised after 2005 that they could cope with Freedom of Information without EDRM, there was significantly less pressure to implement these systems.

Compared with central government HEIs have a more decentralized organizational culture, with faculties, schools and departments tending to be suspicious of strong central corporate control. The failure of EDRM to gain a grip in the HE sector, despite the initial support given by JISC between 2002 and 2004, may stem from a feeling that rigid corporate fileplans were culturally alien to HEIs

Steve Bailey, Records Management Advisor for JISC infoNet, has taken a strong stance against EDRM, issuing a stark condemnation of the record of EDRM in a presentation to the 2008 Records Management Society Conference. (<http://rmfuturewatch.blogspot.com/2008/04/edrms-case-against.html>)

In the presentation he argued that the most important information in organizations tended to be already managed by specific information systems and stated that:

“vast quantities of vital corporate information, often relating to its most important functions and processes, remain almost completely untouched by the EDRMS. When it fails to integrate with the HR system, the finance system, the virtual learning environment, laboratory equipment, the website and the CRM what are you left with? A damned expensive sledgehammer to crack the nut that is the largely ephemeral contents of most network drives.” (http://docs.google.com/Doc?id=dc52qj5m_1chn77zdw)

The relative failure of the movement towards EDRM in HE has left something of a vacuum with regard to records and document management in HEIs. SharePoint is stepping into this breach as a system that offers better document management facilities than shared network drives, but without the onerous corporate disciplines of EDRM.

Microsoft did not design records management within SharePoint on the TNA 2002 standard on which EDRM systems are based. SharePoint 2007 offers no support for hierarchical classifications so there is nowhere for an HEI store and maintain a fileplan based on, for example, the JISC business classification scheme. There are ways of applying retention rules to particular

content types or document libraries, but there is no easy way of storing retention rules and applying them consistently across the HEI.

SharePoint's main competitors in the document management space are enterprise content management systems, such as Documentum (from EMC <http://www.emc.com>), Livelink (from Open Text <http://www.opentext.com/> and Trim (from Hewlett Packard <http://h71028.www7.hp.com/enterprise/w1/en/software/information-management-trim.html>). These are all EDRM systems that have records management capabilities based on the TNA 2002 statement of functional requirements (<http://collections.europarchive.org/tna/20080107231552/http://www.nationalarchives.gov.uk/electronicrecords/function.htm>).

EDRM systems are stronger than SharePoint if an organization wishes to set up and maintain a very strong corporate-centric information system. SharePoint on the other hand gives much greater local customizability and flexibility. SharePoint offers less risk of rejection by users than a corporate EDRMS, but brings with it risks of 'SharePoint sprawl' a phenomenon arising from the unfettered expansion of SharePoint team sites. (For more details on SharePoint sprawl see Bradley (2008) <http://sharepointmagazine.net/news/what-is-your-firms-sharepoint-balance>, especially Section 3 'We've Got HOW MANY SharePoint Sites?!' Records management consultant Don Leuders gives his views on SharePoint sprawl at <http://sharepointrm.wordpress.com/tag/sharepoint-sprawl/>).

No published examples have been identified of HEIs that have attempted to implement the full EDRM model, with a corporate business classification (based on the JISC business classification scheme) and a roll out to all staff. However there are examples of HEIs purchasing EDRM/ECM systems and rolling them out to particular parts of the organization. For example UCL, as well as providing SharePoint team sites, have separately implemented the EDRM/ECM system Documentum in some parts of the institution. They have used Documentum to hold their student records (integrating with the SITS student database) and for research projects. (SITS student information system, see: <http://www.tribalgroupp.co.uk/servicesandsectors/Pages/servicesSITSVision.aspx>).

Interestingly in those institutions which have already implemented an EDRM/ECM system in part of the organization there is scope for rivalry and confusion between SharePoint and the EDRM systems. In January 2009 Will Miller, Director of Management Systems, at UCL made a presentation to the UCISA Electronic Document and Records Management Seminar (<http://www.ucisa.ac.uk/groups/cisg/Events/2009/ERDMS/Programme.aspx>). In the presentation Miller pointed out that there are similarities in the functionality provided by Documentum e-Rooms with that provided by SharePoint team sites (http://www.ucisa.ac.uk/~media/groups/cisg/events/2009/EDRMS/will_miller_ucl%20pdf.ashx slide 18)

6. Use of SharePoint 2007 to support teaching and learning

6.1 *The nature of Virtual Learning Environments*

Virtual Learning Environments (VLEs) provide a place in which students can access key resources in relation to their courses such as:

- learning materials
- course timetables
- assignment details

- news and announcements

They are also places in which students can collaborate with fellow students and academic staff, and where students can maintain their own work and submit assignments, and record their own learning journey.

There is a tension between:

- on the one hand the need of the institution for technology to support the management of its learning provision, to maintain course information and to administer assignments, lecture rooms and course materials, and
- on the other hand the need of the individual learner to have technology support to pursue and to document their own personal learning journey.

Some learning technologists have championed the cause of the 'personal learning environment' (PLE) http://en.wikipedia.org/wiki/History_of_personal_learning_environments where the technology is built around the learner's need to support their learning rather than the institution's need to manage its learning provision. A related concept is that of the 'e-portfolio' (http://en.wikipedia.org/wiki/Electronic_portfolio) which is a vehicle for an individual to record and demonstrate their learning and achievements.

6.2 *The Virtual Learning Environment (VLE) market*

VLEs are a primary way in which HEIs manage teaching and learning. The market for VLE software is bigger than just HEIs, also comprising schools and further education colleges.

With SharePoint 2007 Microsoft are making an explicit move into the VLE market. This makes them the first enterprise system, from a non-academic background, to attempt to break into the VLE market.

In the UK the VLE market has hitherto been dominated by two specialist VLE providers:

- Blackboard (a proprietary system)
- Moodle (an open source system).

In their 2008 Survey of Technology Enhanced Learning for Higher Education in the UK, UCISA notes a consolidation in the market:

"Blackboard continues as the most used enterprise or institutional VLE. However, when also including VLEs that are used more locally, e.g. within departments, then Moodle is most used with a rapid rise since 2005. Overall, there is a vastly reduced range of VLEs in use since 2005."

