



# **Preliminary Analysis of the Open Source in Higher Education Survey Conducted from April 15, 2005 to May 1, 2005 by the Alliance for Higher Education Competitiveness**

by Rob Abel, published May 3, 2005

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## **Survey description**

A brief opinion survey completed by 79 respondents, primarily higher education IT, instructional support, administrative, and executive staff, comparing the relative level of awareness and expectations of success of the open source initiatives Sakai, uPortal, Quali, OSPI, LionShare, Moodle, and OKI.

## **Summary takeaways**

(Important note: This survey and the preliminary results reported here should be considered as preliminary and indicative of potential future research only)

- The open source course management system (CMS) Sakai emerged as the most recognized and most likely to succeed of the open source initiatives listed in the survey. Impressively, over 75% of the respondents had heard of Sakai, well ahead of the other six initiatives.
- The open source portal/portal framework uPortal was also highly recognized and expected to succeed in the marketplace. uPortal came out on top from those respondents that rated their knowledge as excellent or expert.
- Among those most knowledgeable, the open source ePortfolio initiative OSPI was perceived as having a strong probability of success, ranked third behind uPortal and Sakai.
- The relatively new open source CMS Moodle came in surprisingly strong in terms of expectation to succeed, especially among those who were least expert in their knowledge of open source. Moodle had a recognition level as high as uPortal, which was well ahead of the four remaining initiatives.
- We were surprised by the degree of vulnerability to competition from open source indicated in the seven product categories explored in the survey (see Table II). Ratios of over five to one in terms of those clearly indicating vulnerability seems to indicate general dissatisfaction or at least an unfilled need in the categories of assessment tools, ePortfolios, course management systems, and online course content.
- It is interesting that assessment tools was the product category of most vulnerability, yet, there is no open source initiative know to us in this category (perhaps there

should be).

- Vulnerability of a category seemed to track inversely to how well penetrated or established a category is with existing commercial products. The only major inconsistency with this was the strength of the CMS initiatives, Sakai and Moodle, in a category that according to previously published studies is highly penetrated by existing products. This indicates a potentially interesting competitive dynamic developing between the incumbents and the open source initiatives.

<b>Table I. Likelihood of achieving 10% market share in the next three years</b>			
<i>Rating of 1.0 means about equally for and against which can be interpreted as neutral</i>			
<i>Rating of 2.0 means two times more responses for than against</i>			
	All Respondents	Most Knowledgeable	Least Knowledgeable
Most likely	Sakai (4.4)	uPortal (6.3)	Sakai (2.3)
	uPortal (3.3)	Sakai (4.6)	Moodle (2.3)
	Moodle (1.6)	OSPI (1.9)	uPortal (2.0)
	OSPI (1.6)	Kuali (1.4)	OKI (1.4)
	Kuali (1.1)	Moodle (1.1)	Kuali (1.3)
	OKI (.6)	OKI (.6)	OSPI (1.0)
Least likely	LionShare (.3)	LionShare (.3)	LionShare (.4)

<b>Table II. Vulnerability of category to open source products</b>			
<i>Rating of 1.0 means about equally for and against which can be interpreted as neutral</i>			
<i>Rating of 2.0 means two times more responses for than against</i>			
	All Respondents	Most Knowledgeable	Least Knowledgeable
Most likely	Assessment tools (20)	Assessment tools (33)	Assessment tools (13)
	ePortfolios (10.2)	ePortfolios (16.5)	ePortfolios (10.2)
	Course management systems (7.5)	Course management systems (16)	Course management systems (10)
	Portals (7.1)	Portals (16)	Online course content (6.7)
	Online course content (6.67)	Online course content (4.8)	Portals (4.4)
	Student information systems (1.1)	Financial systems (1.9)	Student information systems (1.2)
Least likely	Financial systems (1.1)	Student information systems (1.4)	Financial systems (.9)



## **Study background**

It is with tremendous gratitude to the survey participants that we offer this brief and preliminary analysis of the results of a brief survey on open source software in higher education. This is the beginning of a tract of research on this topic.

It is important for readers to understand the background position and potential biases of the investigators. The preliminary perspective of the Alliance for Higher Education Competitiveness, a nonprofit research organization focused on issues of innovation, transformation, and effectiveness in higher education, is as follows:

1. A-HEC includes as a component of its mission the encouragement and facilitation of open, collaborative research among higher education institutions of all types. As such, we share some of the apparent desire of the open source software community to harness a combined effort to achieve more for the betterment of students, faculty, and staff.
2. A-HEC focuses on topics of potentially high impact within the higher education community. It is not yet clear to us whether open source software is such an issue. One of the purposes of the initial research, which will include a forthcoming article published to the A-HEC community, is to try to better understand whether this is an issue that will make a significant difference in our community.
3. To achieve the impact mentioned in the previous item, a topic must be of wide interest among operational functions in an institution. That is, it should be a topic that has a strong degree of shared ownership and impact across students, faculty, and administration. Again, it is not really clear that open source software has this level of impact.

