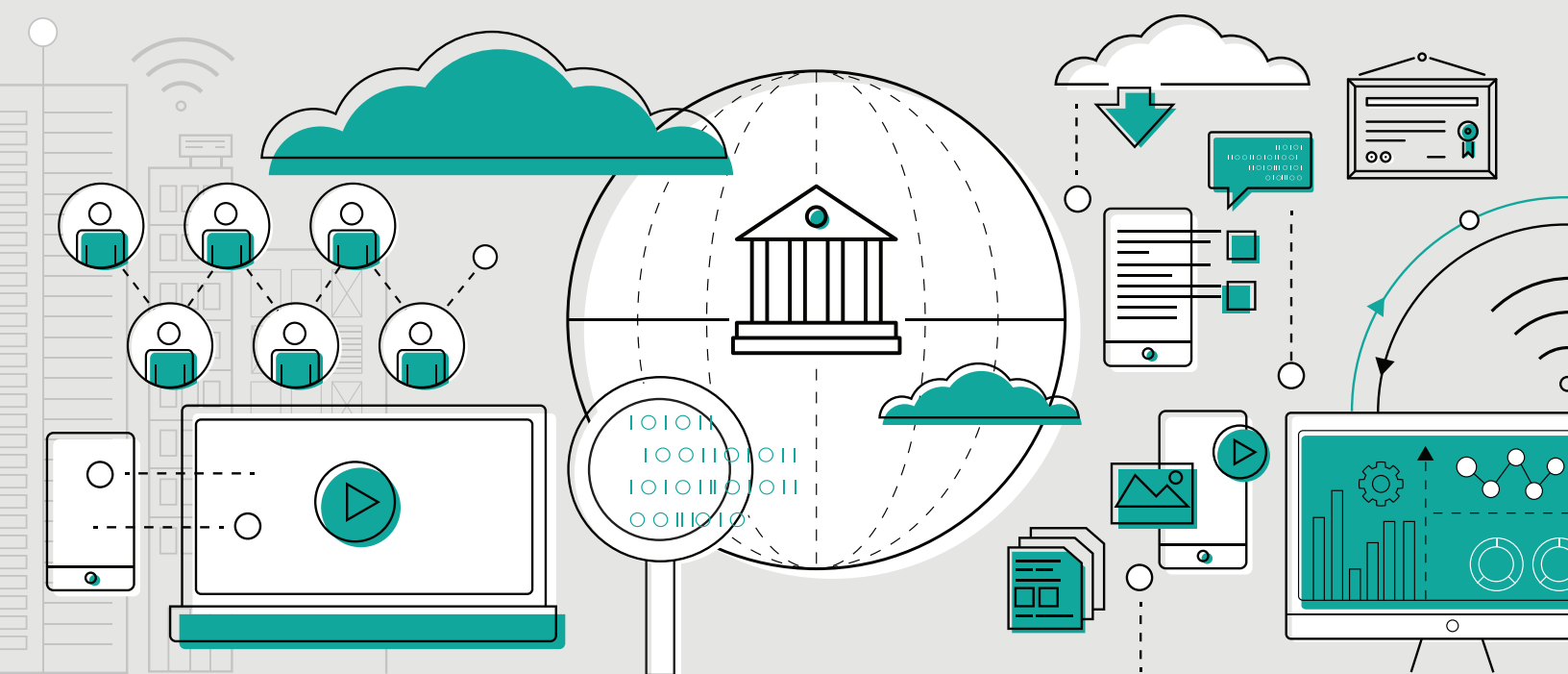


2016 CAMPUS COMPUTING

The 27th National Survey of Computing and
Information Technology in American Higher Education

Kenneth C. Green



**THE CAMPUS
COMPUTING PROJECT**

campuscomputing.net

CAMPUS COMPUTING 2016

The 27th National Survey of Computing and
Information Technology in American Higher Education

Kenneth C. Green

December, 2016

THE CAMPUS COMPUTING PROJECT

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Begun in 1990, The Campus Computing Project is the largest continuing study of the role of computing and information technology in American higher education.

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Additional information about The Campus Computing Project is available on the World Wide Web at: campuscomputing.net.

Past (out-of-print) editions of the annual Campus Computing Survey Report (1990-2002) are available on microfiche from the ERIC Clearinghouse Service sponsored by the US Department of Education. Please check the ERIC web site: www.eric.ed.gov

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The 27st National Survey of Computing and Information
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October 2016

The 2016 National Survey of eLearning and Information Technology in US Higher Education

KEY CAMPUS IT ISSUES: Personnel, Instruction, Budgets, Security, and Analytics

Hiring and retaining IT talent has become increasingly challenging for a growing number of colleges and universities. Large numbers of CIOs and senior campus IT officers report that IT budgets at their institutions have not fully recovered from the compounding consequences of the annual budget cuts and mid-year budget reductions of the Great Recession. Assisting faculty with the instructional integration of information technology remains a top campus IT priority even as higher education is now in the fourth decade of its much discussed “technology revolution.” IT security remains continuing challenge. And for all the conversation, on- and off-campus, about the power of Big Data and analytics, there is ample evidence that campus IT officials do not view current institutional investments in analytics as effective or that the outcomes of these investments are, at present, satisfactory.

These are some of the key findings from the fall 2016 Campus Computing Survey. Launched in 1990, Campus Computing is the largest continuing study of IT planning and policy issues in American higher education.” The 2016 survey is based on data provided by CIOs and senior campus IT officials at 339 two- and four-year colleges and universities across the United States.

The Compounding Consequences of Budget Cuts

Eight years after the beginning of the Great Recession, almost two-thirds (63 percent) of the CIOs and senior IT officers who participated in the 2016 survey report that IT funding at their campus “has not fully recovered from the budget cuts we have experienced over the past four-six years.” As shown below, almost a third of public universities and BA/MA institutions, a quarter of private BA/MA colleges, a fifth of private universities, and more than two-fifths of community colleges experienced IT budget cuts for the 2016-2017 academic year. Moreover, many campuses also suffered mid-year budget reductions for 2016/17, averaging 8 percent, which compounds the consequences of the annual budget cuts. Unfortunately, this has been the recurring cycle for a significant number of institutions across all sectors: an annual budget cut followed by a mid-year budget reduction.

IT Budget Cuts, Fall 2016 <i>(percentages)</i>	Annual Budget Cut	Mid-Year Budget Cut	Mean Mid- Year Cut
All Institutions	29.5	24.7	8.1
Public Universities	32.7	17.3	4.9
Private Universities	18.7	15.2	3.4
Public BA/MA Colleges	31.1	15.5	12.0
Public BA/MA Colleges	23.1	30.5	8.0
Community Colleges	43.1	32.3	9.3

“These continuing budget cuts and mid-year reductions come as campus IT officials experience rising demand for resources and services: enhanced IT security, exploding demand for faster wireless networks, rising licensing costs for mission critical ERP applications, increased personnel costs, and growing demand for user support services” says Kenneth C. Green, founding director of The Campus Computing Project. “At many institutions, the rising demand coupled with continuing budget cuts threaten to overwhelm the core IT infrastructure – mission critical instructional resources and administrative services.”

Interestingly, although 90 percent of the survey participants report that “senior campus leadership understands the strategic value of institutional investments in IT infrastructure, resources, and services” and 84 percent report strong faculty support for “the role of technology to enhance teaching and instruction,” these high levels of administrative and faculty support have not been sufficient to stem the recurring budget cuts experienced by too many institutions, especially public colleges and in particular community colleges.

The 2016 survey data also highlight the role of student IT fees as a key source of funds for campus IT budgets. Across all sectors, the majority of institutions add the student IT fees to the core campus IT budget rather than sequester these funds for new, supplemental services and resources intended to serve students. Interestingly, although private institutions are less likely than public colleges and universities to have a student technology fee, the student fees are higher in private institutions.

Student IT Fees <i>(percentages)</i>	ALL INSTITUTIONS	Pub. Univ.	Pvt. Univ.	Pub. BA/MA	Pvt. BA/MA	Comm. College
Campus has a Student IT Fee?	54.6	76.5	32.3	70.7	41.2	60.2
Average Full-time Student IT Fee	\$ 275	233	399	231	370	198
Allocate IT Fees to Core IT Budget	72.3	72.2	57.1	69.2	76.3	77.1
Allocate IT Fees for New Services	26.9	27.8	42.9	30.8	23.7	22.9
Inform Students About How the Campus Spends IT Fees?	26.9	27.8	42.9	30.8	23.7	22.9

“At one time many institutions used student IT fees to provide new, supplemental services rather than to supplant stressed core campus IT budgets,” says Green. The 2016 survey data reveal that student fees are now overwhelming used to replace funds lost due to continuing IT budget reductions.

Hiring and Retaining IT Personnel

Hiring and retaining IT personnel, one of the top five IT campus priorities in recent surveys, moved to the top priority in fall 2016. More than four-fifths (82 percent) of the survey participants identified “hiring/retaining qualified IT staff” as a “very important” campus IT priority over the next two-three years. Not surprisingly, a key factor affecting staffing is money: three-fourths (75 percent) of those surveyed agreed/strongly agreed that “we have a difficult time retaining IT talent because our salaries and benefits are not competitive with off-campus job opportunities.” The IT staffing problem can be particularly challenging in rural areas and small college towns, where the competition for a limited pool of IT talent may be intense and expensive.

IT Priorities

In addition to IT staffing, the top five campus IT priorities for fall 2016 focus on instruction, IT security, user support services, and leveraging IT resources to advance the institutional priorities for student success and degree completion.

“Perhaps not surprisingly,” says Green, “the list of the top five IT priorities has been fairly stable for the past several years. Campus IT officers confront and must manage their budgets to accommodate rising, and at times competing, demands for a wide range and growing range of IT resources and services.”

Top Five Campus IT Priorities Over the Next Two-Three Years, Fall 2016

pct. of institutions reporting very important (6/7)
scale: 1=not important; 7=very important

1 Hiring / retaining qualified IT staff (82%)	<ul style="list-style-type: none"> 75% report IT salaries are not competitive 28% have reduced IT staffing 23% cut funds for professional development
2 Assisting faculty with the instructional integration of IT (81%)	<ul style="list-style-type: none"> 23% assess faculty IT training as excellent 17% have a formal policy to assess faculty IT efforts as part of review and promotion
3 Upgrading / enhancing network and data security (81%)	<ul style="list-style-type: none"> 49% report network attack (60% in univ.) 48% increased spending on IT security 51% expect loss of sensitive campus data
4 Providing adequate user support services (78%)	<ul style="list-style-type: none"> User support overrated: 59% very satisfied?? IT training for faculty: just 27% excellent. IT training for students: just 10% excellent.
5 Leveraging IT resources to support student success (76%)	<ul style="list-style-type: none"> Using Courseware in Gen Ed classes: 12% Only 25% assess impact of IT on instruction Just 16% "very satisfied" with analytics

Great Faith in the Power and Potential of Technology

Notwithstanding the IT challenges their institutions confront, CIOs and senior campus IT officers continue to express great faith in the power of technology to enhance, if not transform, instruction and learning at their campuses. For example, 88 percent agree/strongly agree that "digital curricular resources provide a richer and more personalized learning experience than traditional print products." And 96 percent of the 2016 survey participants believe that "adaptive learning technology has great potential to improve learning outcomes for students."

Yet even as they see great potential for instructional technologies and digital resources, four-fifths (81 percent) of CIOs and senior campus officials identify "assisting faculty with the instructional integration of information technology" as a "very important" institutional IT priority over the next two-three years.

Strong CIO Support for the Instructional Benefits of Information Technology (percentage who agree/strongly agree)	ALL INSTITUTIONS	Pub. Univ.	Pvt. Univ.	Pub. BA/MA	Pvt. BA/MA	Comm. College
Adaptive learning technology has great potential to improve learning outcomes for students	95.8	94.1	97.0	98.3	93.9	98.4
Digital curricular resources provide a richer and more personalized learning experience than traditional print materials	87.5	88.2	90.9	87.9	81.7	96.8
Campus efforts at "going digital" are impeded because not all students have access to notebook computers or tablets.	29.7	17.6	9.1	32.8	22.9	61.9

"This strong statement of support for digital instructional resources, coupled with the concern for making better use of technology in instruction, is not surprising," says Green. "CIOs and senior campus IT officers are, understandably, advocates for the instructional use of technology at their institutions. Although faculty make decisions about curricular resources for their courses, CIOs are responsible for the enabling infrastructure, including much of the student and faculty training and user support services."

Yet Green also notes that the absence of clear and compelling evidence about the benefits of technology in instruction and the impact of IT on learning outcomes can be problematic. For example, the survey data reveal that just a fourth of the institutions that participated in the 2016 survey "have a formal program to assess the impact of IT on instruction and learning outcomes." Consequently, comments Green, "decisions about IT in instruction are often fueled by good intentions, anecdotal data, opinion, and epiphany as opposed to research and hard evidence."

Analytic Angst

The public and campus conversations about the power and potential of Big Data and analytics notwithstanding, this year's survey provides evidence of "analytic angst" across all sectors of American higher education: the survey data suggest the performance of analytics has fallen far short of the campus need and anticipated benefits. Less than a fifth of the survey participants assess recent campus investments in analytics as "very effective."

And just 16 percent report that across their institution, most users are "very satisfied" with current analytic tools and resources.

"The campus angst with analytics should not be surprising," notes Green. "As with so many new technologies in the consumer, corporate, and campus markets, the actual, implied, and inferred promises often fall short of initial performance." Green notes the current disappointment with analytics on campus is not new. His 2011 and 2012 surveys of college presidents, chief academic officers, and CIOs all indicated that these senior campus officials did not assess the investment in analytics as "very effective."

"The effective use of analytics involves more than deploying a new technology. While good analytic tools are, of course, important, so too is user training, so that senior campus officials and faculty who are eager for just-in-time, complex analyses of student performance understand the potential and the limits of their data and their analytic tools." Green also notes that the effective use of analytics many require a major change in culture at many institutions, a transition from using data as a weapon to using data and analytics as a resource: "The key question should be not what did we do wrong, but how can we do better, and how to the data and analytic tools show us the path 'to better' for our students."

IT Security

IT security remains a continuing challenge across all sectors of American higher education. In aggregate, more two-fifths of the institutions participating the survey experienced the loss of confidential data due to the theft of a device and hacks or attacks on campus networks in A/Y 2015/16. Universities, in particular, appear to be attractive targets. A fourth of the surveyed campuses had experience with either spyware or ransomware this past year experience and also with a student security incident such as cyber-bullying via social media. Security problems caused by employee malfeasance, often a reflection of stress, anger, or over-worked IT staff, were also problems for many institutions, especially universities.

IT Security Issues, A/Y 2015/16 (percentages)	ALL INSTITUTIONS	Pub. Univ.	Pvt. Univ.	Pub. BA/MA	Pvt. BA/MA	Comm. College
Theft of a computer, phone, tablet, or USB drive or other device with confidential data files	44.4	63.5	60.6	39.7	42.0	30.8
Hack/attack on the campus network	48.8	78.8	69.7	44.8	40.5	35.4
Spyware / Ransomware	22.4	38.5	21.2	22.4	20.6	12.3
Student security incident linked to social media activity (bullying, etc.)	23.5	36.5	27.3	31.0	21.4	9.2
Employee malfeasance	10.9	21.2	21.3	5.2	6.9	10.8

The 2016 Campus Computing Survey is based on data provided by senior campus IT officials, typically, the CIO, CTO, or other senior campus IT officer, representing 339 two- and four-year public and private/non-profit colleges and universities across the United States. Survey respondents completed the online questionnaire from September 13 through October 20. PDF copies of the 2016 Campus Computing Survey will be available on December 10th from The Campus Computing Project in Encino, CA (campuscomputing.net). Price: \$45, which includes shipping to US addresses.