(<http://www.ucisa.ac.uk/publications/~media/290DD5217DA5422C8775F246791F5523.ashx> page 7)

In that 2008 survey "SharePoint was identified as the leading institutionally developed [VLE] platform" However SharePoint still trailed well behind Blackboard and Moodle with only 5 HEIs using it as their main VLE (7% of the sample).

(<http://www.ucisa.ac.uk/publications/~media/290DD5217DA5422C8775F246791F5523.ashx> page 14 and Table A3.4c, page 37).

With most HEIs already having a VLE in place Microsoft are likely to find this a tough market to enter.

The minutes of the Scottish SharePoint Forum, held on 16 June 2008 and hosted by the JISC Regional Support Committee, include a list of the questions discussed in the open session at the end of the meeting. The list includes a predominance of questions about the relationship between SharePoint and VLEs:

- “Is there an overlap between the functionality of VLEs and SharePoint or do they serve different purposes?”
- Does content need to be in a single place (i.e. the VLE, SharePoint or elsewhere)? Does this matter if the end user can be directed to services via a single interface (and single sign-on)?
- Single sign-on is essential for providing seamless access to services for students
- What content should be provided for students? Are we giving them what they need or are we simply being led by the tools that are available?
- VLEs are effective tools for distance learning, but are they being used widely by other students?”
(<https://www.jiscmail.ac.uk/cgi-bin/webadmin?A2=ind0806&L=SHAREPOINT-SCOTLAND&P=R34092&D=0&T=0>)

6.3 Microsoft and the positioning of SharePoint as both a VLE and a portal to other VLEs

Microsoft’s Higher Education blog has promoted SharePoint’s claims to be considered as a VLE.

In October 2008 Dominic Watts, Microsoft UK’s HE Business manager, posted a blogpost ‘Using SharePoint as a VLE’ (<http://blogs.msdn.com/ukhe/archive/2008/10/02/using-sharepoint-as-a-vle.aspx>). In it Watts states that universities could use SharePoint as their VLE either by using out-of-the-box functionality or by customisation.

The post itself does not elaborate on using SharePoint’s out of the box functionality, but this is likely to mean:

- using SharePoint team sites as collaborative areas for staff and students around course modules
- giving each student an individual ‘My Site’ through which to organise their own work, and collaborate with fellow students and lecturers.

A SharePoint team site could be used to host:

- learning resources (slide packs, reading lists etc) in document libraries
- discussions and news and announcements
- calendars with key course dates, lecture schedules and assessment due dates.

In terms of customisation Microsoft are making a SharePoint Learning Kit freely available via Codeplex that extends SharePoint to provide VLE functionality (<http://www.codeplex.com/SLK>). Interestingly in a comment to the same blogpost Watts said a “small but growing” number of UK HEIs were using SharePoint as their VLE. The University of Plymouth is the only HEI that he cites as using SharePoint as its VLE.

In a post of 26 March 2009 Watts characterises the usage of SharePoint by HEIs as being “to support a broad range of needs ranging from simple document management to business intelligence and VLEs” (<http://blogs.msdn.com/ukhe/archive/2009/03/26/how-far-has-sharepoint-come-in-uk-higher-education.aspx>)

Microsoft is keeping its options open with regard to VLEs. As well as promoting SharePoint as a VLE in its own right, it is also badging SharePoint as an enterprise portal that can provide access to the VLE and any other HEI information system. As early as May 2007 Microsoft announced that web parts had been developed that enabled information from Moodle to be displayed within SharePoint. (<http://blogs.msdn.com/ukhe/archive/2007/05/24/moodle-web-parts-for-sharepoint-2007-released.aspx>)

6.4 *Reasons for usage or non-usage of SharePoint as a VLE/PLE*

In the USA, Washington State University's Centre for Learning, Teaching and Technology gives the following four reasons for piloting SharePoint as a learning environment for students, in preference to Blackboard, the market leading specialist VLE:

- "students are learning skills in SharePoint that they can later [sic] in work contexts, where Blackboard skills are not useful outside the school context"
- "As our university adopts SharePoint for a variety of administrative purposes, there become a larger group of SharePoint experts who can provide support to both faculty and students using SharePoint as a learning platform."
- "SharePoint has a concept for exporting sites and elements of sites (libraries, web parts, surveys, etc) as .STP files and then re-importing these into other sites or adding them to templates for users to choose."
- "SharePoint's architecture enables other linkages and mashups. It is a source and consumer of RSS, will support embedding of other Web 2.0 resources in its pages, and can capture email and originate email alerts."
<http://wsuctlt.wordpress.com/2008/06/04/hub-and-spoke-model-of-course-design/>

The blogpost also mentioned the flexibility of SharePoint document libraries, and SharePoint's fine grained access control.

In contrast Utrecht University chose Blackboard as its VLE, rather than SharePoint, even though it is using SharePoint for its website, intranet and had plans to use it for team sites. Keith Russell wrote a blogpost in which he gave the following rationale for Utrecht's rejection of SharePoint as a VLE:

"Blackboard offers all the required functionalities out-of-the-box, whereas using SharePoint would require a lot of programming and customising. This would not only make it a very expensive option in the short term, but also requires upkeep and adaptations in the longer term. SharePoint was also considered less suitable due to the steep learning curve for staff. This is related to the fact that it is not purpose-built for teaching and learning and does not fit in the 'classroom metaphor'"
<http://keithrussell.blogspot.com/2008/07/utrecht-university-has-chosen-for.html>

6.5 *Use of SharePoint My Sites as e-portfolios*

Washington State University's Centre for Learning, Teaching and Technology were looking to provide a student centric, rather than an institution centric, learning environment.

It provided students with SharePoint My Sites for use as a learning portfolio. Its aim was to encourage students to keep a documentary record of its attempts to understand or tackle a particular real-world learning problem, and to seek engagement with people inside or outside the

institution about that problem (<http://wsuctlt.wordpress.com/2008/06/04/hub-and-spoke-model-of-course-design/>).

