2015 EDUCAUSE Core Data Service (CDS) Benchmarking Report

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About CDS

Since 2002, the EDUCAUSE Core Data Service (CDS) has been providing higher education CIOs and senior IT leaders with the benchmarks they need to make strategic decisions about IT at their institutions. On average, more than 800 institutions (both within and outside the United States) participate in a survey about IT financials, staffing, and services. Survey participants are rewarded for their time and effort with access to CDS Reporting, a self-service tool that enables institutions to benchmark their IT organizations against those of their peers. In addition to gaining access to CDS Reporting, institutions also participate in CDS for the following reasons:

- To study their IT organization
- To benchmark against past performance
- To look at trends over time*
- To start gathering and using metrics
- To have data available "just in case"

^{*} The number of years available for trend data varies throughout the CDS dataset. For example, CDS data on funding can be tracked from 2002 to present, whereas CDS data on expenditures can be tracked for FY2013/14 and FY2014/15.

About the 2015 CDS Benchmarking Report

The 2015 CDS Benchmarking Report summarizes key findings from the CDS 2015 survey, provides a glimpse into the breadth of CDS data, and ultimately provides you with an opportunity to conduct your own benchmarking assessment. The customizable graphs contained within this report are meant to be used to assess your IT operation compared to that of peer institutions of similar size, control, or Carnegie Classification.

As you consider the metrics and benchmarks in this report in relation to your institution, findings that differ from your experience should inspire questions, not answers. When questions do arise, CDS Reporting can facilitate further investigation (if your institution participated in CDS 2015). If your institution did not participate, consider adding your data to the next CDS survey, launching in July 2016.

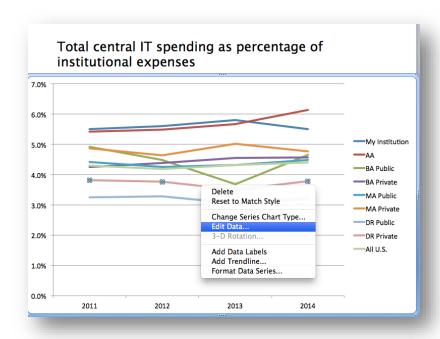
The CDS 2015 survey concluded with 813 participants. The metrics discussed in this report focus primarily on FY2014/15 central IT financials, staffing, and services from 718 nonspecialized U.S. institutions. Metrics are calculated for each of six Carnegie Classification groupings using the 2010 classification system (AA, BA, MA private, MA public, DR private, and DR public). These groupings provide the most granular breakdown by institutional type possible (given available sample sizes) and should provide suitable comparison groups for most institution types and sizes within the United States.

Forty-seven specialized U.S. institutions and 48 non-U.S. institutions from 17 countries participated in the 2015 survey; however, small sample sizes from each of these groups preclude meaningful aggregate analysis. If your institution is a specialized U.S. institution or a non-U.S. institution, this report may be used to compare your institution to institutions in a similar Carnegie Classification or to the metric calculated for All (non-specialized) U.S. institutions. A list of CDS 2015 participants can be found on the CDS website.

The metrics in this report evaluate central IT only. Central IT funding, expenditure, and staffing data are only one component of the full IT resource picture at institutions with significant distributed IT resources. Data on distributed resources, however, remain elusive. Thanks to a recent paper from ECAR Working Groups on <u>Calculating the Costs of Distributed IT Staff and Applications</u>, efforts are under way to improve the quality of these data for future years. As of CDS 2015, coarse estimates of distributed IT spending and staffing at institutions can be found in CDS Reporting.

Customizing 2015 CDS Benchmarking Report Graphs, in Five Steps

- 1. Review the slide notes for background on why each metric is important and to identify the origin of each metric.
- Use the <u>CDS 2015 survey</u> and IPEDS* data to calculate values for your institution.
- 3. Right-click on the slide graph and select "Edit Data..." in the pop-up menu.



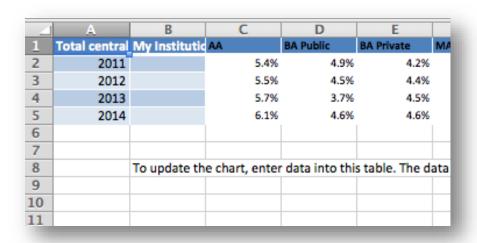
^{*} IPEDS data are used to normalize metrics in CDS based on institutional size and budget.

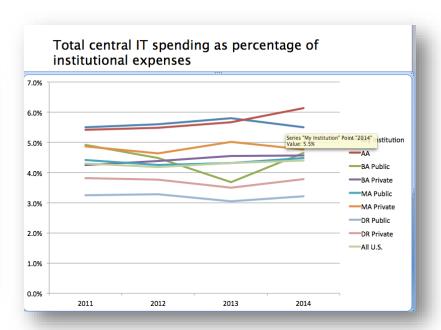
More information about IPEDS data is available <u>online</u>.

Customizing 2015 CDS Benchmarking Report Graphs, in Five Steps (cont'd)

4. Enter data for your institution where indicated in the Excel spreadsheet.

5. Check to make sure data for "My Institution" are now visible.





Introduction to Benchmarking

Today's institution must run efficiently and effectively. Having a clear understanding of your organization's financial, staffing, and operational status is critical to making informed decisions and optimizing the impact of IT; having the same information about your peers and aspirant peers is even better.

You can:	With CDS benchmarking data on:
Make the case for additional resources by comparing resource allocations to those of peers or estimating the level of investment required to achieve a certain output or service level.	 Central IT FTEs per 1,000 institutional FTEs Total central IT spending per institutional FTE (students, faculty, and staff)
Make the case for organizational structure or governance by uncovering best practices for IT leader reporting structures, IT governance structures, or distributed IT service delivery models.	 CIO reporting line IT governance maturity Organizational units responsible for more than 100 IT functions
Calibrate your performance against best practices and "best in class" institutions that have set the bar for your institution.	 CDS participants have the ability to customize benchmarking assessments by selecting specific peer institutions with which to compare.
Communicate the value of IT by comparing service portfolios and service performance to financial investment.	Services provided by central IT compared to total IT expenditures and IT expenditures by IT domain area.
Assess the relative maturity of strategic initiatives such as elearning, student success technologies, and analytics.	IT maturity for seven IT capabilities, including e-learning, student success technologies, and analytics.

Steps for a Successful Benchmarking Assessment



^{*} Evaluating data quality is important even when using CDS data. As you analyze CDS data be sure to evaluate whether the budget and staffing numbers reported are in line with what is expected and please report suspicious data to coredata@educause.edu.

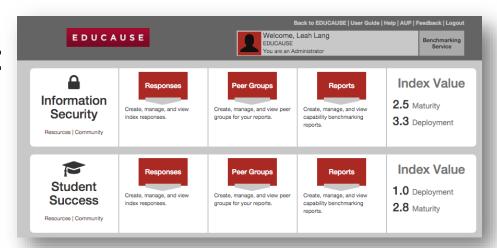
Identify Your Goals

The first step to a successful benchmarking study is to identify your goals. CDS data can support general benchmarking studies with goals such as "identify best practices" or "communicate the value of IT," as well as more-targeted efforts such as "make the case for additional resources." For example, the table below provides a view into how certain CDS metrics (all of which are contained in this report) can be used to address the <u>2016 Top 10 IT Issues</u>.

	2016 Top 10 IT Issue	Supporting metrics	Slide(s)
1	Information Security	Institutions that have conducted any sort of IT security risk assessment	46
		Institutions with mandatory information security training	45
2	Optimizing Educational Technology	Most common teaching and learning support services	37
3	Student Success Technologies	Most commonly deployed student success technologies	40
4	IT Workforce Hiring and Retention	Central IT FTEs per 1,000 institutional FTEs	24–25, 28–30
5	Institutional Data Management	Data efficacy	49
6	IT Funding Models	Total central IT spending per institutional FTE (students, faculty, and staff)	13–14
		Total central IT spending as a percentage of institutional expenses	13, 15
		Percentage of central IT spending on running, growing, and transforming the institution	18
		Central IT compensation, noncompensation, and capital spending as a percentage of total central IT spending	17
7	BI and Analytics	Analytics decision-making culture	49
8	Enterprise Application Integrations	Systems most likely to be replaced in the next three years	48
9	IT Organizational Development	Central IT training spending per central IT staff FTE	31
10	E-Learning and Online Education	Most commonly deployed e-learning technologies	39

Next-Level Benchmarking:

The EDUCAUSE Benchmarking Service



In January 2016, EDUCAUSE launched the <u>EDUCAUSE Benchmarking Service</u> (BETA). This service is built on the <u>Core Data Service</u> (CDS) database but broadens both audience and application. CDS helps CIOs benchmark the staffing, financials, and services of their IT organizations. The EDUCAUSE Benchmarking Service (BETA) takes the use of analytics to the next level by helping CIOs and other campus leaders measure progress on campus-wide strategic initiatives.