THE CAMPUS COMPUTING PROJECT

Begun 1990, The Campus Computing Project is the largest continuing study of the role of computing, eLearning, and information technology in American higher education. The project's national studies draw on qualitative and quantitative data to help inform campus IT leaders, college faculty and administrators, policy-makers, and others interested in a wide array of information technology planning and policy issues that affect colleges and universities.

The 2016 Campus Computing Survey was supported, in part, by the following project sponsors: Amazon, Apple, Blackboard, Campus Management, CampusWorks, Canvas by Instructure, Cengage Learning, Citrix, Desire2Learn, Echo360, Ellucian, The Bill & Melina Gates Foundation, IBM Higher Education, InSource Services Group, Jenzabar, Kaltura, Kuali, Longsight, Macmillan Learning, McGraw-Hill Higher Education, Microsoft, Moran Technology Consulting, Oracle, Pearson, Sonic Foundry, TouchNet Information Systems, and Unicon.

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Methodology

- 339 institutional participants
- Web-based data collection
- Survey period: Sept. 13 – Oct. 20
- 76 pct. of the 2016 participating institutions also completed the 2015 survey

Participants by Campus Type	Dept of Ed N (adjusted)	Survey N	Participation Rate (%)
Public Research & Doctoral Universities	168	52	31%
Private Research & Doctoral Universities	92	33	36%
Public 4-Year Colleges (Baccalaureate & Masters)	374	58	16%
Private 4-Year Colleges (Baccalaureate & Masters)	824	131	16%
Associate Degree/ Public Community Colleges	1018	65	7%

2016 Highlights

- Top IT priorities focus on staffing, instruction, user support, advancing the campus completion agenda, and IT security
- Great faith in the benefits of adaptive learning and digital curricular resources.
- Still recovering from the impact of budget cuts during and after the “Great Recession.”
- Significant angst with analytics.



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New Survey Items for 2016

	Pct. Agree/ Strongly Agree
The senior academic leadership at my institution understands the strategic value of institutional investments in IT infrastructure, resources, and services.	90
Digital curricular resources provide a richer and more personalized learning experience than traditional print materials.	88
Faculty here strongly support the role of technology to enhance teaching and learning.	88
Our IT funding has not fully recovered from the budget cuts we experienced over the past four-six years.	63

New in 2016

How Do Campuses Spend Student IT Fees?

Student IT Fees	ALL	Pub. Univ.	Pvt. Univ.	Pub. BA/MA	Pvt. BA/MA	Comm. College
IT Fee? (pct. yes)	54.6	76.5	32.3	70.7	41.2	60.2
Average Full-time Student Fee	\$ 275	233	399	231	370	198
Core IT Budget %	72.3	72.2	57.1	69.2	76.3	77.1
New IT Services %	26.9	27.8	42.9	30.8	23.7	22.9
Inform Students %	26.9	27.8	42.9	30.8	23.7	22.9

How Do You Spend Student IT Fees? (%)	ALL	Pub. Univ.	Pvt. Univ.	Pub. BA/MA	Pvt. BA/MA	Comm. College
Computer Labs	43.0	68.6	19.4	51.7	26.0	46.0
Enhanced WiFi	38.2	60.8	16.1	50.0	27.5	41.3
Instructional Facilities	39.1	56.9	19.4	55.2	26.7	44.4
Curricular Resources	20.9	37.3	9.7	27.6	11.5	27.0
Library Resources	18.8	39.2	6.5	36.2	6.1	17.5
User Support	35.5	68.6	6.5	50.0	19.8	41.3
Printing for Students	28.1	35.3	16.1	37.9	22.1	30.2

- More publics than privates have IT fees, but fees in privates are higher.

- Most campuses spend IT fee funds to supplement core budgets.

- Most institutions do not inform student about how their IT fees are spent.



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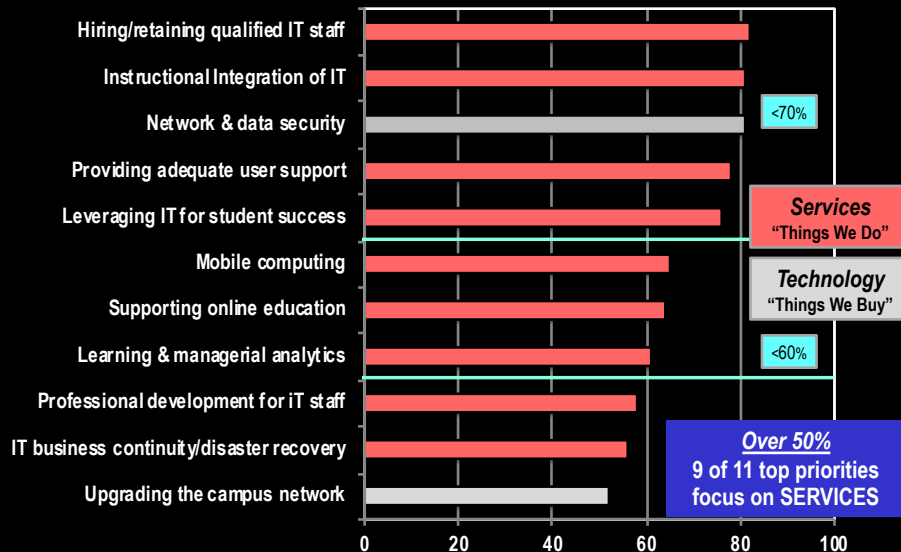
Top Five Campus IT Priorities Over the Next Two-Three Years, Fall 2016

pct. of institutions reporting very important (6/7)
scale: 1=not important; 7=very important

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Top Institutional IT Priorities Over the Next Two-Three Years, Fall 2016

pct. reporting very important (6/7)
scale: 1=not important; 7=very important



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Top Three Institutional IT Priorities by Sector, Fall 2016

All Campuses	Public Universities	Private Universities	Public BA/MA Colleges	Private BA/MA Colleges	Community Colleges
Hiring/Retaining Qualified IT Staff (81%)	Hiring/Retaining Qualified IT Staff (90%)	Hiring/Retaining Qualified IT Staff (87%)	Leveraging IT Resources for Student Success (88%)	Assisting Faculty Integrate IT into Instruction and IT Security (81%)	Leveraging IT Resources for Student Success (83%)
Assisting Faculty Integrate IT into Instruction and IT Security (81%)	Network & Data Security (87%)	Network & Data Security (88%)	Assisting Faculty Integrate IT into Instruction (83%)	Hiring/Retaining Qualified IT Staff (80%)	Instruction User Support & Hiring (81%)
Providing Adequate User Support (78%)	Leveraging IT Resources for Student Success (83%)	Assisting Faculty Integrate IT into Instruction (81%)	Online Education (81%)	Providing Adequate User Support (75%)	Network & Data Security (77%)

CIOs Have Great Faith in the Benefits of Digital Technologies for Instruction (Fall 2016)

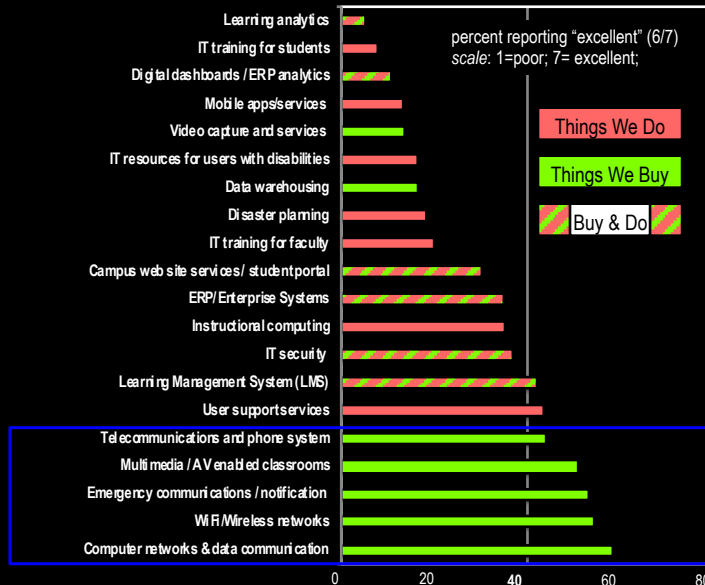
	% Agree/ St. Agree	
Adaptive learning technology has great potential to improve learning outcomes for students.	96	But actual deployment numbers are low: <ul style="list-style-type: none"> Only 12% of general education classes use courseware Just 5% of developmental and general ed. courses use adaptive learning technologies
Digital curricular resources make learning more efficient and effective for students.	95	
Digital curricular resources make learning more efficient and effective for students.	87	
Our efforts to go "all digital" with course materials will be impeded by the fact that many of our students do not own the digital devices – computers or tablets – they need to access digital content and resources.	30	



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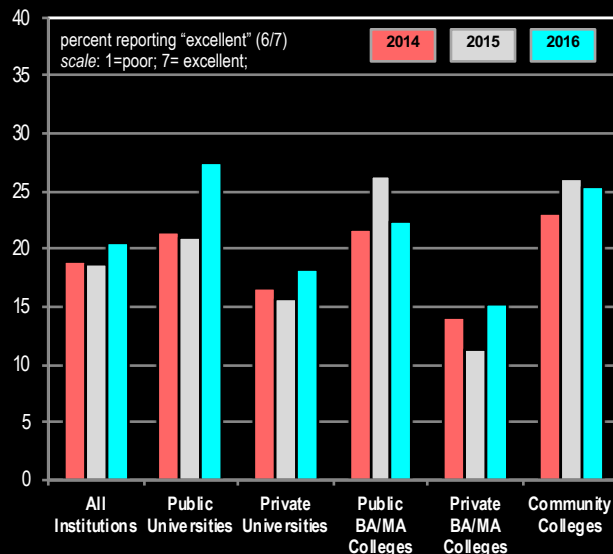
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Rating the IT Infrastructure, Fall 2016



- Highest rankings for the network, "hardware," and content
- Lower rankings for services
- Would faculty and students agree with the ranking for user support services?

CIO Assessments of Digital Resources and Services for Disabled Users, Fall 2014-2016



- Campuses struggle to provide legally-mandated digital access and resources to disabled students

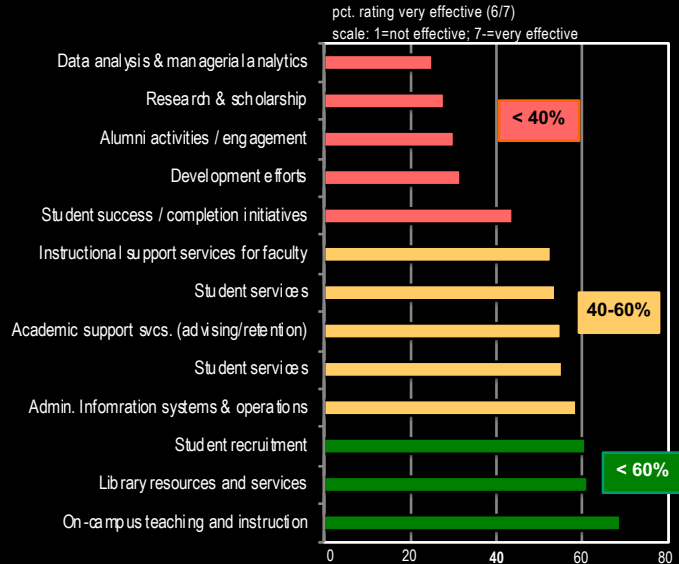
Lawsuits Waiting to Happen



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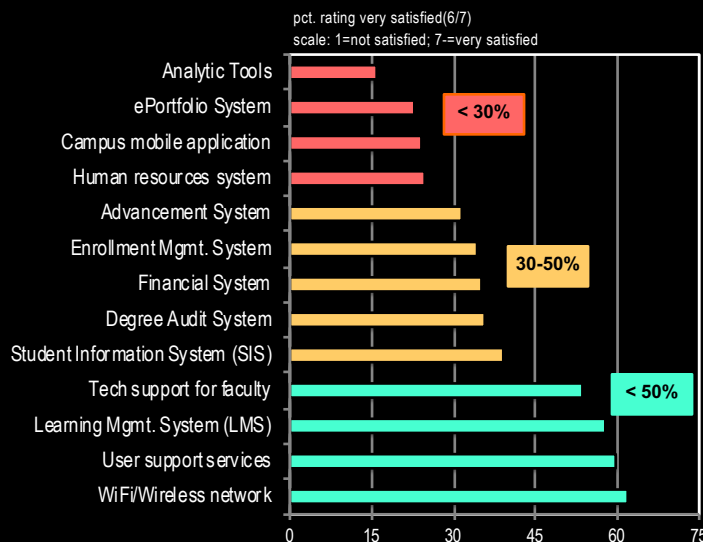
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CIOs Rate the Effectiveness of Campus Investments in Information Technology, Fall 2016



- Continue to see very mixed assessments about the effectiveness of campus IT investments

Campus Satisfaction with Key IT Resources and Services, Fall 2016



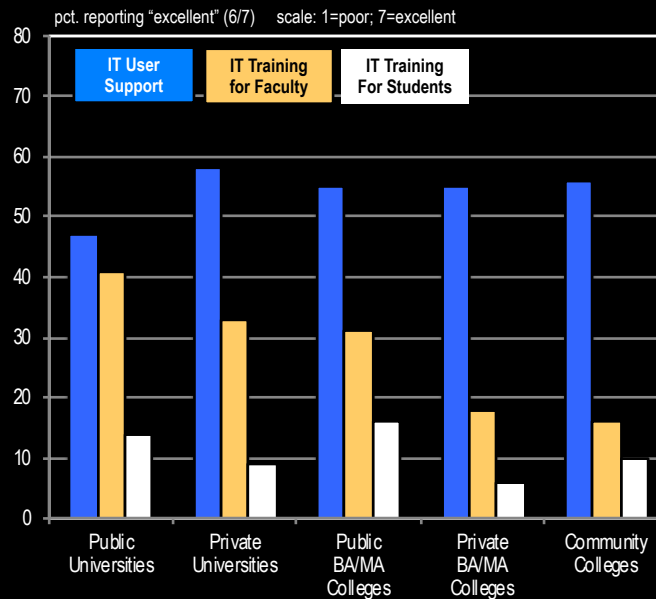
- Few CIOs report their campuses are "very satisfied" with key IT resources and services
- How do we do better?



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The Challenge of Effective IT User Support

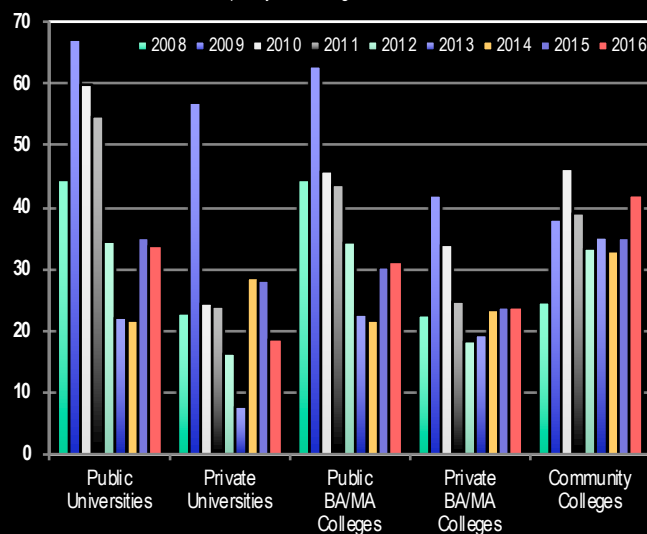


IT user support is a top IT priority (#4 / 78%)

- Just 58% report IT user support services are "excellent"
- Less than a third provide "excellent" IT training for faculty
- Just a tenth provide "excellent" training for students

Budget Cuts, 2008-2016

percentage of institutions reporting budget reductions for central IT services over prior year funding, 2008-2015



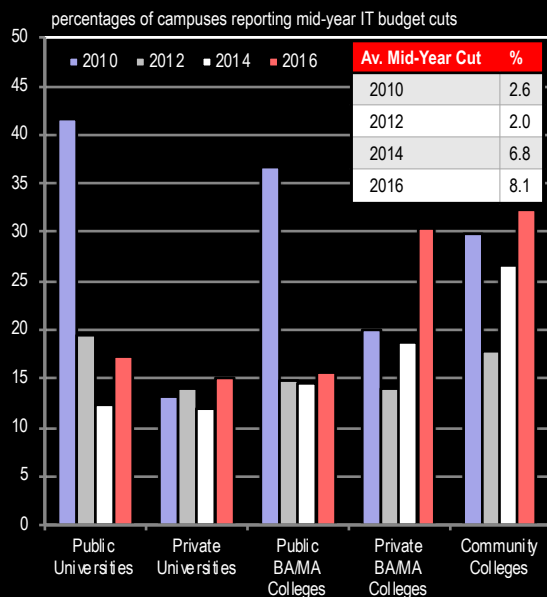
- Still experiencing the compounding consequences of continuing budget cuts
- Community Colleges really suffering: 42% had budget cuts in 2016
- Almost a fourth of institutions (24%) experienced mid-year IT budget cuts, averaging 8%



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Mid-Year Budget Cuts



- Mid-year budget cuts continue.
- The size of the mid-year cuts are rising
- BA/MA institutions and community colleges most affected by mid-year cuts.