A selection of the learning portfolios created by students using their SharePoint My Sites can be viewed at a gallery set up by the Centre

https://my.wsu.edu/portal/page?_pageid=177,321149&_dad=portal&_schema=PORTAL

Some of the students set their My Sites up to look and feel like blogs, others set them up to look and feel like website. Some of the SharePoint features used by the students include:

- the ability to maintain documents and pictures in document libraries, together with metadata about them
- the ability to create sub pages
- the ability to extensively customise pages, to create a distinct look and feel.

6.6 Open Source versus Proprietary systems for Virtual Learning Environments

SharePoint, like Blackboard, is a proprietary system. Some universities have stated a preference for open source VLEs. The University of Twente cited the proprietary nature of SharePoint as a disadvantage and one of their reasons for not proceeding with it as their VLE

‘The Dutch parliament (Tweede Kamer) recently accepted an action plan, called “The Netherlands in Open Connection”. The main goal of this action plan is to really start using and implementing Open Standards and Open Source Software in the public and semi-public sector. A choice for MS SharePoint is not in line with this official government policy. The University of Twente should be aware of possible consequences and should act accordingly.’

(http://www.utwente.nl/elo/rapporten_quickscan_sp/d_sharepoint_eindrapport_v10.pdf page 5)

The University of Oxford is planning a large scale implementation of SharePoint for staff and students, but has decided not to implement it as its VLE. Instead it is migrating from one open source VLE (Bodington) to another open source VLE (Sakai). Oxford University Computing Service states the following on its website about the choice:

“The main benefits of choosing an open source system are:

- **flexibility:** Oxford's IT infrastructure means that 'one size certainly does not fit all'; commercial VLEs do not support Oxford's model of devolved administration.
- **responsiveness:** the central VLE team can respond very quickly to performance problems, bug reports and requests for new functionality.
- **customisation:** of terminology, interface and toolset.
- **no licensing restrictions:** there are no restrictions on the number of users allowed to access the service; in a research-intensive institution such as Oxford it [is] essential that external collaborators can have an account and work within the VLE without us having to worry about licensing restrictions.
- **integration with other Oxford IT systems:** it is easy to modify the software and follow the recommended Service Oriented Architecture approach recommended by the JISC; for example, we have integrated Sakai with the Oxford Single Sign-On (SSO) service (WebAuth), the new Oak Authorisation service and various library systems; in the future we are committed to embrace the Oak Groups service, the institutional RSS service Oxltems, Groupware (SharePoint / Exchange) and the proposed OUCS mobile

- computing infrastructure.
- **external funding:** open source software is generally more amenable to the use of open standards and thus allowed OUCS to pursue external research grants through the JISC and the like.
- **clear exit strategy** - no product lock-in: content can be imported and exported with comparative ease.
- **free from commercial risk:** ironically because there is no company backing the system there is thus no risk of the company being taken over by one of its rivals and us being forced to move to a new platform against our wishes!"
<http://www.oucs.ox.ac.uk/weblearn/index.xml.ID=questions>

7. Use of SharePoint 2007 to support research teams

7.1 JISC and the Virtual Research Environment (VRE)

In 2004 JISC started its Virtual Research Environment (VRE) programme. The aims of the programme involve:

- "building and deploying Virtual Research Environments (VREs) based on currently available tools and frameworks
- assessing their benefits and shortcomings in supporting the research process
- improving and extending them to meet the future needs of UK research
- developing or integrating new tools and frameworks where appropriate solutions do not yet exist "(http://www.jisc.ac.uk/programme_vre.html)

On the same web page JISC defines the purpose of a VRE as being:

"to help researchers in all disciplines manage the increasingly complex range of tasks involved in carrying out research."

In the current phase of research for the programme only one of the 12 projects involves SharePoint. That project is the Cancer Imaging VRE project, based at the University of Oxford. The project involves linking university and hospital information resources for sharing information on cancer:

"The collaboration includes researchers at the Oxford e-Research Centre (OeRC), information engineers, clinicians at the Churchill hospital and researchers in the department of radiology, oncology and biology together with developers at Microsoft Corp. The resulting framework will sit on top of standard off the shelf technologies and will be developed as open source that can be used and adapted by researchers both within and external to Oxford University.

The development of this framework is very timely as Oxford University has recently adopted Microsoft Exchange and SharePoint as a groupware solution that will be implemented across the University. This project will be an exemplar of the use of these technologies in a University setting for the support of research and operating as a virtual research environment framework. The John Radcliffe information system is also based on SharePoint which presents the opportunity to consider the issues of integration across NHS and academic resources."

(<http://www.jisc.ac.uk/whatwedo/programmes/vre/civre.aspx>)

7.2 The University of Oxford's use of SharePoint for research administration

The University of Oxford is implementing SharePoint to support its administrative and research functions. It has published a document which sets out for students and staff what system to choose for any particular information - 'University of Oxford Online Environment Weblearn and Nexus – which tool for which activity?'

(<http://www.ict.ox.ac.uk/odit/projects/groupware/project/109ODIT.pdf>)

The document distinguishes the purposes that it anticipates staff and students will make use of Nexus¹

- "Email, with a rich set of features
 - University-wide calendars
 - Global address book and shareable contact lists and address books
 - Workflow for processes
 - Resource booking
 - Personal profiles/websites
 - Committee administration (web pages, document management, wikis, calendars etc)
 - Research group administration (web pages, document mgmt, wikis, calendars etc)
 - Club administration (web pages, document mgt, wikis, calendars, handbooks)"
- (<http://www.ict.ox.ac.uk/odit/projects/groupware/project/109ODIT.pdf>)

In contrast the range of functions that the University of Oxford anticipates staff and students will make of Weblearn²:

- "Course sites and course events
 - Lecture notes and Handbooks
 - Teaching presentations
 - Reading lists and bibliographic tools
 - Online assessments
 - Plagiarism detection
 - Student feedback surveys
 - Course announcements
 - Learning related discussion forums and chat areas
 - Learning wikis and blogs
 - Tutorial bookings
 - Student support and management (complementing the Student System)"
- (<http://www.ict.ox.ac.uk/odit/projects/groupware/project/109ODIT.pdf>)

7.3 Kingston University's use of SharePoint 2007 for collaborative research sites

Kingston University has implemented SharePoint to provide a collaborative environment for researchers.