The service provides capability reports comprised of maturity and deployment indexes for a suite of strategic initiatives. Participants gain access to semi-customized benchmarking reports which can be used to:

- 1. Assess the organizational capability for initiatives
- 2. Communicate the value and relevance of information technology

The reports support an institution's efforts to:

- Measure the capability to deliver IT services and applications in a given area
- Examine multiple dimensions of progress—technical and nontechnical—such as culture, process, expertise, investment, and governance
- Enable institutional leaders to determine where they are in delivering a service and where they aspire to be
- Measure the degree to which an institution has deployed the technologies related to delivering a service, based on a standard scale reflecting stages of deployment
- Measure maturity in innovation broadly, reflecting on key elements to help develop and maintain a culture of innovation that supports the use of new technology in support of institutional and student success

Summary of the Landscape

To provide a brief, high-level view of the data contained within this report, below are the nonspecialized U.S. metrics for some of the most commonly used CDS benchmarks:

IT Financials

- \$917 Total central IT spending per institutional FTE (students, faculty, and staff)
- 4.2% Total central IT spending as a percentage of institutional expenses
- 53% Central IT compensation spending as a percentage of total central IT spending
- 34% Central IT noncompensation operating spending as a percentage of total central IT spending
- 8% Central IT capital spending as a percentage of total central IT spending

IT Staffing

- 7.8 Central IT FTEs per 1,000 institutional FTEs
- 17% Student workers as a percentage of total central IT FTE
- \$1,105 Central IT training spending per central IT staff FTE

IT Services

- 78% Institutions offering tier 2/level 2 service or higher for central IT help desk
- Student FTEs per lab/cluster workstations provided by central IT
- 52% Institutions hosting or participating in cross-institutional data center services
- 64% Access points that are 802.11n
- 74% Institutions with mandatory information security training for faculty or staff
- 26% Institutions planning to replace customer relationship management (CRM) systems in the next three years.

IT Financials

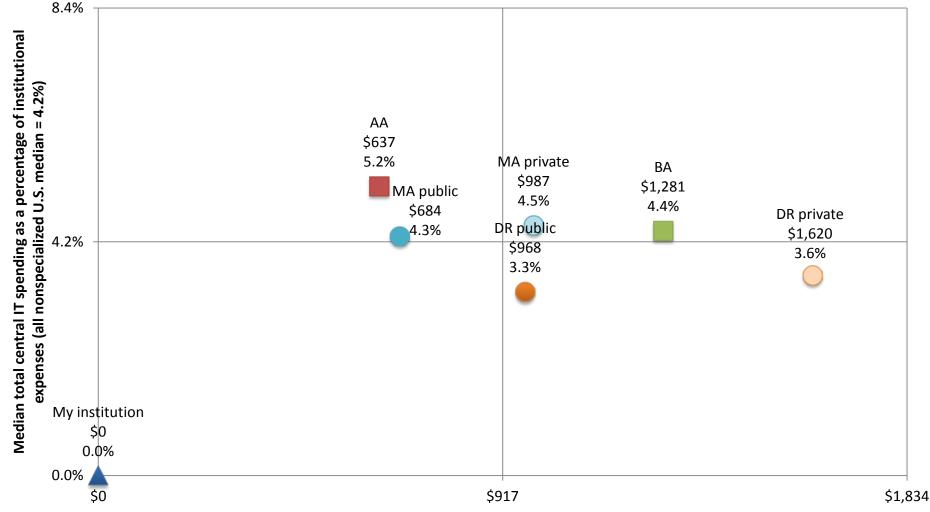
The first step to strategically funding IT is to identify budget parameters based on type of institution, institutional population, and institutional budget. Then, based on institutional priorities and your current IT environment, determine a spending portfolio that will get you to where you want to be. Breaking the budget down by dollars spent running, growing, and transforming the institution; by each IT domain area; and by capital versus operating work will help you determine the right blend of innovation spending to operating spending for all areas of IT.

The metrics contained in this section can help you address the following questions:

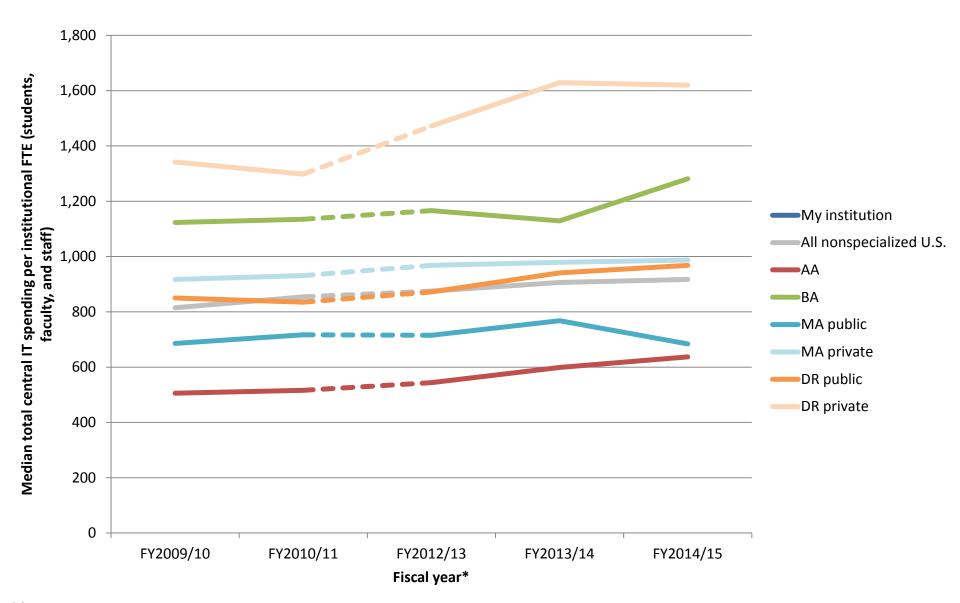
- What is a practical range for total budget based on my institution type, institutional population, and institutional budget? (metrics 1–3)
- Are changes in my budget from the previous fiscal year in line with changes in peer budgets? (metric 4)
- What is an appropriate distribution of spending for my institution? (metrics 5–8)

Metri		Slide(s)
1	Total central IT spending per institutional FTE (students, faculty, and staff) vs. Total central IT spending as a percentage of institutional expenses	13
2	Total central IT spending per institutional FTE (students, faculty, and staff), six-year trend	14
3	Total central IT spending as a percentage of institutional expenses, six-year trend	15
4	Percentage of institutions with a 5% or greater increase/decrease in central IT spending	16
5	Central IT compensation, noncompensation, and capital spending as a percentage of total central IT spending	17
6	Percentage of central IT spending on running, growing, and transforming the institution	18
7	IT domain area spending as a percentage of central IT spending	19–21
8	Central IT outsourcing spending as a percentage of total central IT spending	22

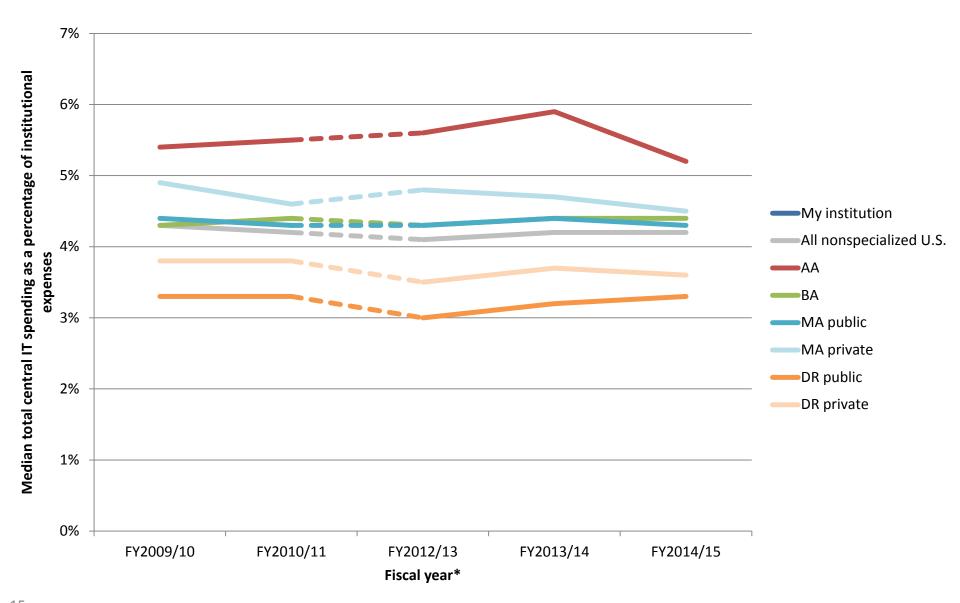
Total central IT spending per institutional FTE (students, faculty, and staff) vs. total central IT spending as a percentage of institutional expenses



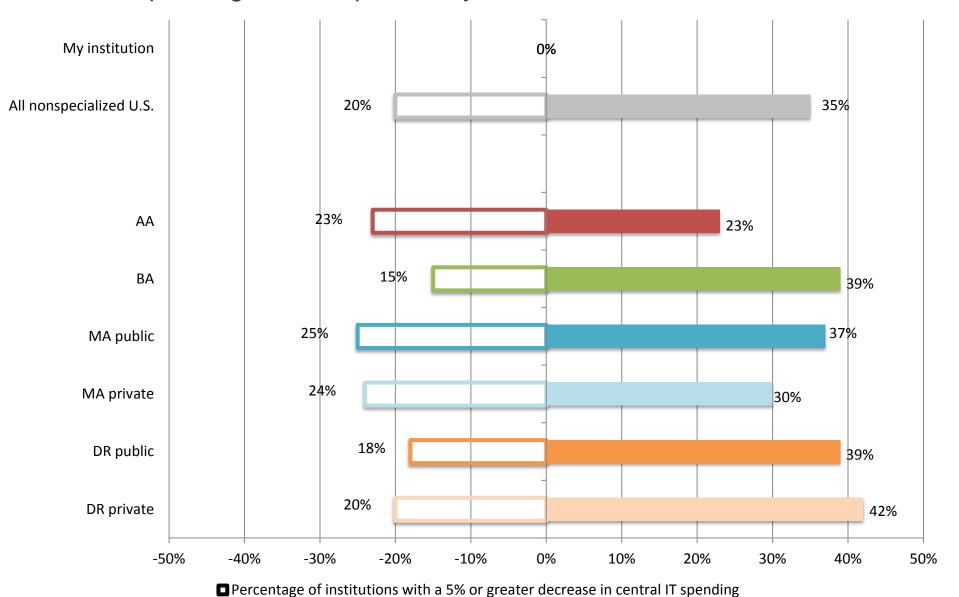
Total central IT spending per institutional FTE (students, faculty, and staff), six-year trend