The compounding consequences of annual and mid-year cuts are significant.

Budget Cuts vs. Budget Gains, Fall 2016

percentage of institutions reporting budget increases or cuts, by budget category, fall 2015	Increase	Decrease
Total Budget, Central IT	33.3 ↓	27.5 ↓
Wireless Networks	48.6 ↓	8.3 ↑
User Training and Support	16.0 ↓	14.5 ↓
ERP Software and Services	44.9 ↑	5.1
Mobile Computing Resources	30.2 ↓	5.1 ↓
IT Security Issues and Resources	55.8 ↑	4.4 ↓
Cloud Computing	42.0 ↑	5.4 ↓
Professional Development for IT Staff	16.3 ↓	23.9 ↓
Business Analytics	35.1	7.4 ↓

▲ Increase in 2016 ▼ Decrease in 2016

- Investing in wireless, security, cloud, mobility & analytics
- Reduced spending in public labs and for replacement hardware
- Student lab computer replacement cycle now 4-5 years (73%) vs. 2-3 years (55%) in 2008



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ERP Expenditures, Fall 2016

(estimated annual expenditures for licensing and maintenance fees)

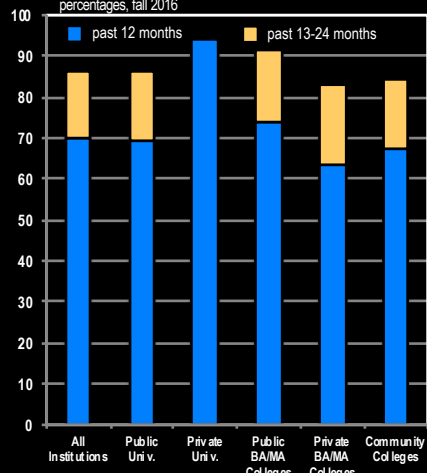
	All	Universities		BA / MA Institutions		Community
	Institutions	Public	Private	Public	Private	Colleges
<i>estimated annual expenditures A/Y 2016-17</i>						
Alumni / Advancement / Development	\$ 55,123	\$ 116,749	\$ 176,943	\$ 32,378	\$ 33,383	\$ 16,949
Business Intelligence / Big Data Analytics	131,205	325,199	84,743	97,482	104,564	53,532
CRM	75,394	209,777	74,857	48,100	51,717	46,031
Courseware/Digital Course Supplements	118,292	374,423	23,363	147,769	28,023	16,679
Finance / Accounting	164,657	371,797	395,318	128,695	61,712	114,932
Emergency Notification Services	20,556	39,228	47,197	19,179	9,626	20,809
ePortfolio services	29,292	27,602	63,857	33,408	19,426	37,368
Grants and Research Management	76,639	164,032	94,168	28,692	11,509	11,946
Learning Management Systems (LMS)	152,768	305,407	216,413	145,315	85,509	117,163
Lecture capture and campus video management	46,789	112,278	51,636	41,521	19,935	26,171
Library System Management	71,863	151,317	107,764	73,065	49,365	47,957
Human Resources (recruitment)	45,054	85,956	49,086	68,207	19,778	32,178
Human Resources (HR records and payroll)	115,855	312,747	276,074	61,685	41,206	67,009
Student information system	227,276	464,850	371,739	183,060	121,445	198,370

- Core ERP spending accounts for about 9-10% of total central IT expenditures.
- Less dollars for ERP in community colleges but a larger proportion of the IT budget (11-12%)

Updating Campus IT Security & Disaster Plans, 2016

Last Update for IT & Cyber Security

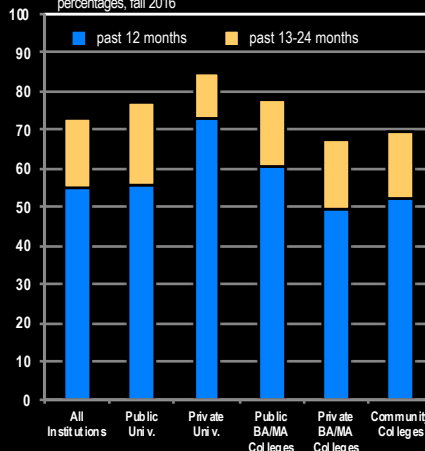
percentages, fall 2016



- 14 pct. HAVE NOT updated the campus cybersecurity plan in 24 months
- 26 pct. HAVE NOT updated the IT disaster recovery plan in two years.

Last Update for IT Disaster Recovery

percentages, fall 2016

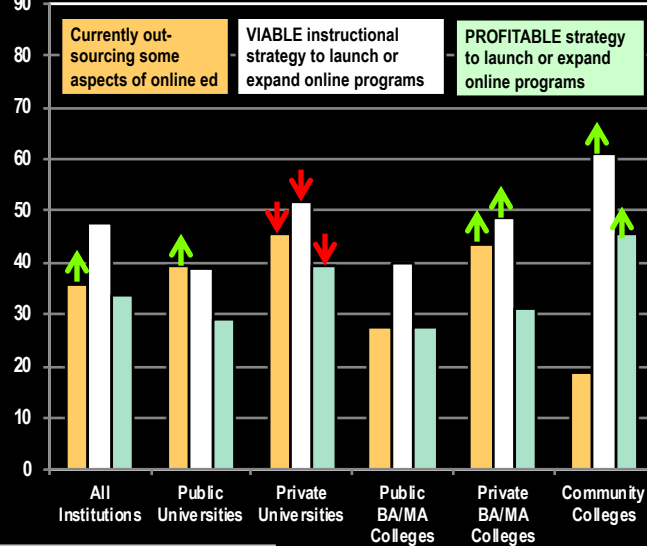


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Outsourcing Instructional Services for Online Programs?

percentages who agree/strongly agree, fall 2016

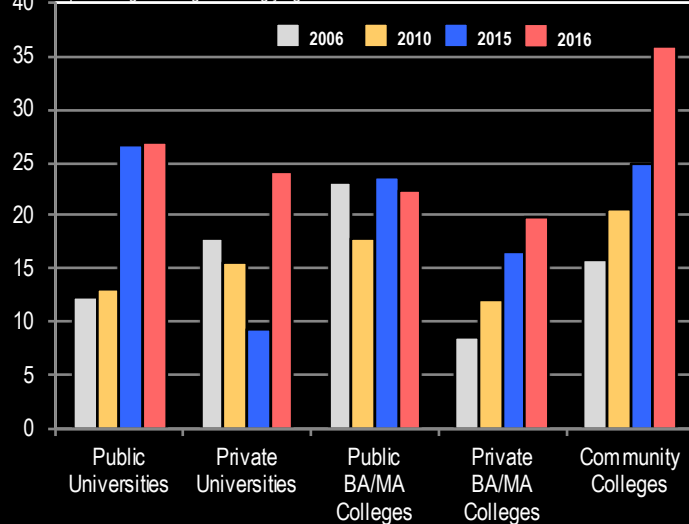


↓ ↑ plus or minus 4% over 2015

- Some interesting changes since 2015.
- Outsourcing viewed as more effective for instruction than for profits.
- Declining enthusiasm in pvt. universities as others show more support.

"We are experiencing major cost over-runs / unexpected costs in our ERP deployment activities."

percentage who agree/strongly agree



- Cost problems seem to be structural in some ERP deployments

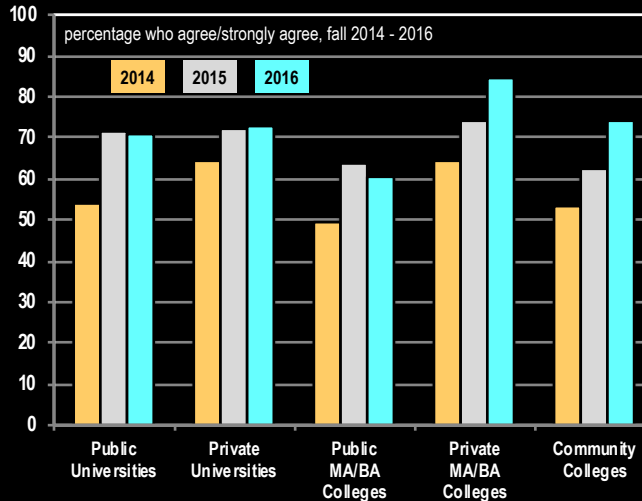


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Is the Cloud Secure?

“Cloud computing services offer a level of security and reliability that equals or exceeds on-campus hosting”

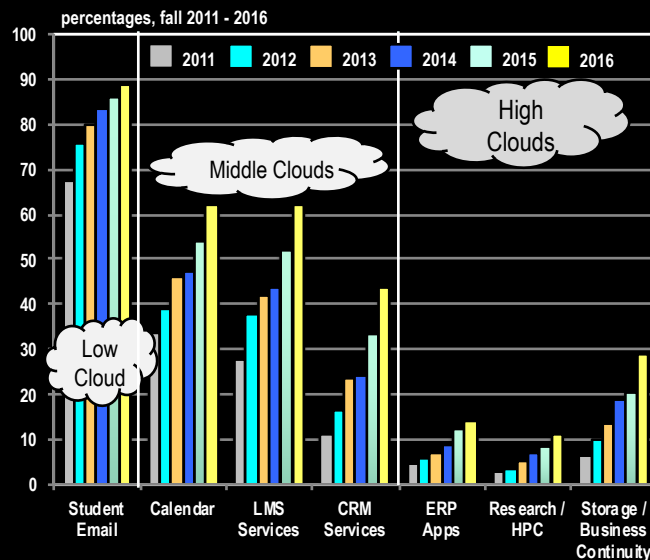


Rising confidence in IT security from Cloud providers.

But ...

- A small number (7%) had a cloud security problem this past year (15% in public universities)
- A fourth (26%) report “high concern” for a cloud security incident in the coming year (up from 21% in 2015)

The Cloud Slow Migration to Cloud Computing



Still little movement to the (high) Cloud for the really big, high-value tasks:

- Risk
- Limited options from providers
- Trust
- Control



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High Performance Computing

73% agree/strongly agree

Third party Cloud services (Amazon, Google, IBM, Microsoft) are an important part of our campus plan to offer high performance computing.

60% agree/strongly agree

The use of third-party Cloud services (Amazon, Google, IBM, Microsoft) by our faculty and researchers poses a potential risk to data privacy and data security.

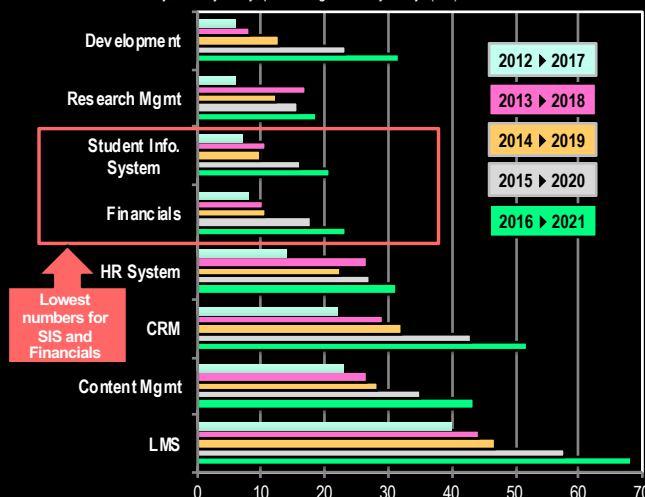
Clear concerns about the risks and rewards of third-party Cloud services

- **REWARDS:** cost, convenience, and capacity.
- **RISKS:** control, security, privacy, and culpability.

Still No Mass Movement to the Cloud for ERP by 2021

It is very likely that my campus will move to a Cloud/SaaS ERP Solution in five years

scale: 1=not likely; 7=very likely; percentage for very likely (6/7)



Some gains in 2016, but most CIOs still don't see "high cloud" applications coming soon to their campuses

WHY?

- Absence of clear path from ERP providers
- Can't visualize moving to Cloud
- Want to retain command and control
- Let others make the journey first



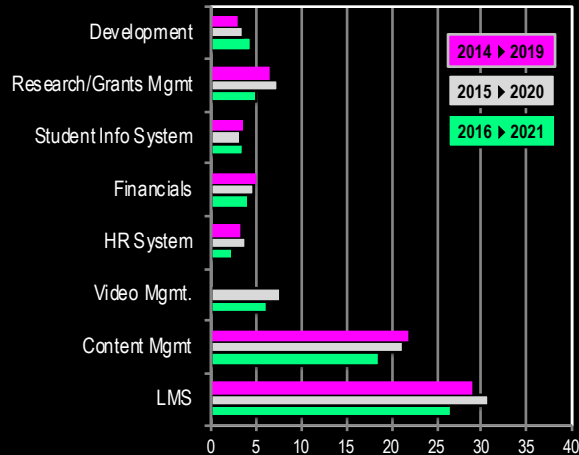
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No Mass Movement to Open Source ERP Applications by Fall 2021

High likelihood of my campus moving to an Open Source ERP Application in Five Years

(scale: 1=not likely; 7=very likely; pct. for 6/7)

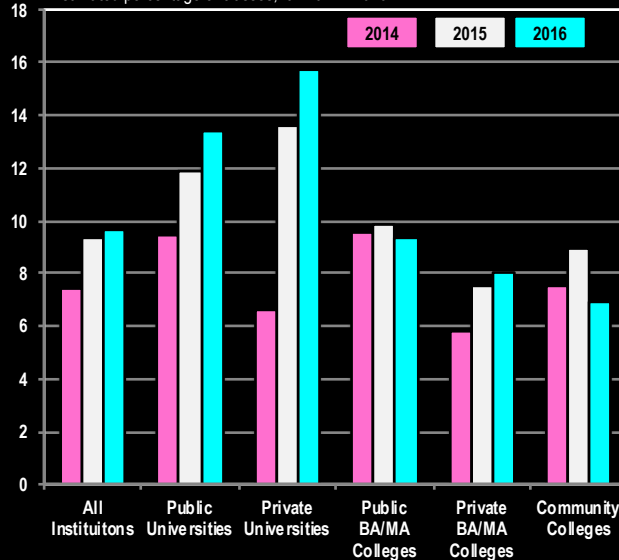


WHY?

- Many Quali apps are still in development or early release phase
- Risk-averse campus culture
- Let others make the journey first
- Awaiting evidence regarding costs and effectiveness
- Impact of the Sakai - Unizin experience?