A key requirement of any information system that supports research is that it must allow researchers to collaborate with colleagues at other institutions. According to a Microsoft Case

¹ Nexus is Oxford University's term for its implementation of Microsoft SharePoint 2007 and Microsoft Exchange

² Weblearn is Oxford University's brand name for its Virtual Learning Environment, which is powered by the open source system Sakai

study, one of the key benefits that they have realized is that academic: “can set up shared academic research sites without IT assistance”.

(http://www.microsoft.com/casestudies/Case_Study_Detail.aspx?CaseStudyID=200917 written January 2007)

Kingston University’s then Head of Technical Services, Ian McNeice, said the following when interviewed for the Office Rocker blog:

“The recent use of SharePoint 3.0 to illustrate how team sites can extend beyond the traditional boundaries of our enterprise for research activities is now influencing the collaborative models that some business environments have so far not solved. A good example would be the work we have done with research sites in SharePoint 3.0 and how that is being used as a collaborative think tank for a section of the UK aerospace industry to look at a UK wide collaborative platform for a tender process for defence” [SharePoint 2007 is the third version of SharePoint].

<http://blogs.msdn.com/officerocker/archive/2007/01/15/kingston-university-the-future-s-bright-with-2007-office.aspx>

8. Use of SharePoint 2007 for student support and administration

In August 2008 JISC published their ‘Landscape Study of Student Lifecycle Relationship Management’ looking at the information systems that institutions in UK Further and Higher Education use to manage their relationship with students (<http://www.jisc.ac.uk/publications/documents/slrmsfinalreport.aspx>). The report summarises the use of software to support student administration:

“Across the student lifecycle, a wide range of different software products are in use. However the most commonly used system is SITS. SITS users tend to use SITS across the full student lifecycle from pre-application to alumni and finance, although different systems are frequently cited for functions such as the library, alumni management, timetabling and finance. Banner and Campus Solutions also offer full-lifecycle integration but generally have been introduced within the last five years or so. Many also have in-house systems which have been developed over a number of years.” (http://www.jisc.ac.uk/media/documents/programmes/jos/slrms_report.pdf section 6.1)

SITS is a student records database system. SharePoint’s strength is in collaboration rather than the management of data, and it is not attempting to compete for this market. Some institutions are attempting to implement SharePoint as a portal, providing one point of access to the several different information systems that students interact with.

There is some evidence of SharePoint being adapted to support certain aspects of student administration not covered by an institution’s main student record database. (See for example UWE’s use of SharePoint team sites for managing student residences - Section 10.2).

9. Use of SharePoint 2007 for social computing

9.1 Features of SharePoint that enable it to be used for social computing

The key feature of SharePoint that enables it to be used for social computing is the 'My Site'. This provides individuals with their own area within SharePoint.

There are two aspects to a My Site:

- A private area (My Home) that the individual can use for document storage and collaborating with particular individuals (their lecturers, fellow students). This can be used by the individual to set their subscriptions to information sources held elsewhere in SharePoint, and it can be used by the institution to 'push' information to the individual.
- A profile page (My Profile) which the individual can use to present a picture of themselves to the rest of the institution. Typical uses individual might make of their My Profile include providing a description of themselves, contact details, details of how their role, and maintaining a blog.

There is much debate on the web as to whether or not the blogs, wikis and My Site facilities that Microsoft provides are sufficiently usable for SharePoint to be regarded as social computing software.³ In March 2008 Mike Gotta claimed that Microsoft had "missed the boat" with social computing and that they were reliant on customers buying add-ons from third party vendors such as Telligent for features such as blogs, wikis and social networking.

(<http://mikeg.typepad.com/perceptions/2008/03/microsoft-conti.html#>).

Jim Goings (who now works for a Microsoft competitor, Jive) said of SharePoint's lack of usability:

"Getting users to understand and adopt social software can be hard in general, but SharePoint has so many options and options within options that users are literally scared of using it. I saw the glazed-over stare of users time and time again when they attempted to use SharePoint." <http://www.jimgoings.com/2008/03/sharepoint-not-the-social-answer/>

Steve Gaitten wrote a blogpost in April 19 2009 including the following criticisms of SharePoint My Sites:

- "**Too hard to personalise** - if we're asking users to choose, add and configure Web Parts to create a basic user profile, it's just not going to work. Many employees can't do it and most just don't care enough to make the effort."
- "**Status is absent.** The single most important feature driving the adoption of Twitter and Facebook is the status message. What are you doing right now? "
- "**Lack of integration with existing social networks.** Social networking is one of those things where you need a lot of people to play for it to work. On that basis alone, I'm skeptical that viable social networks can be formed outside of the largest organizations. You need thousands of users updating profiles, status messages and contributing to the network to keep it interesting. A company with even a few thousand employees may find that there just isn't enough critical mass for an active social

³ SharePoint consultant Joel Olsen provides some useful links to the debate (and a contribution of his own, defending SharePoint) in his blogpost 'Why isn't my SharePoint environment social?' <http://www.sharepointjoel.com/Lists/Posts/Post.aspx?List=0cd1a63d-183c-4fc2-8320-ba5369008acb&ID=253>

network to form"

<http://community.bamboosolutions.com/blogs/bambooteamblog/archive/2009/04/16/sharepoint-my-sites-suck.aspx>

The question of SharePoint's social computing usability is of more than academic significance. If the software is seen by staff and students as less attractive than the free web 2.0 applications (e.g. Google Docs, Blogger, Wordpress, Facebook etc) then there is a likelihood that discussions and collaborative work will gravitate towards those platforms, and outside of the institution's control.

9.3 Comparison of SharePoint My Sites with Facebook and My Space

The Center for Teaching, Learning and Technology at Washington State University provides its students with a table comparing the features provided to them in SharePoint My Sites, to those provided by the Facebook and My Space.

The places where My Sites offer increased functionality include:

- the ability to have sub-pages
- the ability to upload documents (Facebook and My Space only offer the ability to upload photos)
- the ability to work collaboratively on documents.

https://my.wsu.edu/portal/page?_pageid=177,245283&_dad=portal&_schema=PORTAL

However My Space and Facebook have the advantage in terms of contacts and groups. With SharePoint My Sites the scope of contacts and groups is limited to other Washington State University students and staff, whereas with Facebook and My Sites there is scope to make connections and join groups with anyone, anywhere in the world, who has an account on those services.