Total central IT spending as a percentage of institutional expenses, six-year trend

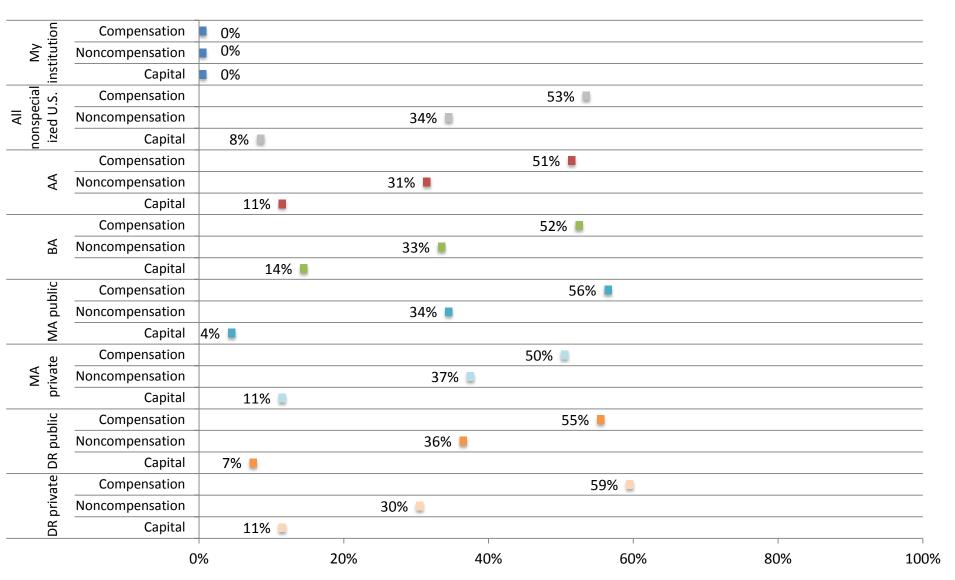


Percentage of institutions with a 5% or greater increase/decrease in central IT spending over the previous year

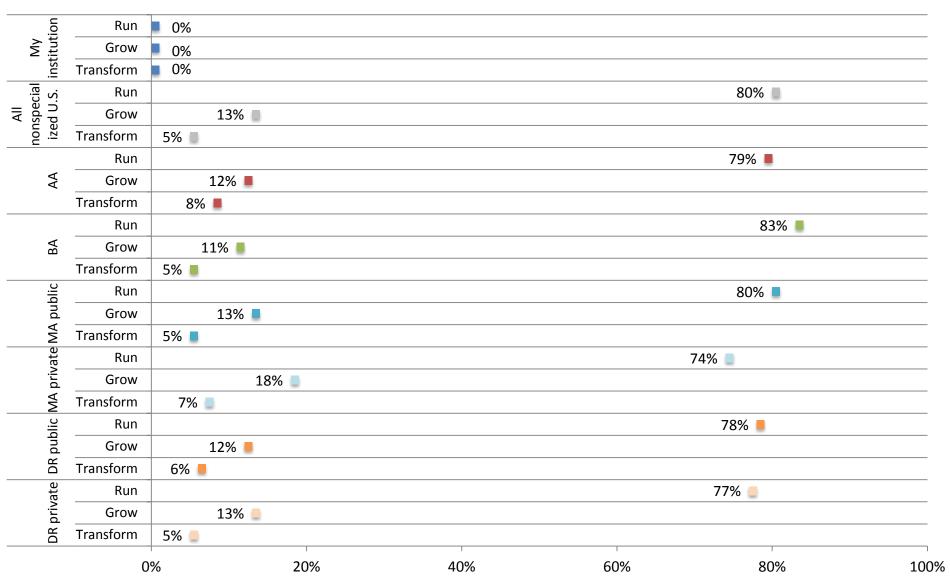


■ Percentage of institutions with a 5% or greater increase in central IT spending

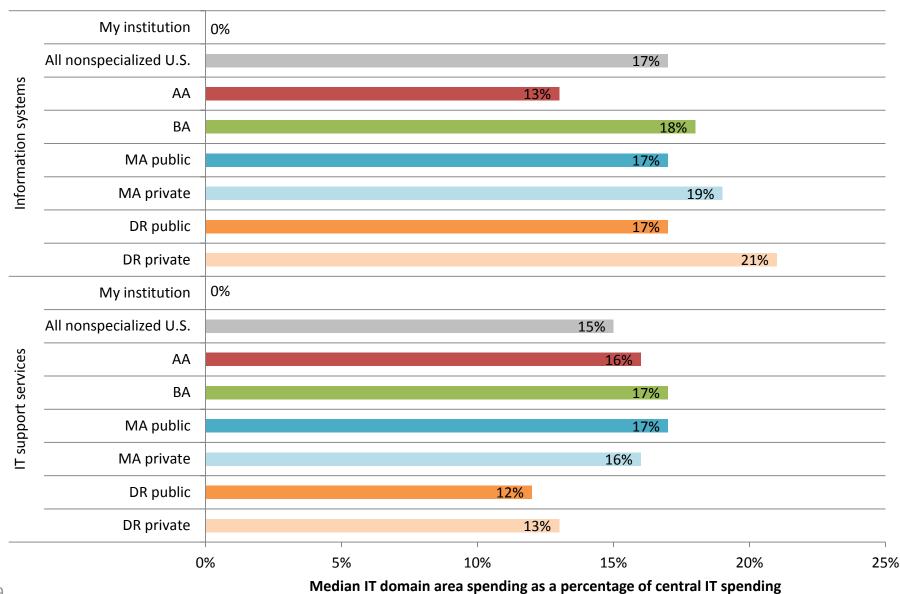
Central IT compensation, noncompensation, and capital spending as a percentage of total central IT spending



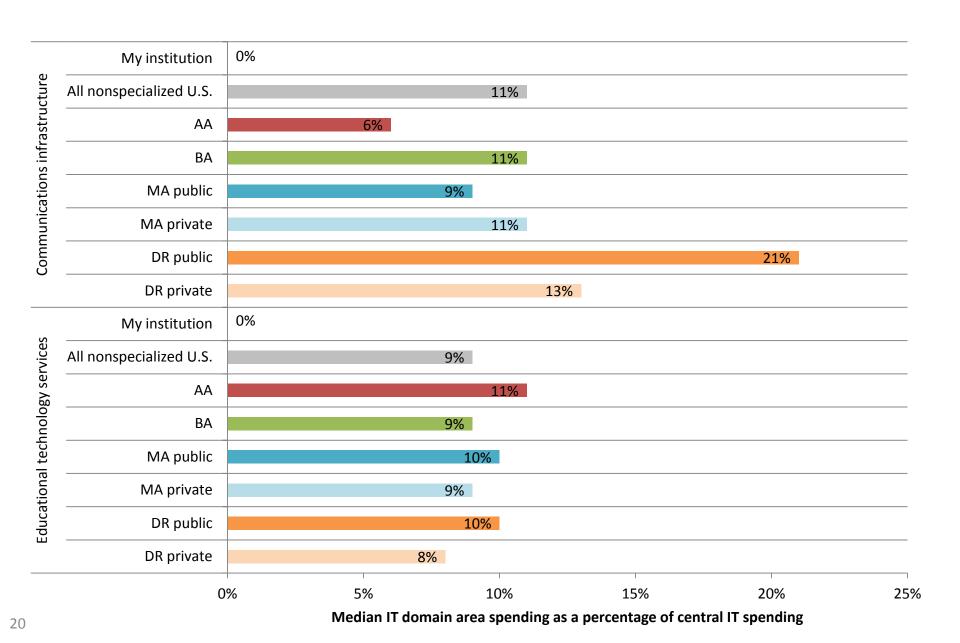
Percentage of central IT spending on running, growing, and transforming the institution



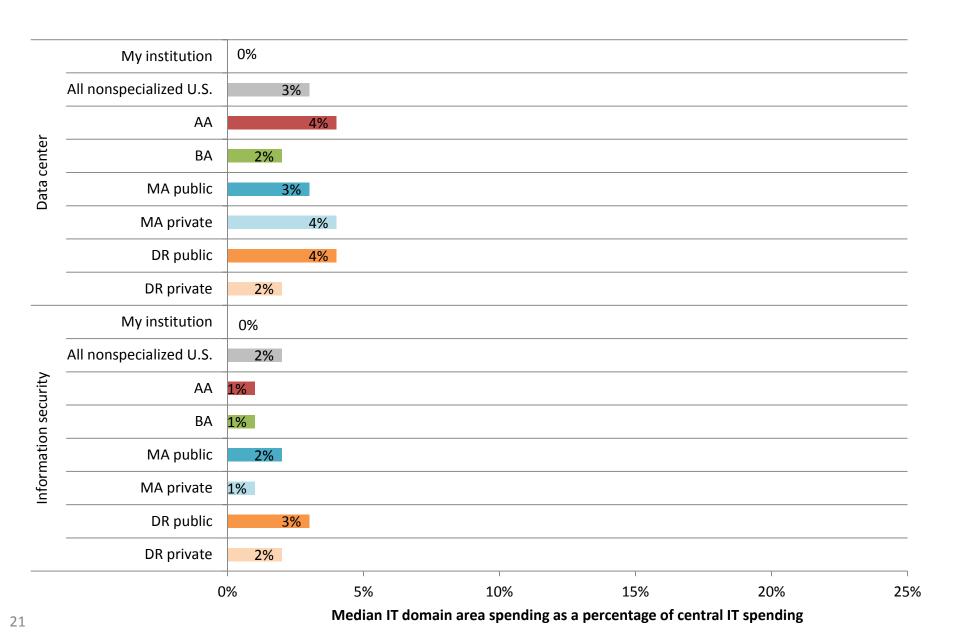
IT domain area spending as a percentage of central IT spending