Growing Use of Video Lecture Capture

Estimated percentage of classes, fall 2014 - 2016



- Video has surpassed audio: 10% vs. 7%.
- Percentages understate real numbers as much of the activity is in large, lower-division undergraduate classes.
- Much more video capacity in universities.
- Video increasingly important for hybrid, flipped, and online courses

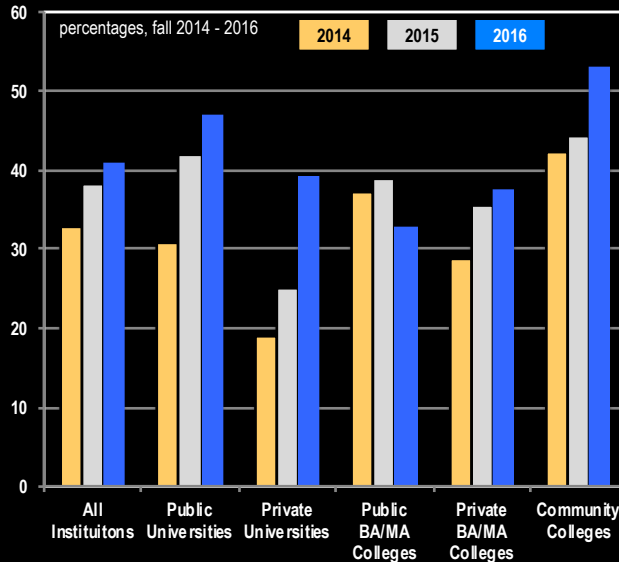


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Campus Policy Encouraging Faculty to Use OER Content for Courses

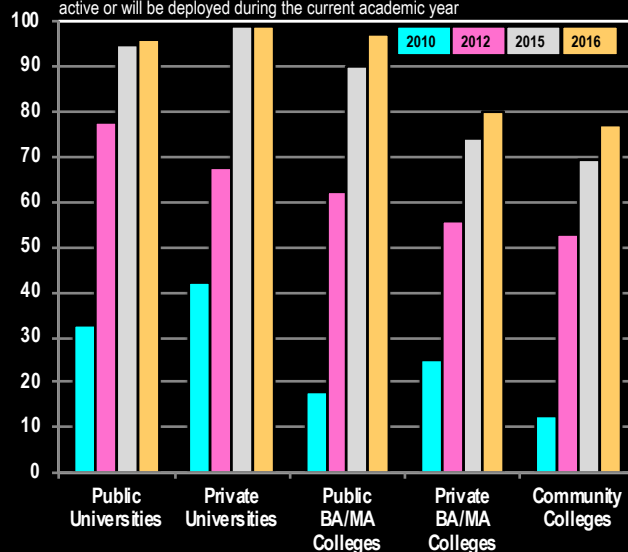
8 in 10 (79%) report OER will be an important source of course content in 5 years.



- 7% of courses now using OER materials
- Small gains in formal institutional support for the use of OER course materials
- **BIG ISSUE:** Faculty concern about quality, ancillaries, and updates
- **LOOMING LARGE:** Faculty choice of instructional content

Activating Mobile Apps, Fall 2010-2016

percentage of institutions reporting that mobile apps are now active or will be deployed during the current academic year



- Impact of student expectations and consumer market experience
- Half (53%) of campuses appear to be building their own mobile apps!

Although mobile is a top IT priority (#6 / 65%), only 17% of CIOs and sr. IT officers rate mobile services as "excellent"



CAMPUS COMPUTING 2016

	All Institutions	Universities		BA / MA Institutions		Community Colleges
		Public	Private	Public	Private	
Number of Institutions	339	52	33	58	131	65
GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTERS						
Does your institution have a written policy / code of conduct / acceptable or appropriate use policy for: <i>(percentages)</i>						
Campus-hosted individual / personal Web pages?	66.0	71.2	75.0	73.2	64.6	54.7
Fair use of copyrighted content (books, articles, etc.)?	93.1	100.0	87.5	92.9	95.4	85.9
Student use of social networking sites (Facebook, Twitter, etc.)?	37.3	30.8	37.5	30.4	42.3	39.1
discussions?	17.0	21.2	18.8	23.2	18.5	4.7
Does your institution have a special computer use / technology fee or annual / term computer use charge for all students? <i>(percentages)</i>						
Average total annual (full-time) student fee or charge for A/Y 2016-17	\$ 275	\$ 233	\$ 399	\$ 231	\$ 370	\$ 198
<i>How does your institution allocate the student tech fee funds?</i>						
Primarily as a source of additional money for the core IT budget	73.1	72.2	57.1	69.2	76.3	77.1
Primarily to support new IT services, resources, or initiatives	26.9	27.8	42.9	30.8	23.7	22.9
<i>How does your institution spend the student tech fee money?</i>						
Campus computer labs	40.3	68.6	19.4	51.7	26.0	46.0
Enhanced WiFi services	38.2	60.8	16.1	50.0	27.5	41.3
Instructional facilities/resources	39.1	56.9	19.4	55.2	26.7	44.4
Curricular resources for students	20.9	37.3	9.7	27.6	11.5	27.0
Library resources for students	18.5	39.2	6.5	36.2	6.1	17.5
User support services for students	35.5	68.6	6.5	50.0	19.8	41.3
Free/discounted printing services for students	28.1	35.3	16.1	37.9	22.1	30.2
<i>Does your institution inform students about how their IT fees are spent?</i>	50.6	70.0	37.5	71.4	27.1	40.5
Does your institution require or strongly recommend: <i>(percentages)</i>						
<i>Computers or laptops for all undergraduate students</i>						
No	41.1	46.2	21.9	44.8	23.7	79.7
Recommend	51.2	46.2	65.6	43.1	68.7	18.8
Require	7.7	7.7	12.5	12.1	7.6	1.6
<i>Computers or laptops for undergraduates in specific disciplines or academic programs</i>						
No	37.6	19.2	18.8	37.9	38.2	60.9
Recommend	38.5	32.7	50.0	39.7	43.5	26.6
Require	24.0	48.1	31.3	22.4	18.3	12.5
<i>Tablet devices (Amazon, Android, Apple, or Microsoft-based) for all students</i>						
No	86.4	92.3	81.3	79.3	90.1	82.8
Recommend	12.1	7.7	18.8	19.0	7.6	15.6
Require	1.5	-	-	1.7	2.3	1.6
<i>Tablet devices for students in specific disciplines or academic programs</i>						
No	66.9	61.5	62.5	58.6	72.5	68.8
Recommend	20.7	19.2	25.0	29.3	16.8	20.3
Require	12.4	19.2	12.5	12.1	10.7	10.9
As you think about institutional priorities for IT resources and services over the next three years, how do you rate the importance of the following IT issues? <i>(Pct. reporting very important 6/7; scale 1=not important; 7=very important)</i>						
Hiring / retaining qualified IT staff	82.3	90.4	93.9	74.1	80.2	81.3
Assisting faculty integrate technology into instruction	81.1	78.8	81.8	82.8	80.9	81.3
Upgrading/enhancing the campus network and data security	81.1	86.5	87.9	77.6	80.9	76.6
Providing adequate user support	78.2	80.8	72.7	81.0	75.6	81.3
Leveraging IT resources and services to advance the student success / student completion priorities of my institution	76.1	82.7	66.7	87.9	67.2	82.8
Implementing / supporting mobile computing	64.9	67.3	60.6	67.2	59.5	73.4
Supporting online / distance education courses and programs	64.0	78.8	69.7	81.0	44.3	73.4
Data analysis / learning and managerial analytics	60.5	57.7	63.6	74.1	57.3	54.7
Professional development for IT personnel (IT staff and senior IT officers)	59.0	57.7	45.5	69.0	60.3	54.7
IT business continuity/IT disaster planning and recovery	55.8	55.8	42.4	53.4	57.3	60.9
Upgrading/replacing the campus network	52.5	53.8	51.5	51.7	52.7	51.6
Migrating to Cloud computing for core IT infrastructure	45.7	44.2	51.5	55.2	42.7	40.6
Supporting/managing BYOD (Bring Your Own Device)	45.7	44.2	33.3	43.1	45.8	54.7
Leveraging IT resources to reduce the cost of campus operations	42.8	61.5	18.2	55.2	38.9	37.5

CAMPUS COMPUTING 2016

	All Institutions	Universities		BA / MA Institutions		Community Colleges
		Public	Private	Public	Private	
<i>Campus IT Priorities (continued; pct. reporting very important)</i>						
Migrating to Cloud computing for SaaS resources	41.6	46.2	39.4	43.1	41.2	37.5
Business process management for IT projects and initiatives	35.7	40.4	30.3	48.3	29.0	35.9
Upgrading/replacing administrative IT/ERP systems	33.0	36.5	36.4	29.3	35.1	26.6
Upgrading/replacing the current campus Learning Mangement System (LMS)	26.3	30.8	27.3	32.8	26.0	15.6
Digital content management	24.2	30.8	15.2	27.6	21.4	25.0
Leveraging IT resources to reduce the cost of instruction	23.6	38.5	9.1	37.9	15.3	23.4
Using/leveraging social media as a resource for instruction	15.9	15.4	9.1	22.4	12.2	21.9
Launching/supporting competency-based education (CBE) courses and programs	8.0	11.5	-	13.8	5.3	9.4
Has your institution established a specific <i>single product standard</i> for any of the following (i.e., your campus supports only one product or application)? <i>(percentages)</i>						
<i>Learning Management System / LMS</i>						
No campus standard platform	4.1	5.9	12.1	1.7	3.8	1.6
Blackboard	35.2	45.1	39.4	41.4	32.8	23.4
Brainstorm	-	-	-	-	-	-
Campus Cruiser	-	-	-	-	-	-
Desire2Learn	11.8	11.8	9.1	22.4	3.1	21.9
eCollege (Pearson)	-	-	-	-	-	-
Google Classroom	-	-	-	-	-	-
Instructure (Canvas)	24.9	29.4	24.2	24.1	16.0	40.6
Jenzabar	2.4	-	-	-	3.8	4.7
Moodle	17.5	3.9	6.1	10.3	33.6	7.8
Sakai	3.0	2.0	9.1	-	4.6	-
Other	1.2	2.0	-	-	2.3	-
<i>Lecture Capture/Video Management</i>						
No campus standard platform	37.3	23.5	21.2	31.0	46.6	42.2
Brightcove	-	-	-	-	-	-
Desire2Learn	1.2	-	3.0	1.7	0.8	1.6
Echo360	10.1	19.6	30.3	12.1	5.3	-
Kaltura	9.2	11.8	9.1	8.6	9.2	7.8
Matterhorn	-	-	-	-	-	-
Mediacore	-	-	-	-	-	-
Panopto	14.2	13.7	15.2	10.3	16.0	14.1
Polycom	0.6	-	-	1.7	0.8	-
Sharestream	-	-	-	-	-	-
Sonic Foundry (Mediasite)	7.1	7.8	18.2	12.1	3.8	3.1
TechSmith (Camtasia)	7.7	3.9	3.0	13.8	5.3	12.5
Tegrity	6.2	11.8	-	5.2	6.1	6.3
Vbrick	0.3	-	-	-	0.8	-
Other	6.2	7.8	-	3.5	5.3	12.5
As of Fall 2016 has your institution activated mobile apps (or mobile interfaces) for campus resources and services? <i>(percentages)</i>						
No	7.4	3.9	-	3.5	9.9	12.5
Yes	82.8	92.2	97.0	93.1	76.3	71.9
Planned for later this academic year (2016-17)	3.9	3.9	-	3.5	3.8	6.3
Currently under review	5.9	-	3.0	-	9.9	9.4
<i>Current / anticipated Mobile App Provider: (percentages)</i>						
Blackboard	27.2	41.2	36.4	39.7	21.4	5.0
CampusCruiser	0.3	-	-	-	0.8	-
Campus Management	0.9	-	-	-	1.5	1.6
Desire2Learn	5.0	3.9	9.1	8.6	0.8	9.4
eCollege	-	-	-	-	-	-
Ellucian Mobile	32.2	25.5	33.3	25.9	30.5	46.9
Instructure	10.7	11.8	9.1	10.3	6.9	18.8
Jenzabar	7.1	-	3.0	-	12.2	10.9
Kauli	0.6	-	3.0	1.7	-	-

CAMPUS COMPUTING 2016

	All Institutions	Universities Public Private	BA / MA Institutions Public Private	Community Colleges
<i>Current / anticipated Mobile App Provider: continued</i>				
Moodlerooms	3.0	- -	- 6.9	1.6
Oracle	2.7	5.9 3.0	5.2 0.8	1.6
uMobile	0.9	3.9 -	- -	1.6
Other	52.7	56.9 63.6	65.5 48.1	40.6
USES OF INFORMATION TECHNOLOGY				
Percentage of colleges and universities that agree / strongly agree:				
Adaptive learning technology has great potential to improve learning outcomes for students.	95.8	94.1 97.0	98.3 93.9	98.4
Digital curricular resources make learning more efficient and effective for students.	95.5	98.0 100.0	94.8 92.4	98.4
The senior academic leadership at my institution understands the strategic value of institutional investments in IT infrastructure, resources, and services.	89.9	92.2 90.9	94.8 87.8	87.3
Digital curricular resources provide a richer and more personalized learning experience than traditional print materials.	87.5	88.2 90.9	87.9 81.7	96.8
Faculty here strongly support the role of technology to enhance teaching and instruction.	84.0	86.3 84.8	86.2 80.9	85.7
Cloud computing will play an increasingly important role in our campus ERP strategy.	82.9	76.9 81.8	87.9 84.0	81.3
Cloud computing offers a viable strategy for key campus ERP applications.	79.6	71.2 78.8	84.5 83.2	75.0
Open Source textbooks/OER content will be an important source for instructional resources in five years.	79.2	84.3 69.7	81.0 74.0	90.5
We have a difficult time retaining IT talent because our salaries and benefits are not competitive with off-campus job opportunities.	75.2	82.7 69.7	75.9 74.8	73.4
Cloud computing services offer a level of data reliability and security that equals or exceeds the level of security and reliability we can provide with on-campus hosting.	74.3	71.2 72.7	60.3 84.7	70.3
Third-party Cloud services (Amazon, Google, IBM, Microsoft) are an important part of our campus plan to offer high performance computing services.	72.9	69.2 75.8	70.7 74.8	71.9
Cloud computing is an important part of our campus technology plan to reduce IT costs.	70.2	65.4 84.8	75.9 71.0	60.9
Our IT funding has not fully recovered from the budget cuts we experienced over the past four-six years.	63.2	60.8 45.5	77.6 59.5	69.8
The use of third-party Cloud services (Amazon, Google, IBM, Microsoft) by our faculty and researchers poses a potential risk to data privacy and data security.	59.9	69.2 63.6	62.1 54.2	60.9
Outsourcing instructional services (course development, user support, etc.) offers a viable and effective strategy for many campuses to launch/expand online courses and programs.	47.8	38.5 51.5	39.7 48.1	60.9
Outsourcing instructional services (course development, user support, etc.) offers a profitable strategy for many campuses to launch/expand online courses and programs.	33.6	28.8 39.4	27.6 31.3	45.3
Our efforts to "go all digital" with course materials are impeded by the fact that many of our students do not own the digital devices (computers or tablets) they need to access digital content and resources.	29.7	17.6 9.1	32.8 22.9	61.9
Wearable technology will become an important part of our plan to offer IT resources to students.	26.7	23.5 27.3	32.8 22.9	30.2
We are experiencing major cost over-runs/unexpected costs in our ERP deployment activities.	24.8	26.9 24.2	22.4 19.8	35.9
Given the exploding demand for network services, my campus should charge access fees for students who consume excess bandwidth - more than 20GB of bandwidth weekly.	21.2	9.6 15.2	24.1 26.0	21.9
CURRENT IT / COMPUTER FACILITIES AND RESOURCES				
Headcount enrollment on campus as of May 2016	11,743.0	27,644.9 12,188.1	12,324.1 3,705.9	14,550.6
Proportion of individuals who own desktop or notebook computers				
<i>Students</i>				
Desktops	23.7	21.4 14.4	27.0 15.0	44.6
Notebooks	77.3	79.9 92.2	76.9 84.4	53.7
Smartphones	86.8	86.7 91.0	86.1 89.2	80.5
Tablets	35.6	37.8 35.4	39.3 35.7	30.8
<i>Faculty</i>				
Desktops	53.9	61.8 49.0	58.2 44.1	66.4
Notebooks	59.5	59.6 66.7	60.1 60.5	53.2
Smartphones	79.8	76.2 82.7	79.8 80.7	79.5
Tablets	37.6	36.2 36.6	40.1 36.9	39.0