9.4 Examples of usages of SharePoint My Sites

University of Oxford is planning to roll out My Sites to staff and students

(<http://www.oucs.ox.ac.uk/groupware/docs/GroupwareProjectSpecificationv1pt1.pdf>)

At Imperial College every staff member gets a personal My Site for work purposes only

<http://www3.imperial.ac.uk/WEBGUIDE/technologyservices/collaboration/sharepoint>

The University of the West of England describes the importance of SharePoint My Sites as follows:

"One SharePoint based application available to all staff is UWEMy Site, which is a knowledge tool, allowing staff to share information about themselves, their interests and areas of expertise. It is also a powerful people finder."

<http://www.uwe.ac.uk/its/knowledgebase/customerservices/staffguide/itstaffsurvivalguide.pdf>

Many other HEIs have implemented SharePoint without turning on the My Site facility. For example it appears from the information that Liverpool John Moores University (<http://www.ljmu.ac.uk/cis/SharePoint/index.htm>) and UCL (<http://www.ucl.ac.uk/management-systems/ads/guidance/howdoi/sharepointuse.html> - autologon) have made available to their staff about SharePoint that these institutions are not currently using My Sites.

9.5 Examples of usages of SharePoint blogs

Kingston University was an early adopter of SharePoint (starting by implementing the previous version, SharePoint 2003). It identified setting up SharePoint blogs for staff members as a key marketing point. Ian McNiece, then Head of Technical Services at Kingston University, was interviewed in January 2007 about Kingston's implementation and stated that:

"Blogging will be a major breakthrough for us. For a start the academic staff need to be able to reach an international audience efficiently and simply. They would like to be able to represent their own initiatives in research as well as Kingston"
(<http://blogs.msdn.com/officerocker/archive/2007/01/15/kingston-university-the-future-s-bright-with-2007-office.aspx>)

Kingston took:

"a two fold approach for blogs. One is to allow academics the freedom of having a blog for their own work, and the secondly for research groups that are faculty driven.'
(<http://blogs.msdn.com/officerocker/archive/200701/15Kingston-university-the-future-s-bright-with-2007-office.aspx>)"

When asked why Kingston opted to use SharePoint as its blogging platform rather than one of the hosted blog providers such as Blogger or Wordpress, McNiece gave the following reply:

'we want to have a consistent and institutional feel for all our blogs, but most importantly we have found that the facilities of MS blogs are far greater than what is on offer freely. We can also brand them to promote Kingston as a bi product and also they integrate so well into SharePoint that there would be no reason to use any other service. Ultimately we also see how MS blogs allow us to create a social and research network internally as much as externally'. (<http://blogs.msdn.com/officerocker/archive/200701/15Kingston-university-the-future-s-bright-with-2007-office.aspx>)

In its '2008 Survey of Technology Enhanced Learning for HE in the UK' UCISA (Universities and Colleges Information Systems Association) asked HEIs to identify which centrally supported wiki tools were used by students. SharePoint lagged well behind other providers in the table: only one HEI named SharePoint, whereas 12 named Learning Objects, 11 named Blackboard and 10 named PB Wiki, PM Wiki, Wikimedia (UCISA, 2008 http://www.ucisa.ac.uk/publications/tel_survey.aspx).

10. Use of SharePoint 2007 for workflow and process improvement

10.1 SharePoint's functionality that lends itself to process improvement

There are three aspects of SharePoint that lend it potentially suitable for improving business processes:

- The capability of setting up workflows around particular documents (for example approval workflows before a document is published to a website)
- The integration with Infopath 2007 (another Microsoft product) that enables the set up, management and deployment of electronic forms
- The ability to customize and programme SharePoint to build custom applications.

10.2 Examples of HEIs using SharePoint for process improvement

Aberdeen University's Directorate of Information Technology has notices on its website announcing projects to develop SharePoint for:

- the process of approving staff promotions and contributions (March 2009) (<http://www.abdn.ac.uk/dit/rm/projects/sp-promotions.php?S776475303438=4297e1f73b164a2c8a3f1071e61cdc67>)
- the provision of electronic approval workflow of all SENAS (Special Educational Needs Assessment Service) forms from initial submission to final approval by the Academic Standards Committee (<http://www.abdn.ac.uk/dit/rm/projects/sp-senas.php>)

The University of the West of England (UWE) has made extensive use of Infopath's electronic forms with SharePoint. Peter Gilbert of UWE says of his role:

"one of my main jobs here at UWE is the creation of forms in InfoPath to gather information from users. This data is typically used in SharePoint to initiate a workflow, or may be used elsewhere, in a database"

<http://blogs.uwe.ac.uk/people/PeterGilbert/archive/2009/06/09/what's-in-a-name.aspx>

UWE has published a case study explaining how UWE House Services is using SharePoint team sites to manage the four courts of its 2,000 bedroom Student Village:

"A single site solution was chosen for the Village with 4 main discussion areas on the front page of the site, one for each court. This discussion is used as a log for each court, and all incidents are entered into here..... More serious incidents are handled using an InfoPath form backed by a workflow. This form is routed automatically for approval and acknowledgement by senior incident managers. Other important forms are also to be found here, and these are stored in document libraries. This along with staff holiday and maintenance schedule calendars means that this site is a "one-stop shop" for everyone involved in the student village administration and day to day running"

(<http://sharepoint.uwe.ac.uk/casestudies/Pages/studentvillage.aspx>).

11. Use of SharePoint 2007 for business intelligence

11.1 Features of SharePoint that enable it to be used for business intelligence

SharePoint 2007 comes with a Report Centre facility that has the capability to track and display Key Performance Indicators. SharePoint has the ability to draw in data from elsewhere in SharePoint, from Excel spreadsheets, from other institutional databases or from SQL server databases, and to display them in dashboards (<http://office.microsoft.com/en-us/sharepointserver/HA101741991033.aspx>).

11.2 Example of SharePoint 2007 being used for Business intelligence in an HEI

Northumbria University employs SITS as its student information system, SAP as its finance system and HRMS as its HR system. A case study on the Microsoft website reports that:

"with disparate systems it was difficult to see the big picture performance of the University or have the ability to drill-down to see necessary student and financial data.