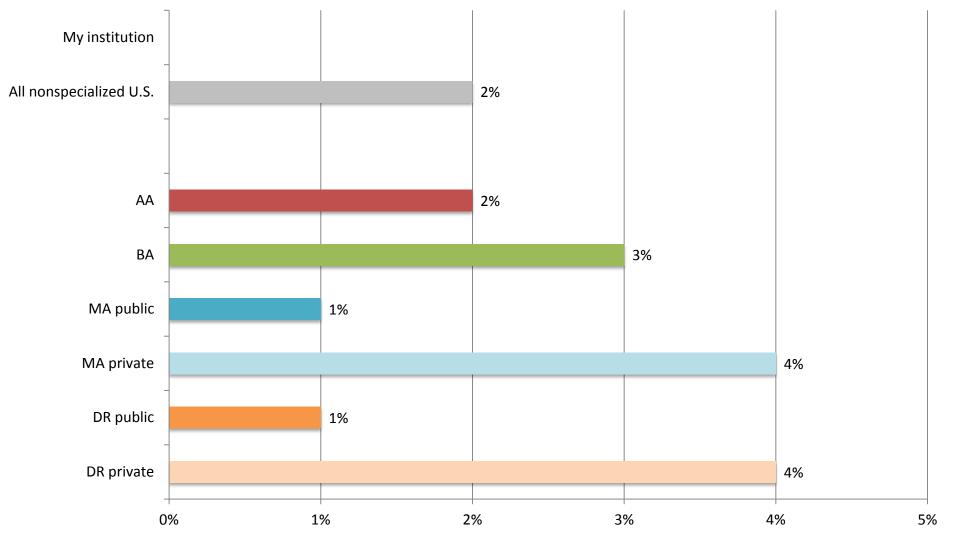
IT domain area spending as a percentage of central IT spending



IT domain area spending as a percentage of central IT spending



Central IT outsourcing spending as a percentage of total central IT spending



IT Staffing

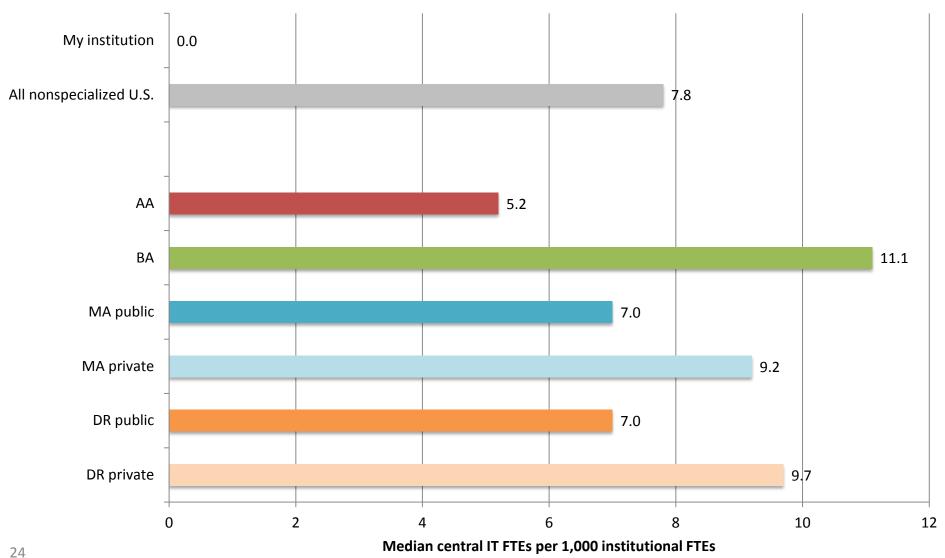
Staffing models are evolving. Ensuring adequate staffing capacity and staff retention is #4 in the 2016 Top 10 IT Issues; creating IT organizational structures, staff roles, and staff development strategies that are flexible enough to support innovation is #9. Services are being outsourced, but institutions need staff to manage outsourcing and need more services and bandwidth to support BYOD. Does this mean fewer staff or the same number of staff with different skills? Through this evolution, you'll want to keep an eye on several benchmarks: ratio of central IT staff to institutional FTE, student workers as a percentage of total central IT FTE, percentage of IT staff across IT domain areas, and training spending per IT staff member. Paying attention to how others are staffed and knowing how your peers balance their staff portfolio can help you find the right fit. Knowing what your peers are spending on staff training can help you budget for updating skill sets of existing staff.

The metrics contained in this section can help you address the following questions:

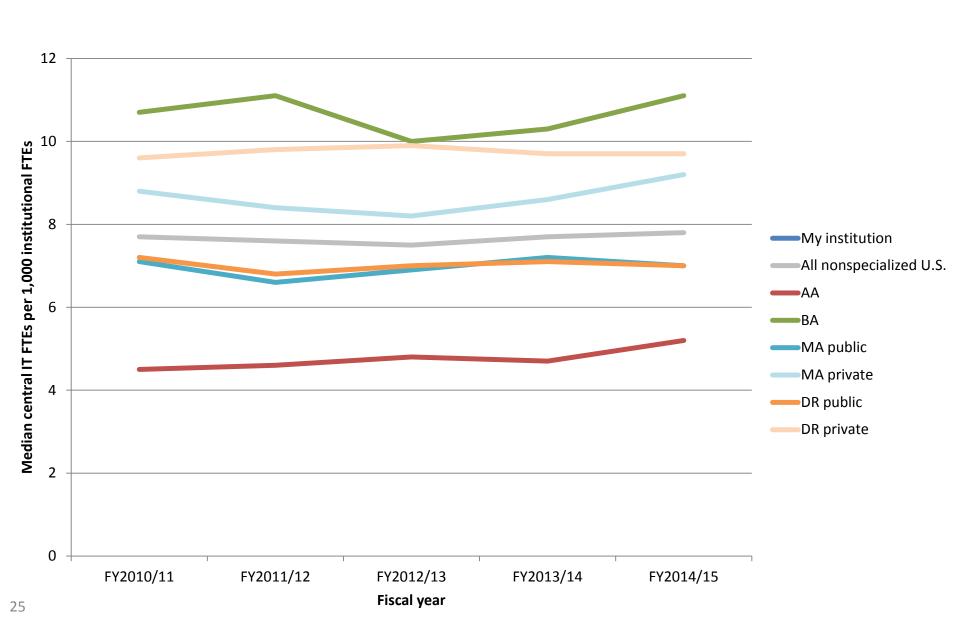
- What is a practical range for staff size based on my institution type and size? (metrics 1–2)
- What is the right blend of staff? (metrics 3–5)
- Do I have the appropriate budget to retrain current staff? (metrics 6–7)

Met	tric	Slide(s)
1	Central IT FTEs per 1,000 institutional FTEs	24
2	Central IT FTEs per 1,000 institutional FTEs Five-year trend	25
3	Student worker FTEs as a percentage of total central IT FTEs	26
4	Student workers as a percentage of total central IT FTEs Five-year trend	27
5	Central IT domain area FTEs per 1,000 institutional FTEs	28–30
6	Central IT training spending per central IT staff FTE	31
7	Central IT training spending per central IT staff FTE Six-year trend	32

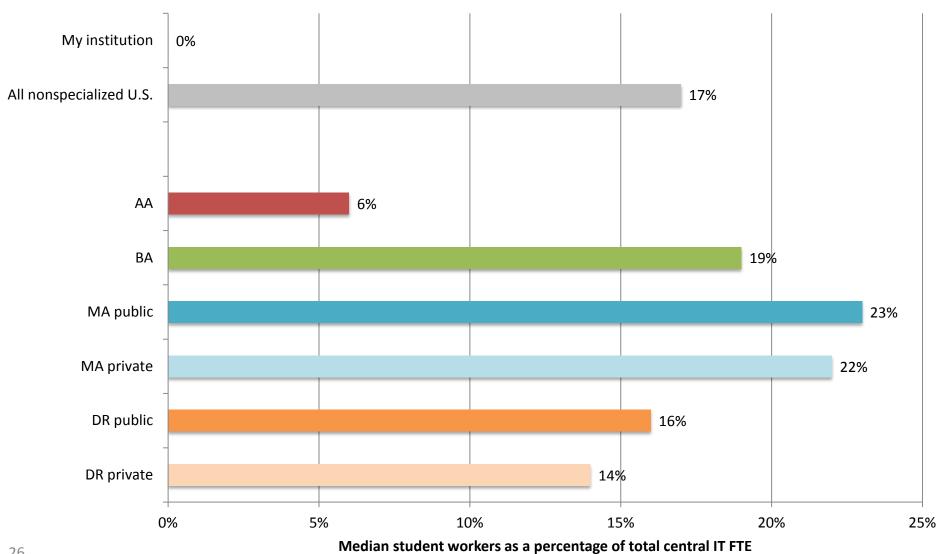
Central IT FTEs per 1,000 institutional FTEs