CAMPUS COMPUTING 2016

	All Institutions	Universities		BA / MA Institutions		Community Colleges
		Public	Private	Public	Private	
Proportion of operating systems installed on campus-owned computers, laptops/notebooks, and tablets						
<i>Desktop Computers</i>						
Apple/MacOS	24.4	24.1	32.5	21.1	31.2	9.9
Google/Android or Chrome	2.4	2.9	2.5	1.4	3.4	0.9
Microsoft/Windows	73.3	72.6	65.2	77.1	66.7	88.1
<i>Laptops/Notebooks</i>						
Apple/MacOS	26.3	29.2	36.1	22.7	33.0	9.1
Google/Android or Chrome	2.5	3.9	2.2	1.4	2.8	1.8
Microsoft/Windows	71.6	65.8	61.9	77.5	66.4	86.6
<i>Tablets</i>						
Apple/MacOS	65.8	60.0	69.5	63.1	73.1	56.7
Google/Android or Chrome	8.9	11.5	11.0	9.1	7.1	9.1
Microsoft/Windows	24.2	27.6	16.3	27.8	19.8	30.9
Proportion of the campus classrooms that are multimedia or are AV enabled	83.8	80.3	74.2	83.8	86.0	86.8
Total number (FTE) of IT help desk / technical support personnel	30.3	78.5	68.1	27.6	10.6	14.7
User Support Ratio (enrollment / FTE help desk personnel)	387.6	352.2	179.0	446.5	349.6	989.8
Percentage of faculty with individual / personal Web page	28.6	31.7	38.4	32.4	26.8	21.5
Percentage of your faculty who have taught an online course (80 pct. of content online) over the past two years:						
Full-time faculty	25.4	28.1	22.5	28.7	16.6	40.1
Part-time faculty	23.4	24.9	18.5	27.3	18.4	31.6
Percentage of classes that use:						
LMS / course management tools for online course resources	73.1	72.9	78.1	69.6	75.0	70.1
Audio lecture capture	7.3	9.8	10.1	6.9	6.7	5.2
Video lecture capture	9.6	13.4	15.7	9.3	8.0	6.9
"Clickers" / classroom response system	8.9	15.4	10.6	7.8	7.0	7.5
Anti-plagiarism software for written assignment	28.6	26.6	25.5	30.4	27.9	30.8
Open Source / OER curricular resources	6.7	6.6	7.5	5.3	7.2	6.9
Adaptive learning tools in developmental and general education courses	4.9	5.7	4.8	4.1	4.0	7.0
Courseware in general education classes	12.2	12.8	10.9	13.0	9.3	17.8
ACADEMIC & INSTRUCTIONAL COMPUTING POLICIES AND PROCEDURES & RESOURCES						
Does your campus / institution (percentages)						
Have a formal program to recognize and reward the use of information technology as part of the routine faculty review and promotion process?	17.2	17.6	12.1	12.1	16.0	26.6
Have a formal program to assess the impact of IT on instruction and learning outcomes?	25.1	29.4	27.3	32.8	18.3	28.1
Have a formal policy regarding ownership of Web-based curriculum resources and intellectual property developed by faculty?	67.2	78.4	69.7	79.3	57.3	65.6
Inform / counsel students about privacy issues related to social networking sites (Facebook, LinkedIn, etc.)?	68.9	82.4	90.9	56.9	77.9	39.1
Encourage the use of the Creative Commons license on digital works?	48.8	60.8	60.6	43.1	48.9	37.5
Encourage faculty to use Open Source / OER instructional content for their courses?	41.1	47.1	39.4	32.8	37.4	53.1
Support faculty efforts to develop Open Source / OER instructional content for their courses?	39.1	47.1	51.5	36.2	29.8	48.4
Maintain a campus page on Facebook?	98.8	100.0	100.0	96.6	100.0	96.9
Have an institutional presence on YouTube?	96.2	96.1	100.0	94.8	96.2	95.3
Have an institutional presence on iTunesU?	59.5	92.2	87.9	56.9	48.9	43.8
Maintain an institutional account on Twitter?	96.2	100.0	100.0	93.1	97.7	90.6
Maintain an institutional account on Instagram?	74.0	82.4	72.7	74.1	77.9	59.4
Have a campus / department license for anti-plagiarism software (e.g., PlagScan, Turnitin, SafeAssign)?	77.5	86.3	87.9	91.4	65.6	76.6
Outsource various aspects of your online program activities (recruitment, course development, student services)?	35.5	39.2	45.5	27.6	43.5	18.8
Support Single Sign On (SSO) access to campus services?	79.3	86.3	87.9	87.9	72.5	75.0
When did your institution develop / last update the campus plan for the IT issues listed below? (percentages)						
<i>Overall campus IT plan</i>						
past 12 months	48.5	46.2	51.5	46.6	42.8	61.5
13 to 24 months ago	20.9	19.2	24.2	27.6	22.9	10.8
more than 24 months ago	30.3	34.6	24.2	25.9	33.6	27.7

CAMPUS COMPUTING 2016

	All Institutions	Universities		BA / MA Institutions		Community Colleges
		Public	Private	Public	Private	
When did your institution develop / last update the campus plan for the IT issues listed below? (percentages)						
<i>Using IT to enhance instructional learning</i>						
past 12 months	47.1	34.6	60.6	51.7	42.0	55.4
13 to 24 months ago	18.2	23.1	12.1	19.0	18.3	16.9
more than 24 months ago	21.2	34.6	15.2	17.2	20.6	18.5
<i>Online/Distance Education</i>						
past 12 months	42.1	38.5	57.6	41.4	32.8	56.9
13 to 24 months ago	18.5	19.2	15.2	25.9	16.8	16.9
more than 24 months ago	17.4	32.7	15.2	20.7	11.5	13.9
<i>Enterprise architecture</i>						
past 12 months	46.5	38.5	54.6	51.7	39.7	58.5
13 to 24 months ago	17.9	19.2	9.1	20.7	22.9	9.2
more than 24 months ago	21.8	28.9	21.2	15.5	21.4	21.5
<i>IT and cyber security</i>						
past 12 months	70.0	69.2	93.9	74.1	63.4	67.7
13 to 24 months ago	16.5	17.3	-	17.2	19.9	16.9
more than 24 months ago	13.5	13.5	6.1	8.6	16.8	15.4
<i>Campus networks (including wireless)</i>						
past 12 months	71.5	61.5	84.9	77.6	69.5	70.8
13 to 24 months ago	15.0	17.3	15.2	10.3	16.0	15.4
more than 24 months ago	12.4	19.2	-	10.3	14.5	10.8
<i>High performance computing</i>						
past 12 months	25.9	48.1	48.5	24.1	19.1	12.3
13 to 24 months ago	10.3	15.4	18.2	8.6	9.2	4.6
more than 24 months ago	12.9	21.2	9.1	17.2	9.9	10.8
<i>IT disaster recovery</i>						
past 12 months	55.3	55.8	72.7	60.3	49.6	52.3
13 to 24 months ago	17.4	21.2	12.1	17.2	17.6	16.9
more than 24 months ago	26.5	23.1	15.2	20.7	31.3	30.8
<i>Cloud computing</i>						
past 12 months	58.8	59.6	69.7	67.2	55.0	52.3
13 to 24 months ago	18.5	21.2	21.2	13.8	18.3	20.0
more than 24 months ago	18.2	17.3	6.1	10.3	24.4	20.0
<i>Mobile computing</i>						
past 12 months	55.3	50.0	48.5	55.2	55.0	63.1
13 to 24 months ago	23.8	26.9	33.3	31.0	21.4	15.4
more than 24 months ago	16.5	21.2	12.1	3.5	21.4	16.9
<i>Identity and access management</i>						
past 12 months	55.9	61.5	60.6	56.9	51.2	56.9
13 to 24 months ago	18.8	17.3	24.2	24.1	16.0	18.5
more than 24 months ago	24.1	21.2	15.2	17.2	32.1	21.5
<i>Disability accessibility / compliance</i>						
past 12 months	46.2	46.2	54.6	50.0	37.4	55.4
13 to 24 months ago	19.1	25.0	9.1	24.1	19.9	13.9
more than 24 months ago	29.4	25.0	36.4	20.7	35.1	26.2
<i>Competency-based education</i>						
past 12 months	16.2	17.3	21.2	22.4	10.7	18.5
13 to 24 months ago	9.7	13.5	9.1	3.5	6.9	18.5
more than 24 months ago	9.1	11.5	3.0	12.1	8.4	9.2
<i>Emergency communications / notification system(s)</i>						
past 12 months	58.8	59.6	39.4	69.0	52.7	70.8
13 to 24 months ago	20.6	19.2	21.2	17.2	24.4	16.9
more than 24 months ago	17.7	19.2	36.4	8.6	20.6	9.2

CAMPUS COMPUTING 2016

	All Institutions	Universities PublicPrivate		BA / MA Institutions PublicPrivate		Community Colleges
FUTURE ISSUES AFFECTING CAMPUS COMPUTING						
How important are the following to campus computing / information technology environment and IT policy and planning over the next 2-3 years? scale 1= not important; 7=very important.						
Percent Reporting "Very Important" (6/7)						
Hardware						
Laptop / netbook computers	71.2	84.6	66.7	74.1	78.6	44.6
Smart phones	85.3	90.4	87.9	87.9	86.3	75.4
Tablet devices	75.0	73.1	63.6	86.2	72.5	76.9
Wearable devices	8.5	9.6	6.1	13.8	6.9	7.7
Instructional applications and resources						
Developing instructional software	18.8	21.2	27.3	22.4	16.0	15.4
Web-based tutorials	57.6	59.6	57.6	69.0	49.6	63.1
e-Books (e-textbooks)	55.0	57.7	36.4	72.4	43.5	70.8
Open Source / OER textbooks	37.9	42.3	24.2	50.0	28.2	50.8
Student ePortfolios	39.7	38.5	54.5	37.9	48.1	18.5
Audio lecture capture	37.9	44.2	42.4	37.9	36.6	32.3
Video lecture capture	55.3	63.5	75.8	55.2	54.2	40.0
Vendor Services / Outsourcing						
Data back-up / storage	43.5	36.5	54.5	39.7	49.6	35.4
ERP services	19.7	17.3	18.2	19.0	19.1	24.6
Instructional technology support services	9.4	5.8	9.1	6.9	9.2	15.4
User support services	7.4	5.8	15.2	5.2	5.3	10.8
ResNet services	10.3	9.6	3.0	19.0	9.9	6.2
Network services	4.4	1.9	6.1	5.2	2.3	9.2
eProcurement	11.5	15.4	21.2	13.8	7.6	9.2
Campus portal	11.2	1.9	3.0	12.1	14.5	15.4
Web hosting	39.7	30.8	42.4	31.0	48.1	36.9
Video management	29.7	23.1	18.2	20.7	38.9	30.8
Course development	3.5	-	3.0	3.4	5.3	3.1
Online course delivery	14.7	9.6	18.2	15.5	13.7	18.5
RATING THE TECHNOLOGY INFRASTRUCTURE						
Percent reporting excellent (6/7); Scale from 1="Poor" to 7="Excellent".						
Computer networks and data communication	73.0	74.5	72.7	79.3	67.9	76.2
WiFi/Wireless networks	67.7	66.7	57.6	67.2	66.4	76.2
Emergency communications / notification system(s)	66.5	76.5	75.8	69.0	64.1	55.6
Multimedia / AV enabled classrooms	63.8	66.7	63.6	70.7	61.1	60.3
Telecommunications and phone system	54.9	54.9	39.4	62.1	50.4	65.1
User support services	54.3	47.1	57.6	55.2	55.0	55.6
Learning Management System (LMS)	52.5	49.0	57.6	58.6	47.3	57.1
IT security (network attacks, secure data bases, identity mgmt., etc.)	46.0	45.1	60.6	56.9	34.4	52.4
Instructional computing	43.9	43.1	57.6	48.3	39.7	41.3
ERP/enterprise systems	43.6	37.3	48.5	46.6	42.7	44.4
Campus web site services / student portal	37.7	37.3	27.3	43.1	36.6	39.7
IT training for faculty	24.9	41.2	33.3	31.0	18.3	15.9
Disaster planning	22.8	33.3	33.3	25.9	16.0	19.0
Data warehousing	20.5	27.5	33.3	34.5	11.5	14.3
IT accessibility: IT resources and services for users with disabilities	20.5	27.5	18.2	22.4	15.3	25.4
Video capture and services / delivery infrastructure	16.9	27.5	27.3	22.4	10.7	11.1
Mobile apps/services for students, faculty, and staff	16.6	29.4	15.2	20.7	12.2	5.0
Digital dashboards / ERP analytics	13.4	13.7	15.2	15.5	10.7	15.9
IT training for students	9.8	13.7	9.1	15.5	6.1	9.5
Learning analytics	6.5	11.8	9.1	13.8	3.1	1.6