In addition to the aforementioned forthcoming article, potential case study research and/or workshops are currently being discussed with potential sponsors and participants. We are very interested in soliciting your ideas and potential involvement in this work. Please contact Rob Abel, [rabel@a-hec.org](mailto:rabel@a-hec.org) with your ideas and suggestions or visit the [online forums](#).

## **Survey Purpose**

The survey was constructed as a brief, attitudinal survey to get a feel where respondents felt open source in higher education was headed. The survey focused on ascertaining familiarity and projected market penetration of a list of open source software initiatives, the perceived vulnerability of selected application areas to open source competition, and the collection of information on what respondents would like to know more about with respect to open source.



## **Methodology**

The survey was conducted via a brief web survey that required an email address to receive results and also disabled multiple responses from the same IP address. Invitations to the survey were made to the A-HEC membership at large via a link in a monthly update email, to A-HEC members specifying an interest in open source or IT in their profile via an email invitation, to select other contacts involved in open source initiatives via an email invitation, and from links placed in high traffic areas of the A-HEC web site.

Respondents were asked to rate themselves according to their expertise level in open source, their job category, and the classification of their institution by both type and operating budget. This respondent information was used to ascertain how results varied according to these dimensions.

## **Respondent characterization:**

Seventy-nine (79) responses were received over an approximately two-week period, showing good interest in the topic.

Job categories of respondents:

- 29% of the respondents categorized themselves as CIOs or technical staff
- 28% of the respondents categorized themselves as instructional or academic support staff
- 19% characterized themselves as administrative staff
- 10% characterized themselves as higher education executives
- 13% characterized themselves as affiliated with a corporation – 11% as corporate executive level
- [See survey results question #8]

## **Institution representation distribution:**

- A reasonable distribution of institution types were represented in the sample of respondents as compared to the industry at large
- There was a somewhat of an under-representation from the non-profit private institutions (12% - note that non-profit private institutions contribute about 40% of the institutions but only about 20% of the students)
- Community colleges were somewhat under-represented at 20%
- For-profit institution respondents (20%) and four year public non-profit respondents (42%) were somewhat over-represented
- Almost half of the institutional respondents came from institutions with operating budgets greater than \$200 million, which means that the larger schools were over-represented in our sample compared to the industry distribution



### **Knowledge level:**

52% of the respondents rated their knowledge of open source as poor or fair. 16% rated their knowledge as good. 31% rated their knowledge as excellent or expert. Thus, the respondent pool was weighted slightly towards those that felt their knowledge of open source was fairly weak. Although we have no way to know for sure how this sample compares to the population at large, the “gut-feel” is that our sample was much more knowledgeable than the overall population of higher education technologists and administrators. [See survey results question #7]

### **Summary of results:**

- Almost 2/3 of the respondents (65%) believe that there is a strong cultural preference for open source software in higher education. The dominance was consistent across all categories of job functions (see question #8) except for “Higher Ed Administrative Staff” where there was no clear preference.
- Among the entire population of respondents:
  - Of the seven named open source initiatives, LionShare received the highest percentage (49%) of not being known by the respondents. Three others, Quali, OKI, and OSPI were unheard of by more than 40% of the respondents.
  - Sakai was the most recognized name among the respondents and also received the most votes for having a reasonable chance to achieve 10% market share within three years. Sakai was not recognized by only 23% of the respondents and 40% indicated that it would probably or absolutely achieve the 10% share.
  - uPortal and Moodle were not recognized by approximately a third of the respondents each (33% and 32% respectively).
  - uPortal was second to Sakai in being most likely to achieve 10% market share in three years with 33% indicating probably or absolutely.
  - Moodle was third in being most likely to achieve 10% market share in three years with 17% indicating probably and absolutely.
  - Likelihood of achieving 10% market share in the next three years ranked by the ratio of probably/absolutely to probably/definitely not yields the following ranking (higher means more likely):
    - Sakai (4.4)
    - uPortal (3.3)
    - Moodle (1.6)
    - OSPI (1.6)
    - Quali (1.1)
    - OKI (.6)
    - LionShare (.3)
  - Student information systems and financial systems were clearly considered to be the least vulnerable (both at 42% possibly or highly vulnerable) to competition from open source products with about an equal number of



respondents feeling that they were definitely or probably not vulnerable versus possibly or highly vulnerable.