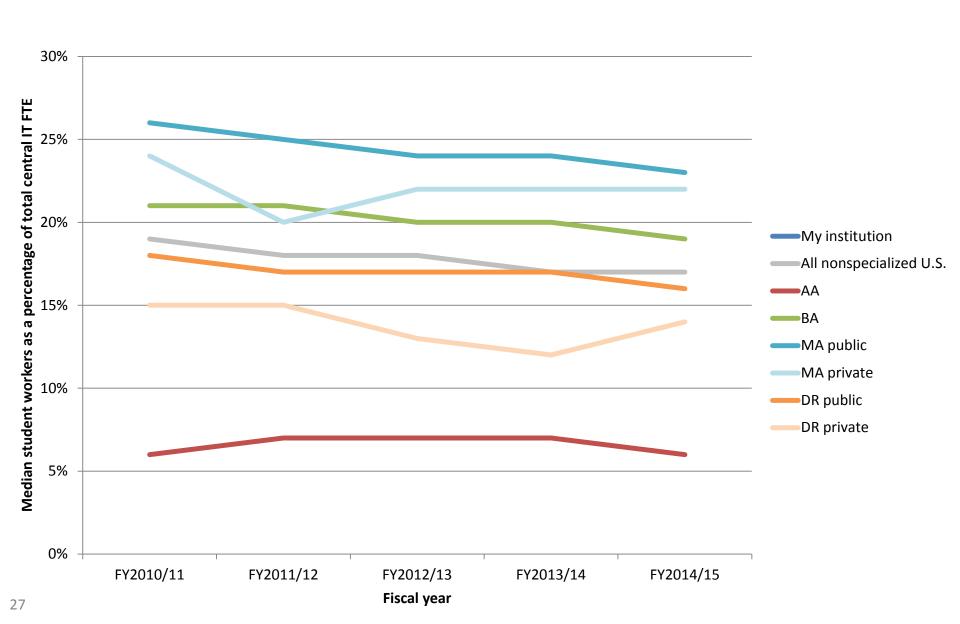
Central IT FTEs per 1,000 institutional FTEs, five-year trend



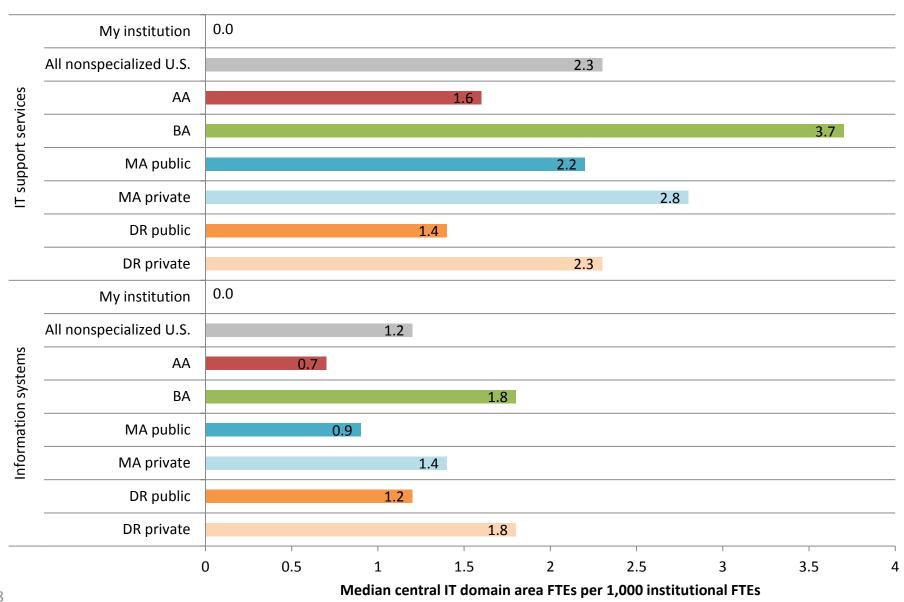
Student worker FTEs as a percentage of total central IT FTEs



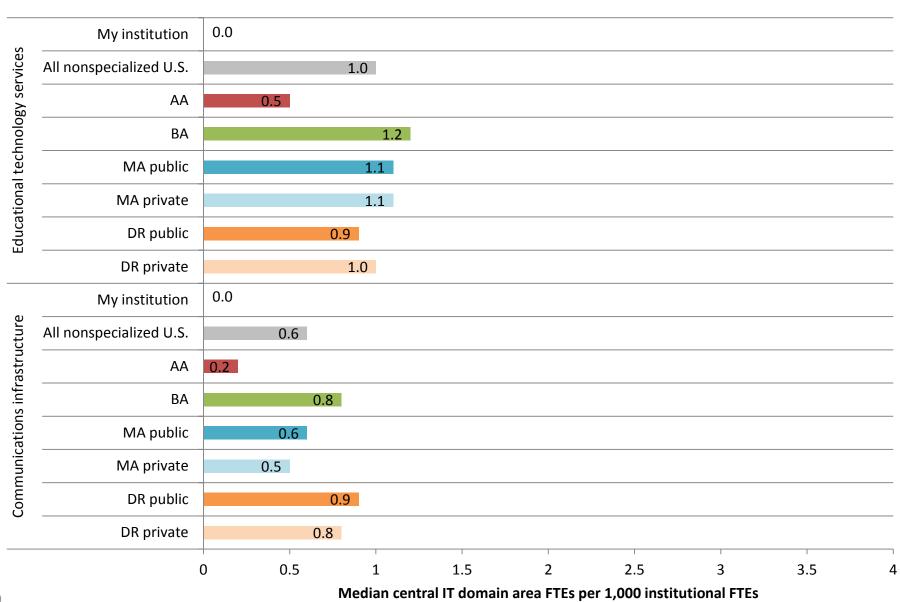
Student workers as a percentage of total central IT FTEs, five-year trend



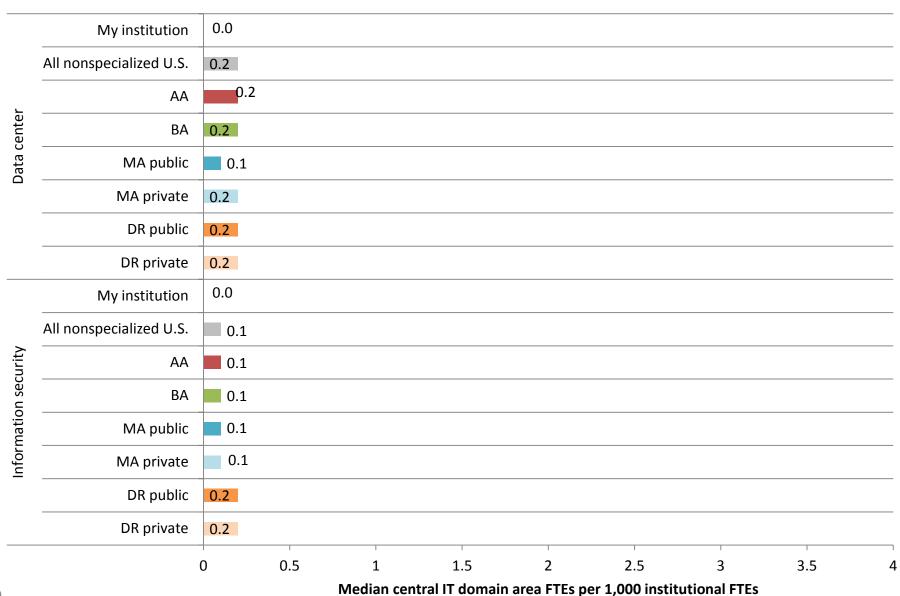
Central IT domain area FTEs per 1,000 institutional FTEs



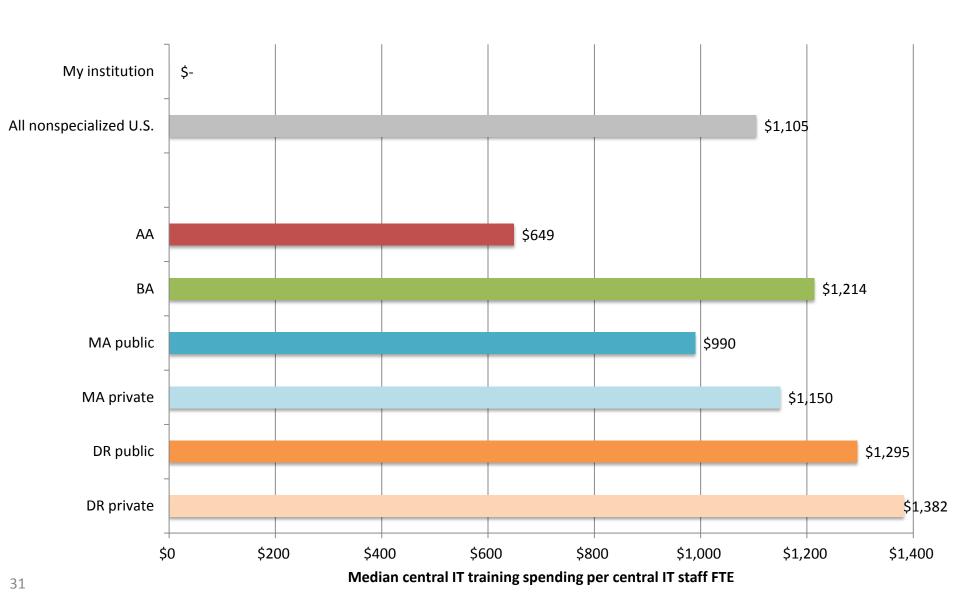
Central IT domain area FTEs per 1,000 institutional FTEs