In addition creating comprehensive, timely reports regarding the student lifecycle was also a tremendous challenge.”

(http://www.microsoft.com/casestudies/Case_Study_Detail.aspx?casestudyid=4000004670)

Northumbria University is using Microsoft SQL Server and Microsoft Performance Point Server 2007 for its business intelligence solution. (Microsoft has since made Performance Point Server available as a part of SharePoint 2007). The Microsoft case study describes the solution as comprising “dashboards, scorecards, KPIs and advanced drill-down capabilities.” (http://www.microsoft.com/casestudies/Case_Study_Detail.aspx?casestudyid=4000004670)

It went on to summarise the impact of the implementation as follows:

“Based on PerformancePoint Server, Northumbria World provides 500 university stakeholders with 24/7 access to accurate data and reports. With one secure log-in, users can access 30-plus SQL reports, and can slice and dice the data to fit their business needs. And because it’s a ‘self-service’ system, employees are empowered to dig deeper and answer their own questions.”

(http://www.microsoft.com/casestudies/Case_Study_Detail.aspx?casestudyid=4000004670)

12. Use of SharePoint 2007 as an institutional portal, intranet and/or for managing external websites

12.1 Capabilities of SharePoint that lend itself to use as a portal

JISC provides the following definition of an institutional portal:

”An institutional portal provides a personalised, single point of access to the online resources that support members of an institution in all aspects of their learning, teaching, research and other activities. The resources may be internal or external and include local and remote 'information resources' (books, journals, Web-sites, learning objects, images, etc.), 'transaction-based services' (room bookings, finance, registration, assignment submission, assessment, etc.) and 'collaborative tools' (calendars, email, chat, etc.). Typically, access to many of these resources is restricted to authenticated members of the institution.” (<http://www.ukoln.ac.uk/distributed-systems/jisc-ie/arch/faq/portal/>)

The capabilities of SharePoint 2007 that lend it to being used as a portal include:

- **Single sign on (SSO):** feature that enables an individual to sign on once to the portal, and then access all systems that the portal is connected to without having to log in and provide a username and password. Microsoft describes this as a “SharePoint Server feature that provides storage and mapping of credentials such as account names and passwords. Using SSO, portal site-based applications can retrieve information from third-party applications and back-end systems such as Enterprise Resource Planning (ERP) and Customer Relations Management (CRM) systems” (<http://technet.microsoft.com/en-us/library/cc262932.aspx>)
- **Content management capabilities:** ability to power an organisation’s external facing website and its intranet; ability to customize the look and feel of websites
- **Enterprise search:** ability to set up connectors to other enterprise systems and allow a federated search across many systems

- **Business data catalogue:** functionality to enable data from other HEI systems to be displayed within SharePoint.

12.2 Examples of usage of SharePoint as a portal

The University of Gloucestershire describes how its Web Development Team is:

"currently working on a two to three year development plan involving the deployment of Microsoft SharePoint. It is envisaged that SharePoint will ultimately be used to deliver a range of web services. These services will include; a public marketing web site aimed at recruiting students and selling University services, a public information site which will focus on supporting faculty and department specific marketing, an internal site that will include a digital repository, personalised student and staff information portals, Blogs, and Wikis." (<http://resources.glos.ac.uk/departments/ictservices/web.cfm>)

Manchester Metropolitan University has three SharePoint projects ongoing, one of which is:

'A portal for student and staff pulling information from other sources such as Library, student records, Blackboard Vista and email (From a posting to the JISCMail list 'SharePoint-Scotland' on 11 May 2009 <https://www.jiscmail.ac.uk/cgi-bin/webadmin?A2=ind0905&L=SHAREPOINT-SCOTLAND&T=0&F=&S=&P=60>)

Coventry University is using SharePoint as a staff portal, a student portal and an alumni portal. It is also using it for an extranet for collaboration with external partners, for example on research projects, and for its external marketing website.

Peter Yeadon of Coventry University gave a presentation to Gettysburg College's Portal 2009 Conference (http://cnav.gettysburg.edu/portal/portal09/this_presentation.cfm?proposal_id=11) entitled 'Enabling the Smart Campus of the future'. Yeadon's summary of the University's vision of an integrated web platform included the following web portals:

"Intranet

- Staff Personal Sites 'My Sites'
- Staff Portal
- Faculty/School/Departmental Intranet Sites

Extranet

- Students Portal
- Students Personal Sites 'My Sites'
- Teaching & Learning Portal
- Applicants Portal
- Research group sites
- Alumni Portal

Internet

- University Website
- Other external facing sites."

(<http://cnav.gettysburg.edu/portal/portal09/PostConference/Portal2009presentations/wednesday/coventry.pptx> slide 5).

Yeadon discussed the origins of Coventry's portal, where it is now and where it is aiming to be. Looking back to 2005 Yeadon describes Coventry's portal as consisting of:

- "Simple HTML pages
- Local and separate Intranets
- No interaction
- 1 website for all, including external users."

In 2009 it consists of:

- "Portals for targeted audiences
- Content replication
- Collaboration
- Web 2.0 and Enterprise 2.0
- Online processes"

And looking forward to 2012 Yeadon anticipates the portal will deliver:

- "System integration
 - Identity management
 - Broadcast lectures to mobiles
 - Personalised content
 - E2E process support"
- (<http://cnav.gettysburg.edu/portal/portal09/PostConference/Portal2009presentations/wednesday/coventry.pptx> slide 6)

Yeadon discusses the role of the portal with regard to interoperability across the different university systems saying:

"The key central systems which most HEIs rely on operationally are systems like the Student Record System, the HR system, the Library system, the VLE system and the Finance system. To these can be added others, perhaps a Building Maintenance System, a CRM system, an Admissions System, an Accommodation system and many others. Typically, these systems do their jobs pretty well, but they are naturally limited in scope and can be large, unwieldy, expensive, mutually incompatible and difficult to change. The portal can become - not the glue, since that implies static resistance to change - but the highway for releasing information across boundaries. But this role can itself turn into a major undertaking and needs very careful planning if it is not, in its turn, to become another limit to information flow and exchange."