CAMPUS COMPUTING 2016

	All Institutions	Universities Public Private		BA / MA Institutions Public Private		Community Colleges
Rate the effectiveness of institution's investment in technology resources and services						
<i>Percent very effective (6 / 7) (Scale: 1=Not Effective; 7=Very Effective)</i>						
On-campus teaching and instruction	68.6	72.5	66.7	69.0	71.8	71.9
Library resources and services	61.2	66.7	66.7	56.9	63.4	67.2
Student recruitment	60.7	64.7	75.8	58.6	71.8	45.3
Administrative information systems and operations	58.6	62.7	60.6	60.3	58.0	62.5
Student services	55.3	56.9	54.5	60.3	51.9	64.1
Academic support services (including advising and retention efforts)	55.0	62.7	39.4	53.4	55.7	60.9
Instructional support services for faculty	52.7	52.9	57.6	58.6	56.5	48.4
Online / distance courses and programs	46.2	58.8	45.5	58.6	45.0	64.1
Student success / student completion initiatives	43.8	52.9	42.4	46.6	41.2	53.1
Development efforts	31.7	41.2	30.3	27.6	38.9	29.7
Alumni activities / engagement	30.2	43.1	36.4	25.9	35.9	18.8
Research and scholarship	27.2	52.9	54.5	24.1	25.2	39.1
Data analysis and learning/managerial analytics	24.0	31.4	24.2	22.4	19.1	29.7
General level of satisfaction at your institution with:						
<i>Percent very satisfied (6 / 7) (Scale: 1=Not Satisfied 7=Very Satisfied)</i>						
WiFi/Wireless network	61.9	64.7	46.9	64.9	61.1	66.2
User support services	59.7	64.7	53.1	56.1	60.0	61.5
Learning Management System (LMS)	57.8	49.0	60.6	61.4	56.6	61.9
Tech support for faculty	53.6	57.7	51.5	57.1	52.7	50.0
Student Information system (SIS)	39.1	32.7	30.3	42.9	38.9	44.6
Degree audit system	35.7	32.0	37.5	43.6	38.3	25.0
Financial System (general ledger, A/P, etc)	35.1	25.0	27.3	34.5	40.0	38.5
Enrollment management system	34.3	29.4	27.3	34.5	43.0	23.8
Advancement/Development System (Alumni Gifts, etc)	31.5	26.5	27.3	42.6	32.8	22.6
Human resources system	24.7	25.0	18.2	29.1	22.8	28.1
Campus mobile application	24.1	32.7	21.2	26.9	20.0	21.8
ePortfolio system	22.8	20.5	23.1	23.9	27.3	8.8
Analytic Tools	15.9	16.0	19.4	23.1	12.5	13.1
THE TECHNOLOGY BUDGET						
Percentage of campuses experiencing a mid-year cut in the computing budget, 2015-16	24.7	17.3	15.2	15.5	30.5	32.3
Percentage of budget that was cut in 2015-16	8.1	4.9	3.4	12.0	8.0	9.3
Average central IT services budget for 2016-17	\$ 12,949,846	\$ 28,235,896	\$ 24,234,962	\$ 7,072,943	\$ 10,619,648	\$ 5,011,627
Percent of budget allocated to:						
Hardware	16.4	11.8	12.6	14.9	19.8	16.0
Software	17.5	13.8	14.2	14.7	20.4	18.5
Personnel	52.5	55.1	57.9	57.3	47.5	53.6
Content licenses	8.7	6.3	6.9	8.7	9.9	9.0
User support	15.2	14.3	14.2	15.4	14.6	17.7
Network service / support	14.4	16.6	14.0	15.1	14.8	11.4
Central IT services as percentage of total institutional computing/IT expenditures for 2015-16	71.3	55.2	68.1	70.8	79.2	69.8
Total computing/IT expenditures as a percentage of the total institutional budget for 2015-16	5.9	5.3	5.0	5.9	5.5	7.6
Average annual expenditures for software licensing and maintenance fees paid to vendors for software and services for the following ERP, administrative, and instructional applications systems for 2015-16						
Alumni / Advancement / Development	\$ 55,123	\$ 116,749	\$ 176,943	\$ 32,378	\$ 33,383	\$ 16,949
Business Intelligence / Big Data analytics	131,205	325,199	84,743	97,482	104,564	53,532
CRM	75,394	209,777	74,857	48,100	51,717	46,031
Courseware/Digital Course Supplements	118,292	374,423	23,363	147,769	28,023	16,679
Finance / Accounting	164,657	371,797	395,318	128,695	61,712	114,932
Emergency Notification Services	20,556	39,228	47,197	19,179	9,626	20,809
ePortfolio services	29,292	27,602	63,857	33,408	19,426	37,368
Grants and Research Management	76,639	164,032	94,168	28,692	11,509	11,946
Learning management systems	152,768	305,407	216,413	145,315	85,509	117,163
Lecture capture and campus video management	46,789	112,278	51,636	41,521	19,935	26,171
Library system management	71,863	151,317	107,764	73,065	49,365	47,957
Human resources (recruitment)	45,054	85,956	49,086	68,207	19,778	32,178
Human resources (HR records and payroll)	115,855	312,747	276,074	61,685	41,206	67,009
Student information system	227,276	464,850	371,739	183,060	121,445	198,370
ADDRESSING BUDGET ISSUES BY: (percentages)						
<i>Regulating the amount of campus bandwidth students can consume</i>						
Doing this already	35.0	28.9	24.2	32.8	41.2	35.4
Beginning in 2016-17 Year	1.2	1.9	-	-	1.5	1.5
Reviewing for 2016-17 Year	6.2	3.9	3.0	6.9	4.6	12.3
Decided not to do this	49.4	55.8	57.6	51.7	46.6	43.1

CAMPUS COMPUTING 2016

	All Institutions	Universities		BA / MA Institutions		Community Colleges
		Public	Private	Public	Private	
<i>ADDRESSING BUDGET ISSUES BY: (percentages)</i>						
<i>Reducing hours in public access facilities</i>						
Doing this already	15.3	17.3	9.1	17.2	9.9	26.2
Beginning in 2016-17 Year	2.9	3.9	-	3.5	2.3	4.6
Reviewing for 2016-17 Year	7.4	9.6	6.1	3.5	6.1	12.3
Decided not to do this	55.9	55.8	57.6	58.6	59.5	44.6
<i>Phasing out public computer labs</i>						
Doing this already	14.7	15.4	18.2	22.4	13.7	7.7
Beginning in 2016-17 Year	3.2	5.8	3.0	1.7	3.1	3.1
Reviewing for 2016-17 Year	13.8	13.5	3.0	27.6	13.7	7.7
Decided not to do this	57.9	59.6	57.6	39.7	59.5	69.2
<i>Reorganizing operations (e.g., combining IT units)</i>						
Doing this already	46.2	57.7	54.6	51.7	42.8	35.4
Beginning in 2016-17 Year	7.4	9.6	6.1	6.9	5.3	10.8
Reviewing for 2016-17 Year	13.8	17.3	21.2	15.5	8.4	16.9
Decided not to do this	21.5	15.4	6.1	12.1	29.8	24.6
<i>Reducing IT staff</i>						
Doing this already	23.8	21.2	24.2	22.4	22.1	30.8
Beginning in 2016-17 Year	4.4	3.9	-	1.7	5.3	7.7
Reviewing for 2016-17 Year	4.7	5.8	9.1	3.5	2.3	7.7
Decided not to do this	57.4	61.5	48.5	56.9	61.8	49.2
<i>Making greater use of student assistants for user support needs</i>						
Doing this already	70.0	75.0	66.7	77.6	71.0	60.0
Beginning in 2016-17 Year	5.3	1.9	3.0	1.7	6.1	10.8
Reviewing for 2016-17 Year	7.9	9.6	6.1	10.3	6.9	7.7
Decided not to do this	11.8	9.6	9.1	3.5	13.0	18.5
<i>Outsourcing computing / IT services</i>						
Doing this already	31.8	36.5	45.5	31.0	31.3	23.1
Beginning in 2016-17 Year	3.2	9.6	-	1.7	0.8	6.2
Reviewing for 2016-17 Year	11.8	13.5	15.2	10.3	11.5	10.8
Decided not to do this	41.8	30.8	21.2	44.8	43.5	53.9
<i>Outsourcing user support / help desk services</i>						
Doing this already	14.7	17.3	21.2	12.1	11.5	18.5
Beginning in 2016-17 Year	2.9	3.9	3.0	-	2.3	6.2
Reviewing for 2016-17 Year	10.0	7.7	6.1	19.0	8.4	9.2
Decided not to do this	60.6	57.7	51.5	60.3	64.9	58.5
<i>Outsourcing ResNet services</i>						
Doing this already	6.8	7.7	-	12.1	6.1	4.6
Beginning in 2016-17 Year	1.2	3.9	3.0	1.7	-	-
Reviewing for 2016-17 Year	6.2	7.7	3.0	5.2	8.4	3.1
Decided not to do this	55.3	61.5	54.6	63.8	65.7	23.1
<i>Delaying / deferring ERP deployment / replacement / upgrades</i>						
Doing this already	19.4	15.4	24.2	12.1	22.9	20.0
Beginning in 2016-17 Year	2.4	3.9	-	3.5	1.5	3.1
Reviewing for 2016-17 Year	9.1	7.7	6.1	12.1	9.9	7.7
Decided not to do this	50.9	51.9	54.6	50.0	47.3	55.4
<i>Deferring / reducing use of consultants on IT projects</i>						
Doing this already	36.8	40.4	33.3	24.1	44.3	32.3
Beginning in 2016-17 Year	2.7	3.9	3.0	1.7	2.3	3.1
Reviewing for 2016-17 Year	10.0	5.8	6.1	13.8	8.4	15.4
Decided not to do this	33.8	40.4	39.4	31.0	28.2	38.5
<i>Reviewing options for the campus standard Learning Management System</i>						
Doing this already	30.0	40.4	24.2	27.6	27.5	32.3
Beginning in 2016-17 Year	10.6	15.4	6.1	3.5	11.5	13.9
Reviewing for 2016-17 Year	15.6	13.5	18.2	25.9	15.3	7.7
Decided not to do this	32.4	25.0	33.3	25.9	36.6	33.9
<i>Migrating to Software as a Service (SaaS) / Cloud-based ERP applications</i>						
Doing this already	22.1	15.4	45.5	22.4	19.1	21.5
Beginning in 2016-17 Year	3.8	5.8	-	1.7	5.3	3.1
Reviewing for 2016-17 Year	30.0	36.5	21.2	29.3	30.5	29.2
Decided not to do this	28.8	36.5	18.2	19.0	32.8	27.7

CAMPUS COMPUTING 2016

	All Institutions	Universities		BA / MA Institutions		Community Colleges
		Public	Private	Public	Private	
STRATEGIC, BUDGET AND PERSONNEL ISSUES						
<i>Percent reporting very important (6/7); scale: 1=not important; 7=very important</i>						
Assessing the benefits of existing investments in computing and technology resources	73.7	78.8	81.8	75.4	69.5	73.8
Providing incentives and rewards for faculty to support technology integration into the curriculum	26.3	21.2	30.3	36.8	28.2	15.4
Negotiating site licensing agreements with textbook publishers	25.1	30.8	9.1	35.1	16.8	36.9
Negotiating site licensing agreements with academic publishers	26.3	28.8	18.2	33.3	18.3	38.5
Sharing digital resources with other campuses / institutions	38.1	42.3	33.3	49.1	33.6	35.4
Helping our IT personnel stay current with new technologies	88.5	80.8	90.9	94.7	87.8	89.2
IT governance	52.5	65.4	60.6	57.9	44.3	49.2
Surveying students and faculty about IT issues and services	61.4	63.5	54.5	59.6	59.5	69.2
Assessing the return on investment for IT spending / resources	63.4	69.2	57.6	70.2	60.3	61.5
Using Open Source tools and applications	27.4	32.7	21.2	35.1	26.7	21.5
Promoting the use of Open Education Resource (OER) course materials	18.0	19.2	9.1	24.6	13.0	26.2
Data warehousing	58.1	69.2	60.6	77.2	47.3	53.8
IT business continuity	74.0	80.8	69.7	77.2	71.8	72.3
Identity Management	78.2	94.2	78.8	80.7	74.8	69.2
Business analytics / intelligence	72.0	84.6	75.8	84.2	64.1	64.6
Hosted applications / Software as a Service (SaaS)	59.3	63.5	75.8	66.7	55.0	50.8
Managing campus video resources (lectures, presentation, etc.)	38.6	42.3	51.5	54.4	34.4	24.6
Implementing Federated Identity Management	51.9	71.2	66.7	59.6	38.9	47.7
Operating with a single student user profile for all institutional applications	49.9	59.6	48.5	49.1	43.5	55.4
Implementing new technology tools in our continuing ed and workforce development programs	26.3	17.3	30.3	28.1	19.1	44.6
Using learning analytics to support student success initiatives	48.4	53.8	48.5	66.7	35.1	53.8
Using learning analytics to improve instructor, course, and program effectiveness	41.9	53.8	36.4	56.1	28.2	49.2
Using social media to support student success initiatives	24.5	21.2	12.1	35.1	21.4	29.2
THIS YEAR'S COMPUTING BUDGET COMPARED TO LAST YEAR'S BUDGET (percentages)						
<i>Total computing budget for central IT services</i>						
Reduced >5%	12.1	9.6	-	19.0	11.5	15.4
Reduced 4-5%	5.9	7.7	3.1	8.6	4.6	6.2
Reduced 1-3%	11.5	15.4	15.6	3.5	7.6	21.5
No change	37.2	30.8	31.3	43.1	41.2	32.3
Increased 1-3%	24.8	30.8	40.6	20.7	22.9	18.5
Increased 4-5%	3.5	-	6.3	1.7	6.1	1.5
Increased >5%	5.0	5.8	3.1	3.5	6.1	4.6
<i>Computer purchases by academic departments</i>						
Reduced >5%	10.9	7.7	-	17.2	10.7	13.9
Reduced 4-5%	6.5	9.6	-	8.6	5.3	7.7
Reduced 1-3%	11.2	13.5	12.5	10.3	7.6	16.9
No change	59.3	57.7	78.1	51.7	64.9	46.2
Increased 1-3%	10.3	11.5	9.4	10.3	9.2	12.3
Increased 4-5%	0.6	-	-	-	0.8	1.5
Increased >5%	1.2	-	-	1.7	1.5	1.5
<i>All institutional purchases of desktop / notebook computers</i>						
Reduced >5%	9.7	5.8	3.1	13.8	9.9	12.3
Reduced 4-5%	6.5	9.6	3.1	6.9	4.6	9.2
Reduced 1-3%	12.1	17.3	6.3	8.6	8.4	21.5
No change	51.9	50.0	75.0	51.7	55.7	33.9
Increased 1-3%	16.2	17.3	12.5	15.5	18.3	13.9
Increased 4-5%	0.6	-	-	-	0.8	1.5
Increased >5%	3.0	-	-	3.5	2.3	7.7
<i>Institutional support for public computer labs</i>						
Reduced >5%	8.6	7.7	3.1	13.8	8.4	7.7
Reduced 4-5%	5.0	7.7	-	5.2	5.3	4.6
Reduced 1-3%	13.0	19.2	6.3	17.2	8.4	16.9
No change	64.3	55.8	87.5	50.0	70.2	60.0
Increased 1-3%	8.9	9.6	3.1	13.8	6.9	10.8
Increased 4-5%	0.3	-	-	-	0.8	-
Increased >5%	-	-	-	-	-	-
<i>Network servers</i>						
Reduced >5%	6.2	3.9	-	8.6	6.9	7.7
Reduced 4-5%	4.1	5.8	-	5.2	3.1	6.2
Reduced 1-3%	9.7	11.5	6.3	13.8	6.9	12.3
No change	55.5	57.7	65.6	55.2	55.0	50.8
Increased 1-3%	17.7	17.3	25.0	12.1	18.3	16.9
Increased 4-5%	4.4	1.9	3.1	5.2	6.1	3.1
Increased >5%	2.4	1.9	-	-	3.8	3.1