- The other five categories mentioned were all considered to be quite vulnerable to open source competition. In order from most vulnerable to least:
  - ePortfolios (77%)
  - Course management systems (76%)
  - Assessment tools (76%)
  - Online course content (76%)
  - Portals (72%)
- Vulnerability as expressed as a ratio of possibly/highly vulnerable to definitely/probably vulnerable yields the following vulnerability ranking (higher means more vulnerable):
  - Assessment tools (20)
  - ePortfolios (10.2)
  - Course management systems (7.5)
  - Portals (7.1)
  - Online course content (6.67)
  - Student information systems (1.1)
  - Financial systems (1.1)
- Respondents from institutions with operating budgets above \$200 million were much more likely to consider their knowledge excellent or expert. A majority of the respondents above \$200 million considered their knowledge excellent or expert whereas for institutions under \$200 million only five respondents considered their knowledge excellent or expert.
- Among the most knowledgeable respondents:
  - The ordering of the initiatives most likely to achieve 10% market share was altered somewhat with Sakai first, uPortal second, OSPI third, and Moodle fourth.
  - Likelihood of achieving 10% market share in the next three years ranked by the ratio of probably/absolutely to probably/definitely not yields the following ranking (higher means more likely):
    - uPortal (6.3)
    - Sakai (4.6)
    - OSPI (1.9)
    - Quali (1.4)
    - Moodle (1.1)
    - OKI (.6)
    - LionShare (.3)
  - Vulnerability as expressed as a ratio of possibly/highly vulnerable to definitely/probably vulnerable yields the following vulnerability ranking (higher means more vulnerable):
    - Assessment tools (33)
    - ePortfolios (16.5)
    - Course management systems (16)
    - Portals (16)



- Online course content (4.8)
- Financial systems (1.9)
- Student information systems (1.4)
- Among the least knowledgeable respondents:
  - The ordering of the initiatives most likely to achieve 10% market share was altered again with uPortal first, Sakai second, and Moodle third.
  - Likelihood of achieving 10% market share in the next three years ranked by the ratio of probably/absolutely to probably/definitely not yields the following ranking (higher means more likely):
    - Sakai (2.3)
    - Moodle (2.3)
    - uPortal (2.0)
    - OKI (1.4)
    - Quali (1.3)
    - OSPI (1.0)
    - LionShare (.4)
  - Vulnerability as expressed as a ratio of possibly/highly vulnerable to definitely/probably vulnerable yields the following vulnerability ranking (higher means more vulnerable):
    - Assessment tools (13)
    - ePortfolios (10.2)
    - Course management systems (10)
    - Online course content (6.7)
    - Portals (4.4)
    - Student information systems (1.2)
    - Financial systems (.9)
- Open-ended textual responses to “what would you most like to learn” were subjectively grouped into the following categories, listed in order from most mentioned to least:
  - Listing of offerings, deployment status, funding status, and resources to check out or test drive (23%)
  - Deployment issues including cost, resources, reliability, satisfaction compared to non-open source alternatives (21%)
  - Case studies, success stories across a variety of institutional types but in real production scenarios (not evaluations or pilots) (17%)
  - Open Source in higher education 101 – basic tutorial (15%)
  - Big picture industry issues such as interoperability, standards, roadmap for the future, and motivations behind the movement to open source (12%)
  - Potential innovations from open source for users, such as innovations in teaching and learning, reducing cost to students, etc, (10%)

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## Survey Results (Included Responses)

**A-HEC Open Source Software in Higher Education Survey - participants receive results in about two weeks**



Go to Individual Complete Responses:

Show respondent's emails.

**INCLUDED RESPONSES** →

**EXCLUDED RESPONSES** →

Included Respondents: 79

Excluded Respondents: 0

- [Cross Tabulate](#)  
Cross reference multiple questions
- [Download Results](#)  
Receive results in spreadsheet format

**Report created on:** May 2 2005 4:47AM

The results of your survey are displayed below. If your survey includes text responses, click the "View" button to read individual results. To exclude a particular response, click the Included Responses button. You can then view the set of individual responses that are currently included and select those you wish to exclude. Results below contain only Included responses

**EXCLUDE BLANK RESPONSES**

Launch Date	Apr 13 2005 6:04AM
Modified Date	Apr 16 2005 7:49AM
Close Date	May 2 2005 4:48AM
Email Invites	0
Visits	122
Partials	0
Completes	79

**Responses:**  Completes only  Partials only  Completes & Partials

Is there a strong cultural preference for open source software in higher education?	Number of Responses	Response Ratio
Definitely not <input type="radio"/>	5	6%
Probably not <input type="radio"/>	9	11%

Maybe		14	18%
Probably		30	38%
Absolutely		21	27%
<b>Total</b>		79	100%

Which higher education open source products do you believe have a reasonable  
2.chance of achieving a 10% market share within the next three years?