(<http://cnav.gettysburg.edu/portal/portal09/PostConference/Portal2009presentations/wednesday/coventry.pptx> notes to slide 7).

He describes in more detail what Coventry University can do with its portal now viz.:

- "Create staff intranets
- Set up and monitor KPIs and simple BI, e.g. for the Academic Exec site
- Issue tracking
- Set up Business Process Management workflow/forms and applications, e.g. Expense Claims (pilot with Finance)
- Process to assist performance assessment reviews

- Marketing “Shop” for Branded Promotional Items
- Event Management
- Student Union e-Voting
- Students Reps Nomination Process
- Search almost anything in digital form held in: StaffNet, Marketing website and university portals, Staff intranets and the internet, Active Directory (i.e. people search)
- Provide students with shared sign-in between the CU Portal and CUOnline (LMS)
- Create dual sites (collaboration/publication) wherever they add value
- Distinguish between staff, students and external identities”
(<http://cnav.gettysburg.edu/portal/portal09/PostConference/Portal2009presentations/wednesday/coventry.pptx> slide 13).

He also lists the business objectives recognised by its Programme Board that identify the following priorities for the short term development of the portal:

- “Recognise users as individuals with consistent privileges and security applied across all systems (provided you start by logging into the portal)
- Invoke single sign-on with all LOB applications, e.g. HR, CMIS, etc
- Search Library systems from the portal(s)
- Provide students with a personalised dashboard of their CU transactions
- Build workflows, e.g. for post-bid mobilisation, for course approval and for general purchasing, plus support of Lean Process working group recommendations (as appropriate) etc
- Offer and build portals in support of bids
- Enable My Sites for staff for enhanced community and efficiency
- Introduce self-service applications via the portal(s)
- Enhance management reporting cubes and dashboards
- Personalise the portal information flow (avoid information overload)
- Increase collaboration exponentially”
(<http://cnav.gettysburg.edu/portal/portal09/PostConference/Portal2009presentations/wednesday/coventry.pptx> slide 30).

12.3 SharePoint’s use for managing an external website

There is some evidence from the literature that SharePoint is more frequently used as a portal for staff and/or students, than to power an institution’s external website. However, several HEIs are using SharePoint for their external website, including Napier University, Coventry University and Leeds Trinity & All Saints College.

The ‘*Investigation into the management of Website content in Higher Education Institutions*’ <http://www.eduserv.org.uk/research/studies/~media/research/EduservWCMReport.pdf.ashx> issued in July 2009 by the Social Issues Research Centre (funded by Eduserv) did not specifically name SharePoint. It reported its survey results on the content management systems used by HEIs to manage their websites as follows:

“Among those using a CMS the most frequently cited solution/brand was Terminal 4 (20 per cent), followed by a range of in-house, bespoke options (13 per cent). Other more popular choices included Contensis (5 per cent), Plone (5 per cent) and Red Dot (4 per cent). The remainder of respondents (45 per cent) used a wide variety of CMS, including Jadu, Joomla!, Percussion, Polopoly, Serena, Drupal, Zope, and so on. A number of respondents suggested that a number of different CMS were used simultaneously within their institution (particularly, in several cases, the combination of

Zope and Plone)."

(<http://www.eduserv.org.uk/research/studies/~media/research/EduservWCMReport.pdf.ashx> page 37)

12.4 Comparison of SharePoint for managing websites with SharePoint for intranets

In a presentation to Scottish Web Folk, dated 17 April 2009, Frank MacDonald, Heriot Watt's Web Development Manager, was far more positive about SharePoint's capability to manage an intranet than to manage an external facing website. McDonald cited three issues with SharePoint as a website content management system:

- the need for .Net skills to adapt its appearance
- the complexity of configuration, and
- accessibility.

In contrast he cited the following advantages of using SharePoint for an intranet:

- "Ease of use for developers & site owners
- Simple, familiar, and consistent user experience.
- Microsoft Office integration.
- Document management bias.
- Audience and authentication based on Active Directory single sign on & groups
- Team and project management content targeted at multiple audiences and content in same location.
- Announcements, alerts, custom lists, workflow, forms, calendars, workspaces to name but a few"

(<http://scottishwebfolk.wordpress.com/2009/06/30/presentations-from-april-2009-gathering/> slides 8 and 10).

13. Conclusions

SharePoint has been taken up for a wide variety of different purposes in HEIs, spanning administrative to academic functions. The main drivers for the implementations covered in this literature review range widely both in scope and in ambition. The drivers for using SharePoint include:

- improving particular processes
- providing improved document management and collaboration facilities
- collaborating with external partners (particularly in research programmes)
- maintaining information about staff skills and experience
- improving or providing an intranet for the HEI
- providing students and staff with a personalised 'one stop shop', or portal, linking them to information systems and resources in the institution
- improving the external website of the HEI.

Given the widespread use of SharePoint in HEIs there has been surprisingly little debate about its effectiveness or otherwise in this sector. This contrasts with vibrant debates within HE about Virtual Learning Environments (VLEs), and providers such as Blackboard and Moodle. (See for example the various sessions about VLE's and the future of VLE's in the September 2009 Alt-C conference <http://altc2009.alt.ac.uk/calendar>).

The closest things to a forum for discussing SharePoint in HEI are the SharePoint User Groups provided by some JISC Regional Support Centres for both FE and HE institutions. (See for example, <http://www.rsc-ne-scotland.ac.uk/forums.php#SP>). However, not every region has one and they have mainly concentrated on further education rather than HE. They meet infrequently and there has been little in the way of outputs from them.

Many HEIs have given details of their implementations on their websites. Some have provided case studies or allowed vendors to provide case studies. Some, for example the University of Coventry and the University of Oxford, have provided information about their future plans for SharePoint. But no evaluations of specific SharePoint implementations have been found.