CAMPUS COMPUTING 2016

	All Institutions	Universities		BA / MA Institutions		Community Colleges
		Public	Private	Public	Private	
THIS YEAR'S COMPUTING BUDGET COMPARED TO LAST YEAR'S BUDGET (percentages)						
<i>Server software and related products</i>						
Reduced >5%	4.7	3.9	-	6.9	3.8	7.7
Reduced 4-5%	2.4	-	-	1.7	1.5	7.7
Reduced 1-3%	7.7	15.4	3.1	5.2	6.9	7.7
No change	56.6	48.1	59.4	67.2	59.5	46.2
Increased 1-3%	20.9	23.1	31.3	17.2	17.6	24.6
Increased 4-5%	5.6	5.8	6.3	1.7	7.6	4.6
Increased >5%	2.1	3.9	-	-	3.1	1.5
<i>Wireless networks</i>						
Reduced >5%	4.4	1.9	-	8.6	4.6	4.6
Reduced 4-5%	1.5	1.9	-	-	1.5	3.1
Reduced 1-3%	2.7	3.9	-	1.7	1.5	6.2
No change	42.8	38.5	46.9	37.9	45.8	43.1
Increased 1-3%	27.4	34.6	21.9	24.1	24.4	32.3
Increased 4-5%	11.8	11.5	21.9	8.6	13.7	6.2
Increased >5%	9.4	7.7	9.4	19.0	8.4	4.6
<i>User training and support</i>						
Reduced >5%	5.6	1.9	-	8.6	6.9	6.2
Reduced 4-5%	2.4	1.9	-	1.7	1.5	6.2
Reduced 1-3%	6.5	9.6	-	6.9	4.6	10.8
No change	69.6	73.1	87.5	62.1	71.0	63.1
Increased 1-3%	13.6	11.5	12.5	19.0	12.2	12.3
Increased 4-5%	1.8	1.9	-	-	3.8	-
Increased >5%	0.6	-	-	1.7	-	1.5
<i>Professional development for IT personnel</i>						
Reduced >5%	7.4	5.8	-	8.6	9.2	7.7
Reduced 4-5%	5.6	5.8	-	3.5	5.3	10.8
Reduced 1-3%	10.9	19.2	9.4	10.3	5.3	16.9
No change	54.3	42.3	75.0	44.8	63.4	43.1
Increased 1-3%	16.8	21.2	12.5	24.1	12.2	18.5
Increased 4-5%	2.4	1.9	3.1	1.7	3.8	-
Increased >5%	2.7	3.9	-	6.9	0.8	3.1
<i>Campus portal services</i>						
Reduced >5%	3.5	3.9	-	3.5	3.8	4.6
Reduced 4-5%	2.1	3.9	-	5.2	-	3.1
Reduced 1-3%	5.0	3.9	6.3	5.2	4.6	6.2
No change	72.9	76.9	84.4	72.4	74.1	61.5
Increased 1-3%	9.4	7.7	9.4	5.2	9.2	15.4
Increased 4-5%	4.4	3.9	-	5.2	4.6	6.2
Increased >5%	2.7	-	-	3.5	3.8	3.1
<i>ERP software and services</i>						
Reduced >5%	3.2	3.9	-	5.2	3.1	3.1
Reduced 4-5%	0.6	-	-	-	0.8	1.5
Reduced 1-3%	1.5	3.9	-	1.7	0.8	1.5
No change	50.7	48.1	56.3	62.1	48.1	44.6
Increased 1-3%	23.3	25.0	28.1	19.0	22.9	24.6
Increased 4-5%	11.2	7.7	6.3	5.2	15.3	13.9
Increased >5%	9.4	11.5	9.4	6.9	9.2	10.8
<i>Cloud computing resources / services / migration</i>						
Reduced >5%	2.7	1.9	-	5.2	2.3	3.1
Reduced 4-5%	0.9	-	-	-	1.5	1.5
Reduced 1-3%	1.8	1.9	-	1.7	0.8	4.6
No change	53.7	46.2	56.3	53.5	56.5	53.9
Increased 1-3%	20.9	23.1	18.8	15.5	20.6	24.6
Increased 4-5%	11.8	19.2	15.6	13.8	10.7	4.6
Increased >5%	8.3	7.7	9.4	10.3	7.6	7.7
<i>Mobile computing resources / services</i>						
Reduced >5%	3.0	1.9	-	3.5	3.8	3.1
Reduced 4-5%	0.6	1.9	-	-	-	1.5
Reduced 1-3%	1.5	3.9	-	1.7	-	3.1
No change	64.3	59.6	68.8	60.3	73.3	52.3
Increased 1-3%	22.7	23.1	28.1	22.4	17.6	29.2
Increased 4-5%	4.7	9.6	3.1	5.2	3.1	4.6
Increased >5%	3.2	-	-	6.9	2.3	6.2

CAMPUS COMPUTING 2016

	All Institutions	Universities		BA / MA Institutions		Community Colleges
		Public	Private	Public	Private	
THIS YEAR'S COMPUTING BUDGET COMPARED TO LAST YEAR'S BUDGET (percentages)						
<i>External service providers</i>						
Reduced >5%	5.0	1.9	-	8.6	5.3	6.2
Reduced 4-5%	1.5	1.9	-	-	1.5	3.1
Reduced 1-3%	5.3	9.6	6.3	1.7	2.3	10.8
No change	61.4	55.8	62.5	67.2	62.6	56.9
Increased 1-3%	17.7	19.2	21.9	10.3	18.3	20.0
Increased 4-5%	4.7	3.9	6.3	3.5	6.9	1.5
Increased >5%	4.4	7.7	3.1	8.6	3.1	1.5
<i>Security issues</i>						
Reduced >5%	3.2	1.9	-	5.2	3.8	3.1
Reduced 4-5%	0.3	-	-	-	-	1.5
Reduced 1-3%	0.9	1.9	-	-	0.8	1.5
No change	40.7	32.7	25.0	29.3	48.1	50.8
Increased 1-3%	31.3	28.9	34.4	37.9	29.8	29.2
Increased 4-5%	12.1	13.5	21.9	19.0	9.2	4.6
Increased >5%	11.5	21.2	18.8	8.6	8.4	9.2
<i>Identity management</i>						
Reduced >5%	3.5	1.9	-	3.5	5.3	3.1
Reduced 4-5%	0.9	-	-	3.5	-	1.5
Reduced 1-3%	2.1	5.8	-	-	1.5	3.1
No change	59.0	44.2	50.0	51.7	68.7	63.1
Increased 1-3%	24.8	32.7	37.5	25.9	18.3	23.1
Increased 4-5%	5.9	5.8	3.1	13.8	4.6	3.1
Increased >5%	3.8	9.6	9.4	1.7	1.5	3.1
<i>Consultants for IT projects and services</i>						
Reduced >5%	9.1	7.7	6.3	13.8	8.4	9.2
Reduced 4-5%	3.2	7.7	3.1	1.7	3.1	1.5
Reduced 1-3%	13.6	15.4	15.6	12.1	10.7	18.5
No change	50.2	44.2	56.3	53.5	50.4	47.7
Increased 1-3%	16.5	19.2	18.8	10.3	17.6	16.9
Increased 4-5%	4.1	1.9	-	3.5	5.3	6.2
Increased >5%	3.2	3.9	-	5.2	4.6	-
<i>Data warehousing</i>						
Reduced >5%	3.0	3.9	-	5.2	2.3	3.1
Reduced 4-5%	1.8	-	-	1.7	2.3	3.1
Reduced 1-3%	3.8	1.9	3.1	6.9	3.8	3.1
No change	68.1	59.6	62.5	50.0	77.9	73.9
Increased 1-3%	16.2	25.0	31.3	22.4	8.4	12.3
Increased 4-5%	4.7	7.7	3.1	10.3	3.8	-
Increased >5%	2.4	1.9	-	3.5	1.5	4.6
<i>CRM services / software</i>						
Reduced >5%	3.5	1.9	-	5.2	2.3	7.7
Reduced 4-5%	0.9	1.9	-	-	0.8	1.5
Reduced 1-3%	2.4	7.7	3.1	1.7	0.8	1.5
No change	61.4	57.7	65.6	51.7	63.4	66.2
Increased 1-3%	17.1	9.6	21.9	25.9	16.8	13.9
Increased 4-5%	6.2	1.9	9.4	1.7	10.7	3.1
Increased >5%	8.6	19.2	-	13.8	5.3	6.2
<i>Supporting Open Source projects / applications</i>						
Reduced >5%	4.7	1.9	-	8.6	5.3	4.6
Reduced 4-5%	3.2	3.9	3.1	1.7	3.8	3.1
Reduced 1-3%	4.7	5.8	3.1	3.5	4.6	6.2
No change	78.8	78.9	87.5	72.4	78.6	80.0
Increased 1-3%	6.8	9.6	6.3	10.3	6.1	3.1
Increased 4-5%	1.5	-	-	1.7	1.5	3.1
Increased >5%	0.3	-	-	1.7	-	-
<i>Business Continuity</i>						
Reduced >5%	3.0	1.9	-	3.5	3.1	4.6
Reduced 4-5%	0.6	-	-	-	-	3.1
Reduced 1-3%	3.5	9.6	6.3	-	0.8	6.2
No change	66.4	55.8	56.3	62.1	74.1	67.7
Increased 1-3%	20.9	23.1	31.3	29.3	16.0	16.9
Increased 4-5%	4.7	7.7	6.3	5.2	5.3	-
Increased >5%	0.9	1.9	-	-	0.8	1.5

CAMPUS COMPUTING 2016

	All Institutions	Universities		BA / MA Institutions		Community Colleges
		Public	Private	Public	Private	
THIS YEAR'S COMPUTING BUDGET COMPARED TO LAST YEAR'S BUDGET (percentages)						
<i>Business analytics / Business Intelligence products</i>						
Reduced >5%	3.2	1.9	-	3.5	3.1	6.2
Reduced 4-5%	0.9	-	-	-	0.8	3.1
Reduced 1-3%	3.2	7.7	3.1	-	3.1	3.1
No change	57.5	42.3	59.4	46.6	66.4	60.0
Increased 1-3%	18.3	19.2	21.9	27.6	15.3	13.9
Increased 4-5%	10.3	19.2	15.6	12.1	6.1	7.7
Increased >5%	6.5	9.6	-	10.3	5.3	6.2
<i>Emergency communication / notification services</i>						
Reduced >5%	2.1	1.9	-	3.5	1.5	3.1
Reduced 4-5%	0.9	-	-	-	0.8	3.1
Reduced 1-3%	2.4	5.8	-	1.7	0.8	4.6
No change	77.9	80.8	78.1	70.7	85.5	66.2
Increased 1-3%	12.1	9.6	18.8	12.1	8.4	18.5
Increased 4-5%	3.2	1.9	3.1	10.3	1.5	1.5
Increased >5%	1.5	-	-	1.7	1.5	3.1
<i>Media management (capture, cataloging, archiving, etc.)</i>						
Reduced >5%	3.0	1.9	-	5.2	2.3	4.6
Reduced 4-5%	1.2	-	-	1.7	0.8	3.1
Reduced 1-3%	3.2	7.7	-	1.7	3.1	3.1
No change	69.0	59.6	56.3	62.1	77.1	72.3
Increased 1-3%	18.0	28.9	31.3	19.0	12.2	13.9
Increased 4-5%	3.5	1.9	9.4	5.2	2.3	3.1
Increased >5%	2.1	-	3.1	5.2	2.3	-
CAMPUS IT RESOURCES AND SERVICES						
Percentage of colleges and universities that <i>currently</i> provide these technology-based resources and services for students, faculty, and staff						
Public computer labs	94.7	96.2	97.0	93.1	96.2	90.8
3D printing for students	63.8	78.8	78.8	58.6	57.3	61.5
Email accounts for students	98.5	96.2	100.0	100.0	100.0	95.4
Email accounts for faculty, staff and administrators	99.7	100.0	100.0	98.3	100.0	100.0
Email services for alumni (accounts or forwarding)	73.5	86.5	90.9	65.5	77.9	52.3
Computer resale program	27.9	38.5	36.4	34.5	22.9	20.0
ePortfolio services for students	61.2	59.6	63.6	79.3	71.0	26.2
ePortfolio services for faculty and staff	38.2	44.2	45.5	43.1	42.0	18.5
IT help desk services on evenings and weekends	76.5	84.6	87.9	82.8	68.7	75.4
Audio lecture capture	67.1	82.7	84.8	65.5	58.0	64.6
Video lecture capture	74.1	88.5	97.0	81.0	62.6	67.7
Percentage of survey participants who agree/strongly agree colleges and universities <i>should</i> provide these technology-based resources and services for students, faculty, and staff						
Public computer labs	90.9	96.2	87.9	89.7	90.1	90.8
3D printing for students	79.1	90.4	87.9	86.2	74.0	69.2
Email accounts for students	94.7	90.4	93.9	94.8	97.7	92.3
Email accounts for faculty, staff and administrators	99.7	100.0	100.0	98.3	100.0	100.0
Email services for alumni (accounts or forwarding)	67.6	80.8	72.7	62.1	70.2	53.8
Computer resale program	29.4	48.1	30.3	37.9	19.1	27.7
ePortfolio services for students	87.4	90.4	81.8	94.8	90.1	75.4
ePortfolio services for faculty and staff	73.2	80.8	75.8	79.3	72.5	61.5
IT help desk services on evenings and weekends	92.4	90.4	97.0	100.0	87.8	93.8
Audio lecture capture	83.5	88.5	84.8	82.8	80.9	84.6
Video lecture capture	95.0	98.1	100.0	98.3	92.4	92.3
At campuses where these services are provided, the percentage of survey participants who agree/strongly agree that their campus <i>should</i> provide these technology-based resources and services for students, faculty, and staff						
Public computer labs	95.0	100.0	90.6	96.3	92.9	96.6
3D printing for students	92.2	95.1	100.0	94.1	89.3	87.5
Email accounts for students	95.8	94.0	93.9	94.8	97.7	95.2
Email accounts for faculty, staff and administrators	99.7	100.0	100.0	98.2	100.0	100.0
Email services for alumni (accounts or forwarding)	78.4	88.9	76.7	76.3	77.5	70.6
Computer resale program	75.8	90.0	75.0	70.0	60.0	100.0
ePortfolio services for students	97.1	93.5	100.0	100.0	95.7	100.0
ePortfolio services for faculty and staff	97.7	100.0	100.0	100.0	94.5	100.0
IT help desk services on evenings and weekends	97.7	93.2	100.0	100.0	97.8	98.0
Audio lecture capture	96.1	97.7	92.9	94.7	96.1	97.6
Video lecture capture	99.6	100.0	100.0	100.0	100.0	97.7

CAMPUS COMPUTING 2016

	All Institutions	Universities		BA / MA Institutions		Community Colleges
		Public	Private	Public	Private	
REPLACEMENT CYCLES						
Current replacement cycle for institutionally-owned desktop / notebook computers (percentages)						
<i>Student labs</i>						
1 year	0.3	-	-	-	0.8	-
2 years	1.5	-	3.0	1.7	1.5	1.5
3 years	25.1	23.1	39.4	12.1	29.2	23.1
4 years	47.8	53.9	54.6	56.9	47.7	30.8
5 years	25.4	23.1	3.0	29.3	20.8	44.6
<i>Faculty offices</i>						
1 year	-	-	-	-	-	-
2 years	0.3	-	-	1.7	-	-
3 years	13.3	11.5	30.3	17.2	10.8	7.7
4 years	54.0	65.4	60.6	50.0	60.0	32.3
5 years	32.5	23.1	9.1	31.0	29.2	60.0
<i>Administrative offices</i>						
1 year	-	-	-	-	-	-
2 years	-	-	-	-	-	-
3 years	9.1	9.6	18.2	6.9	8.5	7.7
4 years	54.3	53.9	75.8	55.2	59.2	32.3
5 years	36.6	36.5	6.1	37.9	32.3	60.0
Current replacement cycle for institutionally-owned tablets (years)						
<i>Student labs/Facilities</i>						
1 year	0.3	-	-	1.7	-	-
2 years	3.5	-	9.4	3.5	5.3	-
3 years	30.4	34.6	34.4	31.0	26.7	32.3
4 years	30.1	32.7	34.4	31.0	28.2	27.7
5 years	35.7	32.7	21.9	32.8	39.7	40.0
<i>Faculty</i>						
1 year	0.3	-	-	1.7	-	-
2 years	3.0	-	9.4	-	5.3	-
3 years	29.8	32.7	34.4	34.5	24.4	32.3
4 years	32.5	34.6	40.6	29.3	32.8	27.7
5 years	34.5	32.7	15.6	34.5	37.4	40.0
Current replacement cycle for institutionally-owned tablets (years)						
<i>Administrators</i>						
1 year	0.3	-	-	1.7	-	-
2 years	3.2	-	12.5	1.7	4.6	-
3 years	29.8	30.8	28.1	34.5	27.5	30.8
4 years	31.6	34.6	43.8	29.3	30.5	26.2
5 years	35.1	34.6	15.6	32.8	37.4	43.1
Does your institution have a financial plan to upgrade / enhance / replace the campus network, (including wireless network? (percentages)						
No current plan / policy	7.9	1.9	6.1	12.1	9.9	6.2
Under discussion / development	20.0	26.9	15.2	15.5	19.1	23.1
Currently funded network replacement / upgrade plan	72.1	71.2	78.8	72.4	71.0	70.8
EMERGENCY NOTIFICATION SERVICES						
As of September 2016 will your institution have an operational campus-wide (emergency) notification system? (percentages)						
No	0.9	-	-	-	1.5	1.5
Yes	99.1	100.0	100.0	100.0	98.5	98.5
As of September 2016 will your institution use a third party provider for notification software or services? (percentages)						
No	3.3	1.9	-	3.4	3.8	4.6
If yes, indicate the name of the company that your campus uses for notification services:						
Blackboard Connect	25.6	12.0	29.6	30.0	26.0	32.7
CampusCruiser	0.4	-	-	-	1.0	-
E2Campus	15.5	8.0	7.4	16.0	21.0	16.3
MIR3	1.4	2.0	-	2.0	2.0	-
3n/Everbridge	6.9	6.0	18.5	6.0	5.0	6.1
Rave Mobile	36.5	56.0	40.7	30.0	32.0	28.6
SchoolMessenger	0.7	-	-	-	1.0	2.0
Send Word Now	2.2	4.0	3.7	4.0	-	2.0
Swiftreach Networks	-	-	-	-	-	-
Other provider	10.8	12.0	-	12.0	12.0	12.2