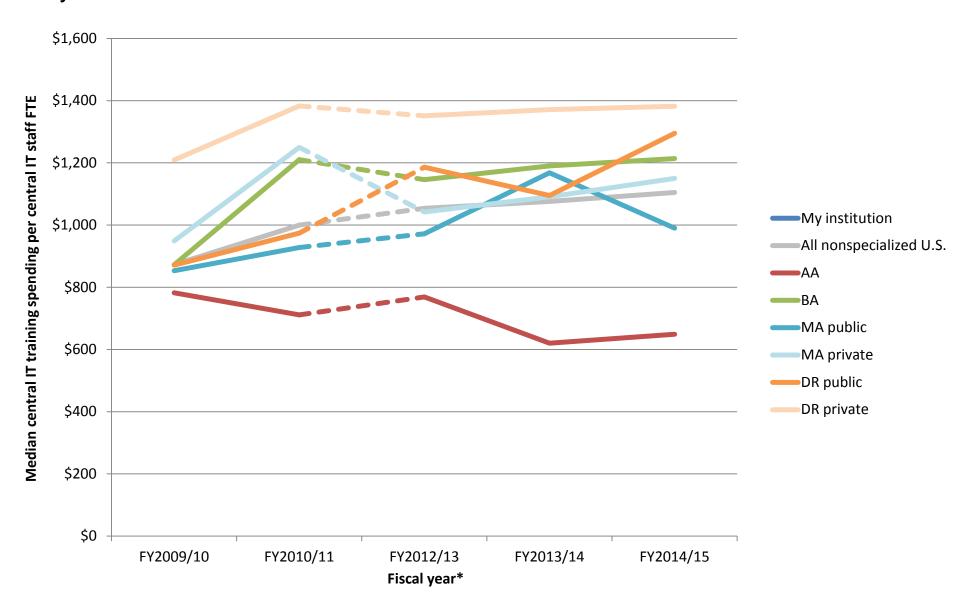
Central IT domain area FTEs per 1,000 institutional FTEs



Central IT training spending per central IT staff FTE



Central IT training spending per central IT staff FTE, six-year trend



IT Services

In a changing environment, it is important to know which services are in demand and which are fading in importance; which should stay local and which can be outsourced; and which must have mobile deployment or be accessible via the cloud. It's important to provide the right services in the most efficient manner. CDS has data that can help you understand how your peers are supporting users in mobile computing, online education, cloud, and BYOD environments. CDS data on faculty support services can help you determine how to help your faculty optimize the use of technology in teaching and learning, and data (including vendor/product, deployment, and management strategy) on 50 different information systems can help you strategize for an enterprise architecture that is right for you.

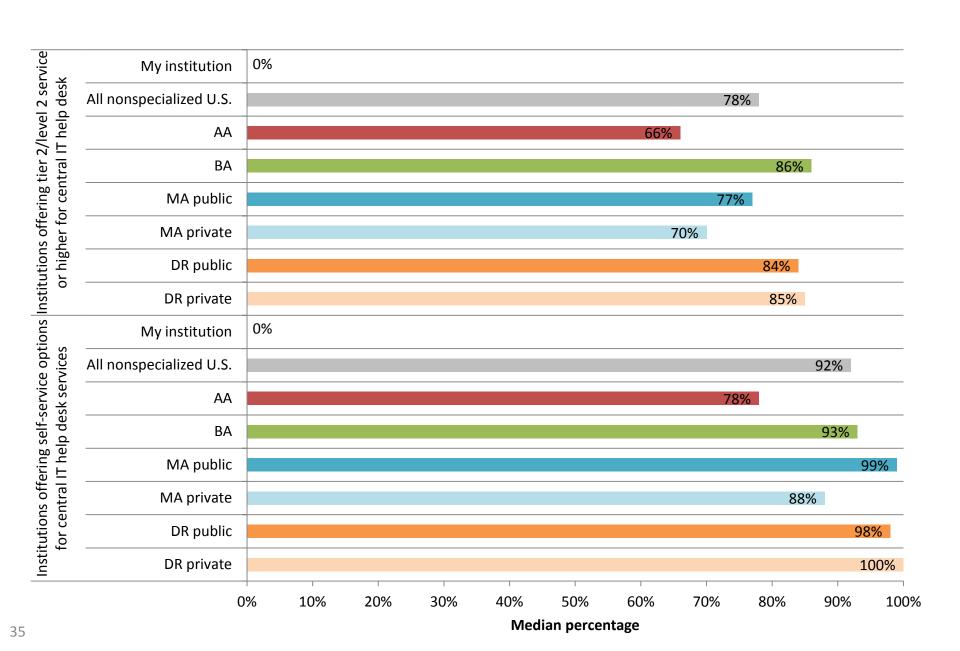
The metrics contained in this section can help you address the following questions:

- What services should I provide?
- How should I provide those services?
- How can I evaluate service efficiency or effectiveness?

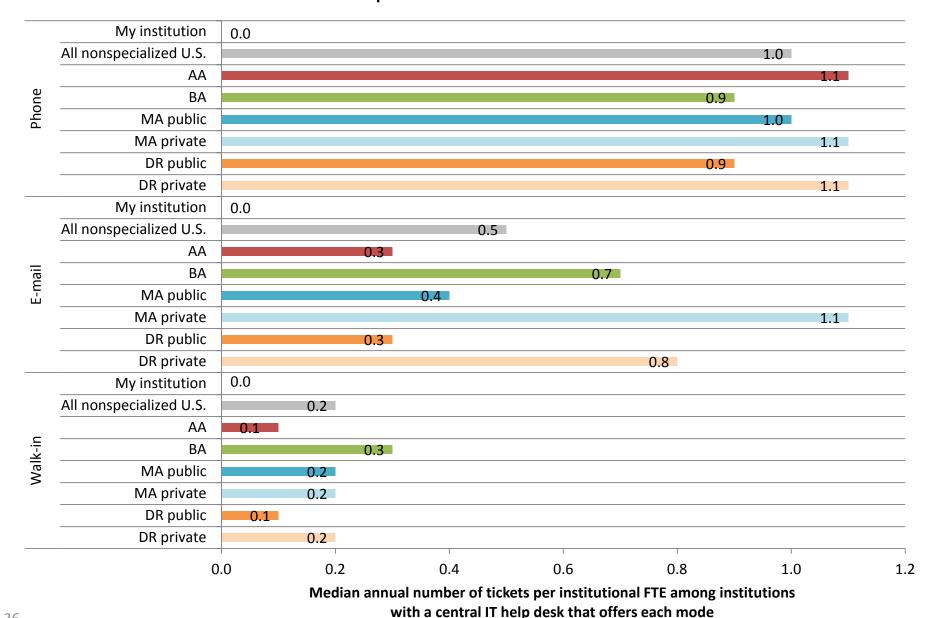
IT Services: Benchmarks

IT Domain Area	Metric	Slide
IT Support Services	Institutions offering tier 2/level 2 service or higher for central IT help desk	35
	Institutions offering self-service options for central IT help desk services	35
	Annual number of tickets per institutional FTE among institutions with a central IT help desk that offers each mode (phone, e-mail, walk-in)	36
Educational Technology Services	Most common teaching and learning support services	37
	Student FTEs per shared workstation provided by central IT	38
	Most commonly deployed e-learning technologies	39
	Most commonly deployed student success technologies	40
	Institutions using commercial data center services	41
Data Center	Institutions hosting or participating in cross-institutional data center services	41
	Institutions using SaaS, PaaS, or laaS to provide data center services	42
Communications Infrastructure	Communications infrastructure technologies most likely to be deployed soon	43
	Access points that are 802.11n or 802.11ac	44
Information Consults	Institutions with mandatory information security training for faculty, staff, or students	45
Information Security	Institutions that have conducted any sort of IT security risk assessment	46
	Systems most commonly vendor managed (SaaS)	47
Information Systems and Applications	Systems most likely to be replaced in the next three years	48
	Data efficacy and analytics decision-making culture	49

IT Support Services: Service delivery



IT Support Services: Annual number of tickets per institutional FTE, among institutions with a central IT help desk that offers each mode

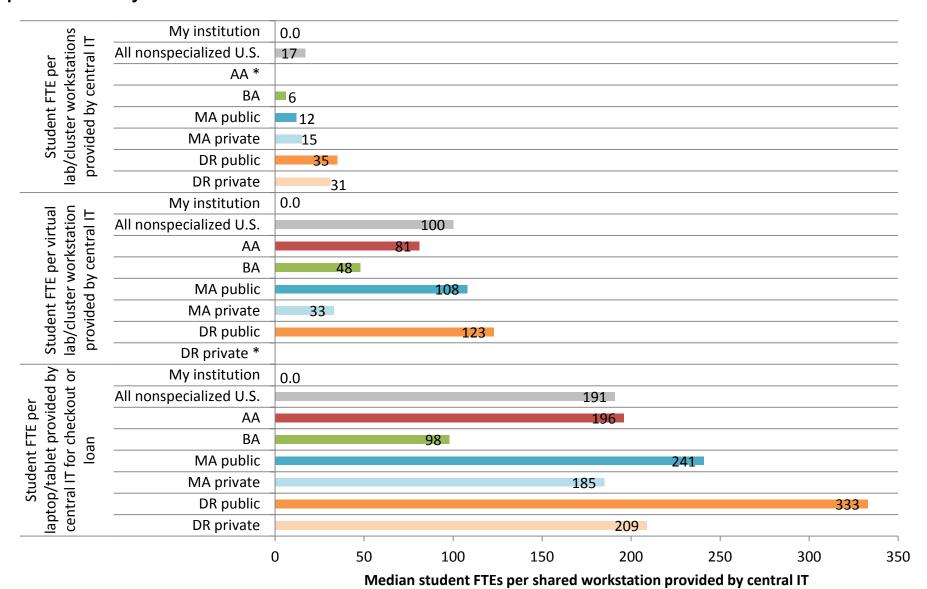


Educational Technology Services: Most common teaching and learning support services for faculty

	My institution	All nonspecialized U.S.	AA	ВА	MA public	MA private	DR public	DR private
Classroom technology	✓ ×	100%	100%	100%	100%	99%	100%	100%
Classroom technology support for faculty	✓ ×	100%	100%	100%	100%	99%	100%	100%
Learning management support for faculty	✓ ×	100%	99%	99%	100%	100%	100%	100%
Learning management training for faculty	✓ ×	100%	99%	99%	100%	100%	100%	100%
Technology-enhanced spaces (e.g., labs, technology-enabled collaborative spaces, etc.)	✓ ×	100%	100%	99%	100%	99%	100%	100%
Faculty group training in use of educational technology	✓ ×	99%	99%	97%	100%	99%	99%	100%
Faculty individual training in use of educational technology	✓ X	99%	99%	98%	100%	100%	100%	100%

[×] My institution does not have this service.