The lack of widespread debate on SharePoint, in comparison to the debate on VLE's in general and on particular VLE providers, may stem from the fact that:

- SharePoint's functionality spans many different stakeholder groups within HE (webmasters, internal communications teams, knowledge managers, records managers, faculty administrators, learning technologists etc.). There are few, if any, forums that gather together this range of interested parties. In contrast, VLE's are specific to the learning technology community and are fully debated and discussed by that community.
- SharePoint 2007 is a proprietary system. The closest equivalents to SharePoint 2007 are Enterprise Content Management systems (ECM). However, SharePoint 2007 has had far more uptake in HE than any other ECM system. There are key features of SharePoint 2007 that differentiate it from other ECM systems. Unlike other ECM systems SharePoint is already available to many HEIs as part of their Microsoft Campus. Unlike other ECM systems SharePoint is a platform that is capable of being extended by custom development or by (often) custom integration with other third party products from the vast ecosystem that surrounds SharePoint 2007.
- The rise of SharePoint has been relatively recent. SharePoint 2007 is vastly more powerful than its predecessor SharePoint 2003, and hence the last two years have seen a vastly increased take up of the product.

14. Areas for further enquiry and research

The literature review has revealed some uses to which SharePoint has been put by HEIs. Further research is needed to capture reflections (critical and positive) on SharePoint and on the way it has been used within Higher Education. This is necessary if research is to inform future decisions:

- by HEIs on whether or how or to what extent they deploy SharePoint
- by the HE sector as a whole as to what the sector needs to do to maximise the opportunities and minimise the threats posed by the rapid spread of SharePoint 2007 within HE.

14.1 *The reaction of stakeholders within HEIs to SharePoint*

One characteristic of the contemporary information landscape is that staff and students inevitably have a wide variety of choice as to which application they use to perform any particular task, be it creating a document, sending a communication, publishing some information to the web etc. This means that people's subjective reactions to applications will ultimately play a large part in

determining the extent to which a particular application is used, and the extent to which individuals are prepared to devote the time and attention needed to learn how to use an application well.

There is a need to capture the reactions to SharePoint by *different stakeholder groups* within HE, i.e. students, researchers, academics, learning technologists, managers and administrative staff, IT staff and other information professionals. To what extent do these groups find SharePoint a useful tool and why? On a subjective level, what do they like or dislike about SharePoint?

14.2 *The take-up of particular types of SharePoint functionality and its usefulness*

There is a need to capture further reflections on implementations, on what went well in the implementations and on what could have gone better. How have HEIs made SharePoint work? What kind and level of customisation is required? What add-ons are needed? What skills are required and how best are they met (e.g. in-house, consultants, developers)? SharePoint gives an enormous range of options for administrators, site owners and end users and there is a need to capture instances where HEIs have found particular choices to have worked well or less well for them. More experiences need to be shared more widely.

This literature review found that team sites are the most widely implemented piece of SharePoint functionality. In many HEIs the IT department has left it to teams to decide whether or not to ask for a SharePoint team site. Research is needed to find out what the take-up is from teams. Are teams finding SharePoint useful? How easy have they found SharePoint to use? From the institution's point of view, what type of information resource is emerging from these collections of team sites? Are people able to navigate or use search to find material, or are the sites chaotic and messy? How easy or otherwise are HEIs finding it to manage SharePoint team sites?

Another key piece of SharePoint functionality is the My Site, where an individual has a space they control for keeping their own information and for displaying information about them. The literature review has shown that many HEIs implementing SharePoint have chosen to roll out My Sites. In those HEIs which have given students and staff a 'My Site' facility, what are the users' perceptions of My Sites? Have they found their own and others' 'My Sites' a useful facility? Has it made a contribution to interpersonal communications within the HEI? Is it functioning as an effective people finder?

14.3 *The reaction of the HE sector to SharePoint*

The literature review has revealed that a wide range of HEIs is using SharePoint 2007 for a wide variety of purposes. Little or no *advice* has been found for HEIs on the use of SharePoint within an HE context; however there is some support in place in the form of SharePoint User forums provided by the JISC Regional Support Committees. There is a need to identify the extent to which HEIs feel that they *need* advice or support from the sector in relation to SharePoint.

Microsoft, the provider of SharePoint, is already a powerful player in relation to HEIs, through its provision of the Windows operating system, the Office suite of productivity tools, and Microsoft Exchange. SharePoint 2007 increases Microsoft's marketing power within the HE sector. What are the implications of this for HEIs? Do they feel the widespread adoption of SharePoint is an opportunity, because of the chance for HEIs to share best practice around a system that many of them use, or a threat, because it weakens the market position of vendors of more specialised systems? Does the HE sector feel the need to exert any influence over either Microsoft's future plans for SharePoint, or the ecosystem of vendors and developers around SharePoint, and if so how does it go about exerting that influence?

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Appendix 1: Sources searched and search strategies employed

| Resource searched | Date | Search strategy | No. hits | No. selected |
|--------------------------------------------------------------------------------------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------|
| Zetoc (Contents Pages) http://zetoc.mas.ac.uk/ | 21/7/09 | SHAREPOINT AND hei* SHAREPOINT AND "HIGHER EDUCATION" SHAREPOINT AND UNIVERSIT* SHAREPOINT | 0 0 2 69 | 0 0 0 0 |
| LISA www.csa1.co.uk | 21/7/09 | (sharepoint or moss) and (HEI* or ("higher education") or universit*) [all but 6 were false drops]. | 24 | 0 |
| British Education Index http://resource.dialog.com/ | 21/7/09 | (sharepoint OR moss) AND (HEI\$ OR higher ADJ education OR universit*) <i>NOTE: FALSE DROPS</i> sharepoint AND (HEI* OR higher ADJ education OR universit*) sharepoint | 38 0 0 | 0 0 0 |
| ERIC www.csa1.co.uk | 21/7/09 | (sharepoint OR moss) AND (HEI\$ OR higher ADJ education OR universit*) <i>NOTE: FALSE DROPS</i> sharepoint AND (HEI* OR higher ADJ education OR universit*) sharepoint [<i>ONLY 'RELEVANT HIT' BUT FROM USA</i>] | 192 0 1 | 0 0 1 |
| Web | 21/7/09 - 31/8/09 | Google searches on combinations of the word SharePoint with other concepts unique to the Higher Education sector (such as 'SharePoint + VLE', 'SharePoint + student information system', 'SharePoint + portal within domain ac.uk') | | |
| JISCMail Listservs www.jiscmail.ac.uk | 21/7/09 - 31/8/09 | SharePoint Scotland list – sharepoint YH-SharePoint list - sharepoint | 16 1 | 1 0 |