CAMPUS COMPUTING 2016

	All Institutions	Universities Public Private	BA / MA Institutions Public Private	Community Colleges
Over the past year (2014-15), did you activate your notification service?				
No	15.3	2.0 15.6	10.7 20.0	21.0
<i>If yes, for what purpose did you activate your notification service?</i>				
Emergency notification	86.3	94.0 70.4	86.0 87.0	85.7
Student recruitment (contacting prospective students)	6.9	6.0 -	2.0 6.0	18.4
Severe weather alerts	83.4	90.0 77.8	76.0 86.0	81.6
Student services (academic services for current students)	12.3	10.0 3.7	10.0 8.0	30.6
Alumni contact / services	1.1	2.0 -	- 2.0	-
Other	22.0	20.0 33.3	24.0 18.0	24.5
WEB AND NETWORKING ISSUES				
How important are the following issues on your campus?*				
<i>Percent Reporting Very Important (6/7); scale: 1=not important; 7= very important</i>				
Digital image libraries / archives	26.8	26.9 24.2	19.0 33.6	20.0
Video / rich media streaming	54.1	59.6 72.7	56.9 55.7	33.8
Large data sets and 3D modeling / file sharing	17.9	48.1 36.4	8.6 12.2	4.6
Bandwidth for student entertainment (Netflix, YouTube, gaming, etc.)	42.4	36.5 33.3	50.0 56.5	16.9
Disaster recovery	71.5	69.2 66.7	79.3 68.7	73.8
Virtual private networks (VPN)	44.4	59.6 51.5	43.1 38.9	40.0
Network security	91.5	96.2 93.9	96.6 87.8	89.2
100Gb Ethernet	48.8	75.0 54.5	51.7 44.3	30.8
Cloud computing	57.6	67.3 69.7	65.5 55.0	43.1
Bandwidth for Software as a Service / SaaS applications	36.5	28.8 48.5	44.8 36.6	29.2
Internet2	26.2	67.3 57.6	22.4 11.5	9.2
Net+ services from Internet2	18.8	51.9 33.3	20.7 6.9	6.2
Statenets / Statenet services	13.5	26.9 18.2	17.2 9.2	6.2
IT Disaster Communications Capacity	57.4	69.2 66.7	70.7 48.9	47.7
BYOD (Bring your own device) support	52.4	50.0 39.4	55.2 54.2	53.8
Collaborative agreements with other institutions and community agencies	30.3	40.4 12.1	34.5 28.2	30.8
Digital privacy	35.6	50.0 39.4	37.9 30.5	29.2
The Internet of Things	17.1	28.8 15.2	17.2 13.7	15.4
Does your institution charge students for printing?				
No	21.2	7.7 12.5	13.8 32.8	18.5
Annual / term fee for all printing	1.5	1.9 -	- 1.5	3.1
Annual / term fee for specific number of pages	16.2	15.4 9.4	15.5 20.6	12.3
Pay for use / individual page charges	42.5	63.5 43.8	60.3 22.9	49.2
Other payment plan for printing services	18.6	11.5 34.4	10.3 22.1	16.9
CLOUD-BASED SERVICES FOR STUDENTS AND FACULTY				
Is your institution reviewing or converting to Cloud Services for the following applications: (percentages)				
<i>Calendaring</i>				
No	22.4	13.5 12.1	20.7 19.9	41.5
Under review	15.9	23.1 12.1	24.1 11.5	13.9
Converting to / now using	61.8	63.5 75.8	55.2 68.7	44.6
<i>Administrative computing / ERP services</i>				
No	51.5	51.9 42.4	41.4 57.3	52.3
Under review	34.1	40.4 36.4	36.2 32.8	29.2
Converting to / now using	14.4	7.7 21.2	22.4 9.9	18.5
<i>CRM services</i>				
No	31.5	34.6 18.2	29.3 26.0	47.7
Under review	25.0	32.7 27.3	31.0 19.1	24.6
Converting to / now using	43.5	32.7 54.6	39.7 55.0	27.7
<i>Learning management systems / LMS services</i>				
No	19.7	11.5 12.1	20.7 26.7	15.4
Under review	17.9	30.8 18.2	17.2 15.3	13.9
Converting to / now using	62.4	57.7 69.7	62.1 58.0	70.8
<i>Research and HPC activities</i>				
No	63.8	40.4 33.3	56.9 71.0	89.2
Under review	25.0	50.0 42.4	29.3 19.1	4.6
Converting to / now using	11.2	9.6 24.2	13.8 9.9	6.2

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	All Institutions	Universities Public Private		BA / MA Institutions Public Private		Community Colleges
Cloud-based Services (percentatges)						
<i>Storage / archiving / business continuity</i>						
No	18.8	17.3	6.1	19.0	16.8	29.2
Under review	52.7	71.2	57.6	48.3	50.4	44.6
Converting to / now using	28.5	11.5	36.4	32.8	32.8	26.2
<i>Document management</i>						
No	46.2	44.2	42.4	43.1	48.1	47.7
Under review	33.5	32.7	30.3	36.2	34.4	32.3
Converting to / now using	20.3	23.1	27.3	20.7	17.6	20.0
Is your institution reviewing or converting to outsourced / hosted applications:						
<i>Hosted / outsourced email</i>						
Students						
No	4.1	1.9	6.1	6.9	1.5	7.7
Under review	7.1	1.9	6.1	3.5	10.7	7.7
Converting to / now using	88.8	96.2	87.9	89.7	87.8	84.6
Faculty						
No	17.7	17.3	12.1	19.0	12.2	29.2
Under review	18.5	15.4	18.2	29.3	14.5	20.0
Converting to / now using	63.8	67.3	69.7	51.7	73.3	50.8
Provider						
Google	43.2	51.0	40.6	41.1	50.8	23.0
Microsoft	56.5	47.1	59.4	58.9	49.2	77.1
Zimbra	0.3	2.0	-	-	-	-
<i>Hosted / outsourced "office" applications</i>						
No	13.2	7.7	3.0	15.5	11.5	23.1
Under review	18.5	19.2	21.2	20.7	16.0	20.0
Converting to / now using	68.2	73.1	75.8	63.8	72.5	56.9
Percent under review, Product						
Google Apps / Docs for education	14.8	10.0	16.7	-	28.6	8.3
Microsoft Live @ EDU / Office 365 for education	85.3	90.0	83.3	100.0	71.4	91.7
Percent converting to / now using, Product						
Google Apps / Docs for education	36.2	39.5	36.0	29.7	46.3	13.5
Microsoft Live @ EDU / Office 365 for education	63.8	60.5	64.0	70.3	53.7	86.5
MIGRATION TO CLOUD- BASED AND OPEN SOURCE ERP APPLICATIONS						
Looking ahead, what's the likelihood that your institution will migrate (or has already migrated) to one or more Cloud / Software as a Service (SaaS) or Open Source applications by fall 2021?						
<i>Percent with high level of migrating (scale score 6 or 7 on a 1-7 scale)</i>						
Cloud / Software as a Service (SaaS) ERP Applications						
Collaboration Platforms / Applications	51.6	55.8	48.5	61.4	56.2	32.8
Content Management System	43.3	38.5	42.4	43.9	45.4	43.8
Continuing Education Management Platform	20.8	23.1	33.3	21.1	12.3	29.7
Learning Management System	68.2	67.3	72.7	71.9	69.2	62.5
CRM services						
Development System	31.8	26.9	39.4	31.6	40.0	15.6
Financial System	23.4	21.2	21.2	26.3	20.8	29.7
ePortfolio System	40.1	32.7	33.3	45.6	51.5	21.9
Learning analytics						
Business Intelligence / Big Data analytics	21.1	23.1	24.2	22.8	17.7	23.4
HR System	31.2	26.9	30.3	28.1	30.8	39.1
Lecture Capture	36.5	48.1	48.5	33.3	34.6	28.1
Video Management						
Student Information System	20.8	9.6	15.2	22.8	21.5	29.7
Research / Grants Management System	18.7	34.6	18.2	19.3	14.6	14.1
Open Source ERP Applications						
Collaboration Platforms / Applications	9.5	7.7	6.1	10.5	11.5	7.8
Content Management System	18.7	11.5	18.2	15.8	25.4	14.1
Continuing Education Management Platform	2.7	5.8	-	1.8	3.1	1.6
Learning Management System	26.7	21.2	15.2	19.3	35.4	26.6
CRM services						
Development System	4.5	3.8	3.0	7.0	3.8	4.7
Financial System	4.2	5.8	-	12.3	2.3	1.6
ePortfolio System	11.0	13.5	3.0	12.3	13.8	6.3
Learning analytics						
Business Intelligence / Big Data analytics	3.9	7.7	6.1	3.5	3.1	1.6
HR System	3.9	-	-	5.3	5.4	4.7
Lecture Capture	2.4	1.9	-	5.3	2.3	1.6
Video Management						
Student Information System	9.2	11.5	3.0	10.5	7.7	12.5
Research / Grants Management System	6.2	-	-	10.5	7.7	7.8
Student Information System	3.6	3.8	3.0	7.0	3.1	1.6
Research / Grants Management System	5.0	7.7	6.1	8.8	3.1	3.1

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	All Institutions	Universities Public Private	BA / MA Institutions Public Private	Community Colleges
ORGANIZATIONAL ISSUES				
Has your institution reorganized computing / information service units within the past 2 years?* (percentages)				
Central IT services	52.2	71.2	60.6	44.6
Libraries	15.9	19.2	21.2	7.7
Telecom	30.1	40.4	39.4	21.5
Do you anticipate a reorganization of computing / information services within the next 2 years?*				
Central IT services	44.5	65.4	57.6	35.4
Libraries	19.8	21.2	30.3	13.8
Telecom	22.7	23.1	33.3	16.9
Percentage of campuses that reorganized IT units in the past two years and expect to reorganize IT units again in the next two years				
Central IT services	30.9	48.1	45.5	23.1
Libraries	7.1	7.7	15.2	3.1
Telecom	9.4	15.4	21.2	7.7
Does institution have a chief information / technology officer (CIO / CTO)?				
No	9.4	-	3.0	18.5
Currently under discussion	3.0	1.9	-	3.1
Yes	87.6	98.1	97.0	78.5
What academic and operational units report to the CIO / CTO?*				
Academic computing	89.5	96.1	90.6	86.0
Administrative computing	99.7	98.0	100.0	100.0
Libraries	9.8	3.9	15.6	4.0
Institutional research / analytics	15.2	13.7	9.4	22.0
Media center / services	70.3	58.8	59.4	62.0
Telecommunications	97.3	98.0	100.0	94.0
Distance / online education programs	19.6	13.7	28.1	20.0
Campus center(s) for teaching and learning (TLT center, etc)	13.2	17.6	21.9	8.0
Is the CIO (or senior institutional computing / IT officer) a member of the president's cabinet / executive committee?	59.5	58.8	81.3	60.8
Does your campus have a				
Chief / senior learning or instructional officer	28.9	28.8	27.3	50.8
Chief / senior security officer	46.9	86.5	81.8	30.8
Chief / senior data officer	13.3	19.2	15.2	20.0
Chief / senior privacy officer	13.9	21.2	27.3	10.8
Chief / senior officer for online education	35.1	55.8	36.4	49.2
Chief / senior officer for innovation	9.1	13.5	9.1	7.7
Does your institution have a board / trustee committee on computing / information technology?				
No	70.0	65.4	48.5	87.7
Under discussion	6.2	11.5	18.2	1.5
To begin in A/Y 2016-17	1.5	1.9	3.0	-
Yes, current board committee on computing / IT issues	22.4	21.2	30.3	10.8
Which statement below best describes the way your campus manages the institutional presence and messaging on Facebook, Twitter, and other social media				
Individual departments operate with great autonomy	26.2	30.8	18.2	16.9
but we do not have broad institutional policies or guidelines for social media	32.4	40.4	36.4	26.2
monitoring activities for individual departments and units	41.5	28.9	45.5	56.9
IT SECURITY				
What types of security incidents did your campus experience in the past year? (percentages)				
Theft of computer, phone, tablet, thumb drive, or other device containing confidential data files	44.4	63.5	60.6	30.8
Hack / attack on the campus network	48.8	78.8	69.7	35.4
Hack / attack on student / personnel / alumni data files	15.6	46.2	12.1	3.1
Hack / attack on administrative / financial files	15.9	40.4	18.2	9.2
Hack / attack on research data files	6.5	30.8	9.1	-
Other attack on institutional data files	14.4	30.8	24.2	10.8
Identity management issues	38.5	61.5	39.4	29.2
Major computer virus infestation	10.6	15.4	9.1	6.2
Major spyware / malware infestation (including "ransomware")	22.4	38.5	21.2	12.3
Student security "incident" related to social networking sites	23.5	36.5	27.3	9.2
Exposure/loss of sensitive institutional data (any kind of data breach)	7.4	19.2	12.1	3.1
Exposure / loss of sensitive data in distributed environment (server not managed by central IT unit)	14.7	40.4	18.2	8.4
Intentional employee transgressions affecting IT security	10.9	21.2	21.2	10.8
Data security, reliability, or integrity issues involving Cloud services	7.4	15.4	6.1	4.6

CAMPUS COMPUTING 2016

	All	Universities		BA / MA Institutions		Community
	Institutions	Public	Private	Public	Private	Colleges
How concerned are you about the following security issues for your institution in the coming year?						
<i>Percent that strongly agree (6 / 7)</i>						
Theft of computer, phone, tablet, thumb drive, or other device containing confidential data files	37.9	46.2	45.5	29.3	38.9	33.8
Hack / attack on the campus network	41.8	59.6	48.5	29.3	39.7	40.0
Hack / attack on student / personnel / alumni data files	35.3	44.2	42.4	24.1	33.6	38.5
Hack / attack on administrative / financial files	37.9	34.6	45.5	29.3	39.7	41.5
Hack / attack on research data files	21.8	40.4	33.3	13.8	14.5	23.1
Other attack on institutional data files	26.5	25.5	30.3	13.8	29.8	30.8
Identity management issues	32.9	34.6	39.4	24.1	34.4	33.8
Major computer virus infestation	16.2	13.5	15.2	10.3	18.3	20.3
Major spyware / malware infestation (including "ransomware")	29.1	28.8	24.2	20.7	29.8	38.5
Student security "incident" related to social networking sites	14.1	11.5	18.2	12.1	14.5	15.4
Exposure/loss of sensitive institutional data (any kind of data breach)	51.3	62.2	58.6	41.5	51.3	49.2
Exposure / loss of sensitive data in distributed environment (server not managed by central IT unit)	40.0	65.4	54.5	32.8	33.6	32.3
Intentional employee transgressions affecting IT security	17.4	19.2	15.2	13.8	15.3	24.6
Data security, reliability, or integrity issues involving Cloud services	26.1	36.5	25.0	24.6	21.5	29.2



THE CAMPUS COMPUTING PROJECT

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