	1 Never heard of it	2 Definitely not	3 Probably not	4 Maybe	5 Probably	6 Absolutely	N/A
<i>The top percentage indicates total respondent ratio; the bottom number represents actual number of respondents selecting the option</i>							
1. Sakai	23% 18	1% 1	8% 6	25% 20	18% 14	22% 17	4% 3
2. uPortal	33% 26	3% 2	8% 6	19% 15	20% 16	13% 10	5% 4
3. Quali	44% 35	3% 2	10% 8	19% 15	10% 8	4% 3	10% 8
4. OSPI	42% 33	3% 2	11% 9	11% 9	11% 9	10% 8	11% 9
5. LionShare	49% 39	4% 3	14% 11	14% 11	4% 3	1% 1	14% 11
6. Moodle	32% 25	1% 1	10% 8	30% 24	11% 9	6% 5	9% 7
7. OKI	44% 32	7% 5	18% 13	7% 5	14% 10	1% 1	8% 6

Please rate the vulnerability of the following higher education software product  
3.categories to competition from open source products?

	1 Definitely not vulnerable	2 Probably not vulnerable	3 Not sure	4 Possibly vulnerable	5 Highly vulnerable
<i>The top percentage indicates total respondent ratio; the bottom number represents actual number of respondents selecting the option</i>					
1. Student information systems	11% 9	27% 21	20% 16	28% 22	14% 11
2. Financial systems	10% 8	29% 23	19% 15	28% 22	14% 11
3. Course management systems	1% 1	9% 7	14% 11	29% 23	47% 37
4. ePortfolios	1% 1	6% 5	15% 12	35% 28	42% 33
5. Portals	3% 2	8% 6	18% 14	42% 33	30% 24
6. Assessment tools	0% 0	4% 3	20% 16	33% 26	43% 34
7. Online course content	1% 1	10% 8	13% 10	39% 31	37% 29

What would you most like to learn about open source software products in higher  
4.education?

[VIEW](#) 52 Responses






5.Email address to send link to survey results

[VIEW](#) 79 Responses






6.Please enter your job title

[VIEW](#) 79 Responses



How would you rate your current knowledge of open source  
7.software products in higher education?









	Number of Responses	Response Ratio
Poor 	20	25%
Fair 	21	27%
Good 	13	16%
Excellent 	16	20%
Expert 	9	11%
<b>Total</b>	<b>79</b>	<b>100%</b>







8.Please enter the best fit for your primary job function

	Number of Responses	Response Ratio
Higher Ed CIO or Technical Staff 	23	29%
Higher Ed Instructional or Academic Support Staff 	22	28%
Higher Ed Administrative Staff 	15	19%
Higher Ed President/COO/Provost/Dean/Department Head/VP 	8	10%
Corporate Executive 	9	11%
Corporate Sales or Marketing	1	1%
Corporate Development Staff	1	1%
<b>Total</b>	<b>79</b>	<b>100%</b>

9.Please select your institution category

	Number of Responses	Response Ratio
Community College 	13	16%
National For-Profit College/University 	9	11%

Regional For-Profit College/University		4	5%
Non-Profit Public Baccalaureate and/or Masters		10	13%
Non-Profit Private Baccalaureate and/or Masters		5	6%
Non-Profit Public Research/Doctoral		18	23%
Non-Profit Private Research/Doctoral		3	4%
Consortium of Public Institutions		4	5%
Consortium of Private Institutions		0	0%
Corporation or other organization		13	16%
<b>Total</b>		79	100%

<b>10. Institution approximate annual operating budget or revenues</b>	<b>Number of Responses</b>	<b>Response Ratio</b>	
\$0 - \$20 million		11	14%
\$20 - \$100 million		18	23%
\$100 - \$200 million		7	9%
\$200 - \$500 million		10	13%
greater than \$500 million		21	27%
Not applicable (not an institution)		12	15%
<b>Total</b>		79	100%

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