Educational Technology Services: Student FTE per shared workstation provided by central IT



^{*} Sample sizes for lab/cluster workstations at AA institutions and virtual lab/cluster workstations provided by central IT at DR private institutions were too small to calculate an appropriate benchmark.

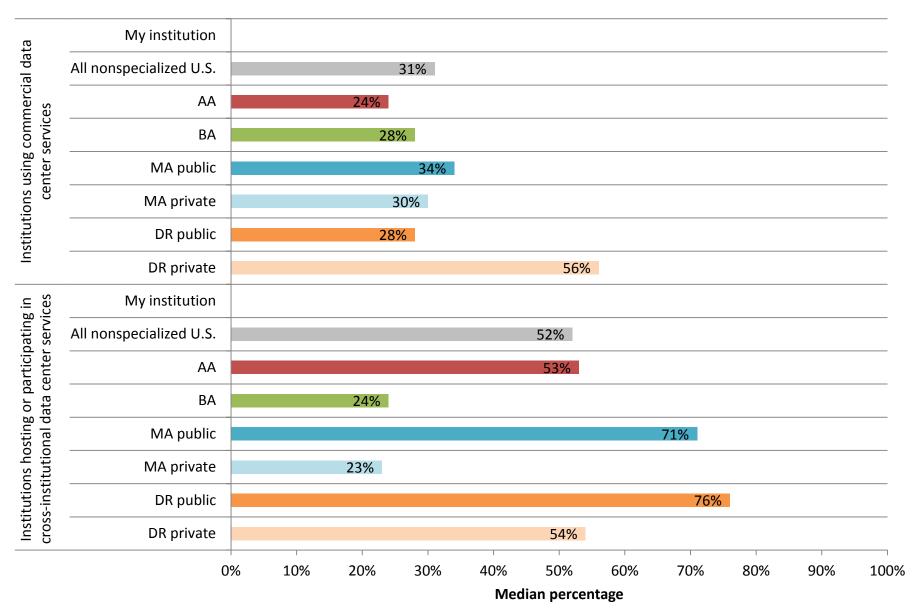
Educational Technology Services: Most commonly deployed e-learning technologies

	My institution	All nonspecialized U.S.	AA	ВА	MA public	MA private	DR public	DR private
Full function online learning delivery system	✓ X	91%	99%	70%	98%	94%	96%	96%
Student evaluation of teaching effectiveness	✓ ×	88%	87%	82%	86%	91%	91%	92%
Collaboration tools for learning	✓ ×	87%	84%	83%	93%	78%	92%	90%
Real-time web- or videoconferencing online learning environment	✓ ×	86%	87%	70%	92%	79%	95%	96%
Plagiarism-detection system	✓ ×	76%	81%	49%	87%	83%	83%	76%

Educational Technology Services: Most commonly deployed student success technologies

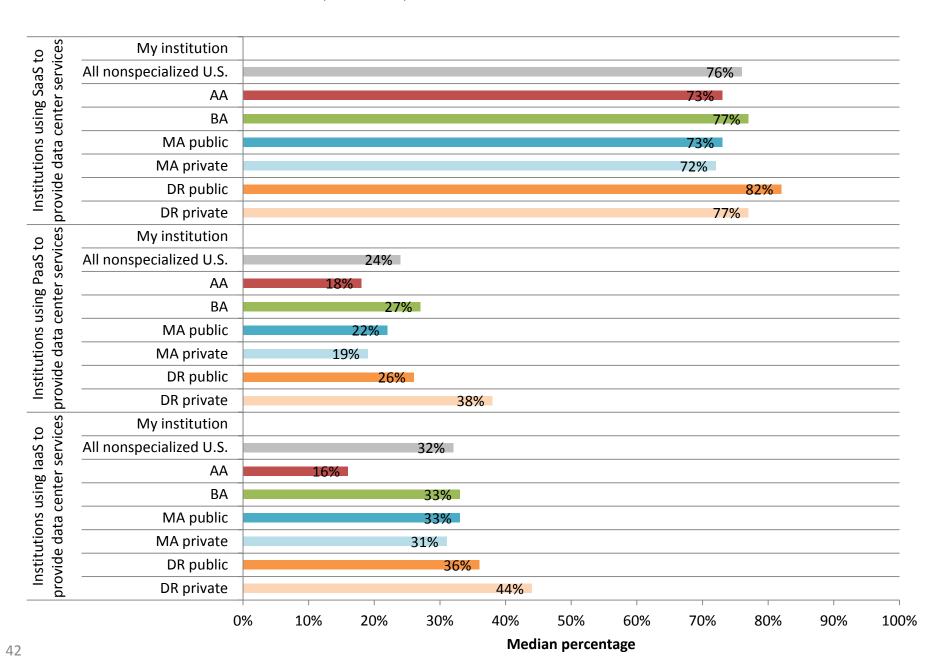
	My institution	All nonspecialized U.S.	AA	ВА	MA public	MA private	DR public	DR private
Degree audit	√ X	84%	71%	75%	92%	90%	90%	84%
Credit transfer/articulation system	✓ ×	59%	58%	35%	70%	52%	76%	56%
Academic early-alert system	✓ ×	59%	63%	54%	63%	61%	65%	42%
Advising center management	✓ ×	55%	59%	45%	52%	48%	70%	52%
Advising case management system for student interaction tracking	✓ ×	51%	50%	42%	49%	45%	64%	48%

Data Center: Outsourcing and shared services*



^{*} For the purpose of this analysis, "outsourcing" refers to the use of commercial data center services; "shared services" refers to institutions using hosted services provided by system or state/consortia facility OR providing services to other institutions or consortia.

Data Center: Use of SaaS, PaaS, and IaaS



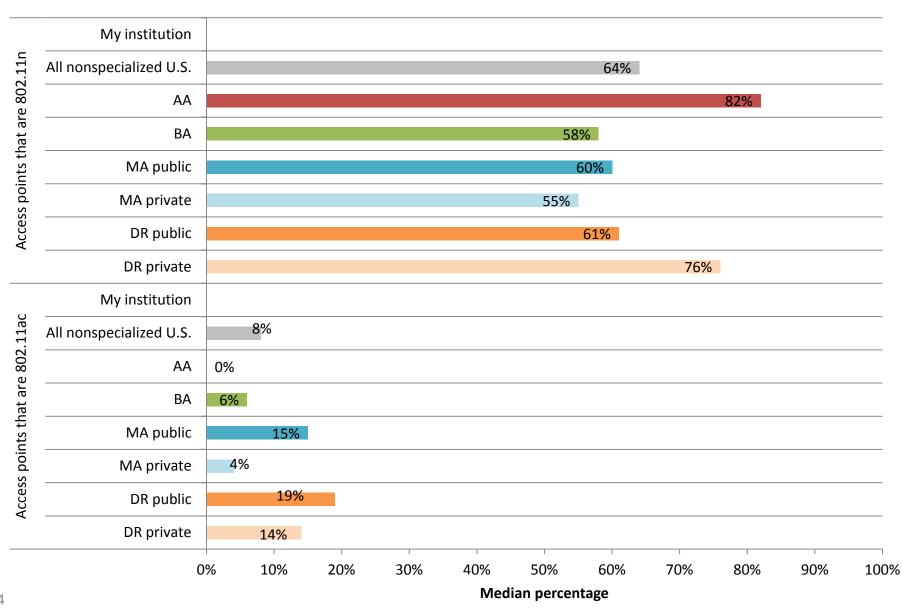
Communications Infrastructure: Communications infrastructure technologies most likely to be deployed soon*

	My institut	All nonspecialized on U.S.	AA	ВА	MA public	MA private	DR public	DR private
IPv6	✓ ×	39%	32%	43%	44%	23%	47%	37%
Softphones	✓ ×	32%	20%	30%	39%	26%	41%	37%
Unified communications and collaboration	✓ ×	31%	17%	34%	36%	27%	35%	33%
Session Initiation Protocol (SIP)	✓ ×	28%	24%	24%	35%	16%	36%	27%
Cloud-based video streaming solutions	✓ ×	24%	22%	22%	32%	18%	26%	20%

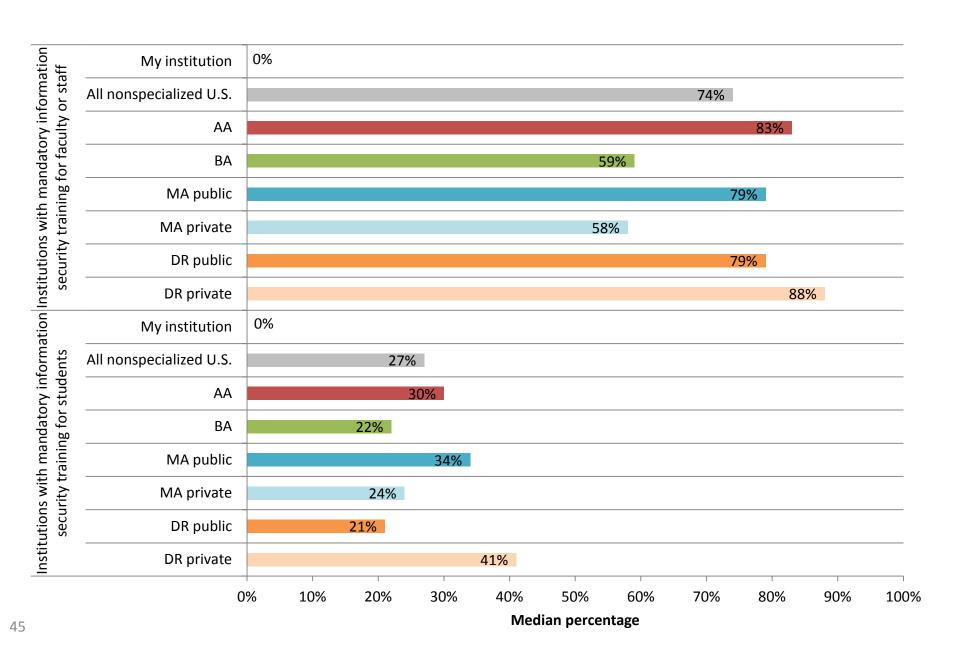
√	Му	ins	titu	tion	has	this	techr	ology.	
		-	-	-	_		-		

My institution does not have this technology

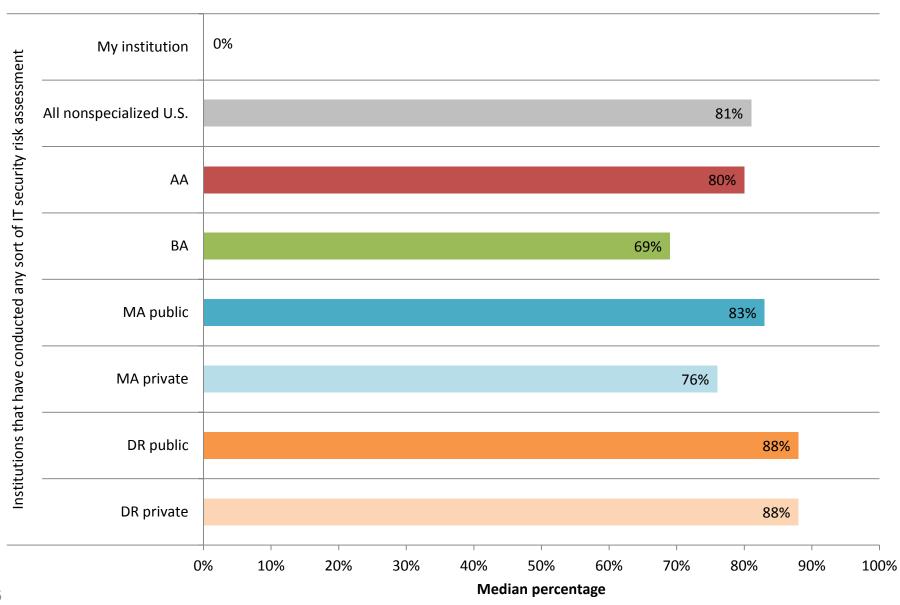
Communications Infrastructure: Wireless network configuration



Information Security: Training for faculty, staff, and students



Information Security: Risk assessments



Information Systems and Applications: Systems most commonly vendor-managed (SaaS)

	My ins	titution	All nonspecialized U.S.	AA	ВА	MA public	MA private	DR public	DR private
E-mail: student	✓	X	63%	56%	58%	63%	63%	66%	76%
Customer relationship management (CRM)	√	×	39%	36%	47%	33%	42%	31%	53%
E-mail: faculty/staff	√	X	36%	22%	41%	36%	43%	40%	34%
Learning management	√	X	35%	39%	20%	29%	43%	35%	48%
Library	√	X	26%	27%	29%	25%	33%	17%	24%
IT service desk management	√	X	21%	18%	10%	19%	19%	28%	34%
Facilities management	√	X	20%	22%	20%	20%	21%	18%	17%
Admissions: undergraduate	√	X	19%	2%	35%	8%	22%	21%	31%

[✓] My institution uses SaaS for this system.

X My institution does not use SaaS for this system.

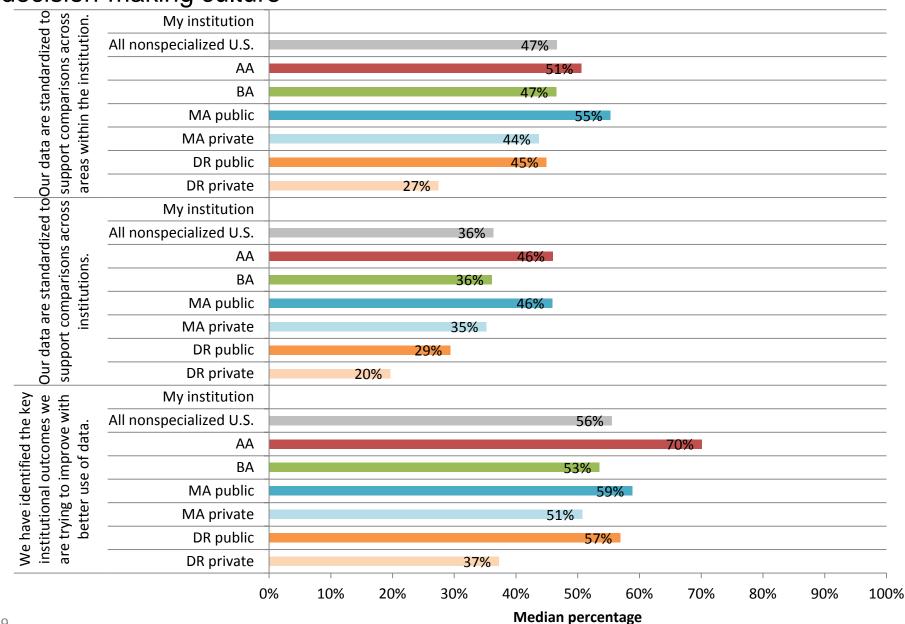
Information Systems and Applications: Systems most likely to be replaced in the next three years

	My institution	All nonspecialized U.S.	AA	ВА	MA public	MA private	DR public	DR private
Customer relationship management (CRM)	√ ×	26%	19%	24%	29%	25%	35%	15%
E-mail: faculty/staff	✓ ×	23%	30%	20%	29%	13%	24%	18%
IT service desk management	✓ ×	23%	16%	23%	23%	23%	23%	34%
Web content management	✓ ×	18%	23%	20%	20%	16%	12%	14%
Business intelligence reporting	✓ ×	17%	11%	17%	19%	14%	22%	20%
Data warehouse	✓ ×	17%	13%	19%	24%	13%	14%	17%
Admissions: undergraduate	✓ ×	17%	21%	18%	11%	14%	15%	24%
Facilities management	✓ ×	17%	18%	8%	11%	14%	16%	41%

My institution has recently replaced this system or plans to replace in the next three years.

My institution has not recently replaced this system and has no plans to replace in the next three years.

Information Systems and Applications: Data efficacy and analytics decision-making culture



Methodology

Methodology, 1 of 3

EDUCAUSE invites more than 3,500 institutions to contribute their data to the Core Data Service each year. Invitees include EDUCAUSE member institutions plus nonmember institutions with a record of interaction with EDUCAUSE. Any nonmember institution may request to be added to the CDS sample.

Response by Year

The CDS 2015 survey collected data about FY2014/15 and was conducted from July 2015 to December 2015. This was the 13th CDS survey. Since 2002, survey participation has ranged from 641 to 1,023 institutions.

CDS Survey	Year of Data Collection	Fiscal Year Data	Number of Participating Institutions
CDS 2002	2003	FY2001/02-FY2002/03	641
CDS 2003	2004	FY2002/03-FY2003/04	840
CDS 2004	2005	FY2003/04-FY2004/05	921
CDS 2005	2006	FY2004/05-FY2005/06	957
CDS 2006	2007	FY2005/06-FY2006/07	962
CDS 2007	2008	FY2006/07-FY2007/08	1,023
CDS 2008	2009	FY2007/08-FY2008/09	954
CDS 2009	2010	FY2008/09-FY2009/10	917
CDS 2011	2011	FY2009/10-FY2010/11	826
CDS 2012	2012	FY2010/11-FY2011/12	787
CDS 2013	2013	FY2012/13	798
CDS 2014	2014	FY2013/14	828
CDS 2015	2015	FY2014/15	813

Methodology, 2 of 3

Response by Carnegie Classification

As in prior years, survey response across Carnegie Classification was highly variable in CDS 2015. Due to differences in population sizes across institutional types, the number of participating institutions for a particular type of institution may be deceiving. For example, only 60 private doctoral institutions participated in CDS 2015; however, this accounts for 55% of private doctoral institutions that were invited to complete CDS 2015. In contrast, 148 community colleges participated in CDS 2015, but this accounts for only 15% of community colleges that were invited to participate in CDS 2015. International participation spanned 17 countries.

Carnegie Classification	Participating Institutions	Eligible Institutions	Response Rate
AA	148	1009	15%
ВА	159	596	27%
MA public	112	266	42%
MA private	107	361	30%
DR public	132	174	76%
DR private	60	109	55%
Other U.S.	47	461	10%
International	48	370	13%

Methodology, 3 of 3

Response by Module

The CDS survey is divided into eight modules. CDS survey participation status is based on the completion of the required Module 1: IT Organization, Staffing, and Financing. The remaining seven modules in the survey are optional and cover details about service delivery in the IT domain areas. Some of the optional modules ask about services run at most institutions (e.g., communications infrastructure), while others ask about services run at some institutions (e.g., research computing); thus, response to optional modules varies.

CDS 2015 Module	Participating Institutions
M1: IT Organization, Staffing, and Financing	813
M2: IT Support Services	648
M3: Educational Technology Services	588
M4: Research Computing Services	427
M5: Data Centers	575
M6: Communications Infrastructure Services	571
M7: Information Security	562
M8: Information Systems and Applications	557