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EDUCAUSE Core Data Service
Fiscal Year 2009 Summary Report

Pam Arroway, Eric Davenport, and Guangning Xu
Department of Statistics, North Carolina State University, Raleigh, NC

and

Dan Updegrove
Consultant on IT in Higher Education, Austin, TX

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Abstract

This report summarizes results from the 2009 EDUCAUSE Core Data Service survey of information technology environments and practices in higher education. Over 875 colleges and universities around the world have participated in the 2009 survey. Key findings, important trends, and similarities and differences across different types of institutions are highlighted.

Table of Contents

List of Figures

List of Tables

Understanding the Core Data Service

Higher education continues to experience pressure for accountability from both internal and external constituencies, from trustees to campus administration to prospective students and their parents to governmental agencies. In many institutions, these accountability demands "have been especially targeted at information technology, putting strong pressures on IT leaders to explain and justify the costs and benefits of the expenses associated with their areas."[1] Fundamental to such efforts is having reliable data about information technology practices, structures, and expenditures at comparable institutions for benchmarking purposes.

Finding such useful and relevant comparative data for central IT units in higher education has long been a challenge, and a number of data collection activities arose through the years to meet this need. (See Appendix A for the historical context from which the current EDUCAUSE Core Data Service arose.) Eight years ago EDUCAUSE determined the need for a somewhat different approach from existing data collection efforts and thus developed and launched a program called the EDUCAUSE Core Data Service (CDS), which consists of

- an annual survey instrument that collects data about information technology environments and practices on (primarily) member campuses;
- a web-based, interactive database service available to all institutions that complete the survey through which authorized individuals can access data contributed by their peers to help benchmark, plan, and make decisions about IT on their campuses; and
- an annual, publicly available summary report about campus IT environments based on data contributed through the survey.

This *EDUCAUSE Core Data Service Fiscal Year 2009 Summary Report* is the eighth report published as part of the CDS program.[2] Before delving into the five major sections that follow this introductory section (each of which parallels and summarizes data from a section of the core data survey), we encourage you to read on to fully understand the CDS program, especially its underlying principles, appropriate use policies, and methodology (including use of Integrated Postsecondary Education Data System, or IPEDS[3] data), and how data are analyzed and presented in this summary report.

Underlying CDS Principles

A defining characteristic of the EDUCAUSE CDS is its collection and presentation of data *identifiable by institution* in the interactive database component of the service. The level of participation in the program is evidence that the value of being able to select a specific comparison group of similar, peer institutions outweighs any reluctance participants might have to disclose identifiable data. (See Appendix B for a list of 2009 survey participants.) The willingness of the community to share what until the inception of the CDS had been largely unavailable financial, staffing, and

central IT organizational data has allowed this service to become one of the most valued EDUCAUSE services.

A second fundamental principle of the program is that only those campuses that complete and submit the survey each year are eligible to log in to the interactive database site. Nonparticipating campuses do not have access, nor do corporations, researchers, agencies, associations, the media, or the general public. EDUCAUSE publishes this annual summary report, then, to provide some overall data analysis to member campuses that do not participate, as well as to corporations and others.

A third important element of the CDS is its appropriate use policy (AUP) and the efforts expended to ensure that all survey participants are well informed about the conditions and terms of use of the data captured through the CDS survey. Access to the database service is not only restricted to participating campuses but also further restricted to individuals on those campuses who have been authorized by their campus to use the database. The strong CDS AUP (see http://www.educause.edu/coredata/use_policy.asp) expressly protects the information of participating institutions. Anyone authorized to access the database must "click through" and agree to all of the terms and conditions of use before gaining that access. Any campus found in violation of the terms and conditions of use will be penalized by loss of participation privileges in the CDS, and EDUCAUSE may take legal action against any party who accesses or uses database content or data without authorization.

Methodology

All EDUCAUSE member campuses that have an IPEDS unit ID number as well as international member institutions (which do not have such numbers) are invited to complete the core data survey through an e-mail message sent annually in January to the primary representative at each member campus. We also invite schools that are not members of EDUCAUSE to participate in the CDS if they are members of selected affinity groups (such as the Council of Independent Colleges, the League for Innovation in the Community College, and others) as well as any campus that expresses an interest in completing the survey. In January 2010, 2,800 campuses were invited to participate in the 2009 survey.

Multicampus systems and community college districts constitute a special case within the CDS. While component campuses of systems are invited to complete the survey, system or district central offices are not eligible to submit data directly. Instead the survey makes provision for component campuses to reflect in their responses the explicit or implicit costs of services provided by their respective central office. In turn, if 40% of the campuses within the system or district complete the survey, the system or district office becomes eligible to access the interactive database service.

Access to the survey is provided through an authorization system that gives such access initially to the individual designated as the primary or key representative in the EDUCAUSE records database at the time the invitation to participate is extended. That individual is invited to manage the

completion of the survey on his or her campus or to designate another individual or individuals to do so.

All data captured by the core data survey are submitted electronically through an easy-to-use web-based interface that enables respondents to answer the approximately 50 questions over time; that is, they can enter data, save them, and return to the site at another time to enter more data or change data already entered. Participants are given about four months to submit the survey, which can take anywhere from several hours to several days to complete, depending on the ready availability of the campus data requested. (See Appendix C for a URL to access a PDF of the 2009 survey.) Note that all financial data sought through the core data survey are for the previous fiscal year, so actual funding/expenditures rather than projected budgets are captured. For example, the survey launched in January 2010 sought financial data for fiscal year 2008–2009 and thus is referred to as the 2009 Core Data Survey. Once a campus submits its survey, data cannot be changed except by special request, for example, in the case of incorrect data having been submitted.

Embedded throughout the survey are numerous pop-up and linked help notices, electronic navigation to a glossary of terms and definitions, and other aids to clarify questions and to obtain consistent responses. (A list of the glossary terms appears in Appendix C.) An audit system provides red-flag messages to respondents if inconsistent data are entered, giving the respondent an opportunity to correct data after viewing an explanation of why the data appear to be problematic.

Use of IPEDS Data

EDUCAUSE information systems automatically match survey response data with selected IPEDS institutional characteristics, which are imported annually into EDUCAUSE database records, so these elements do not have to be entered by the CDS respondent. IPEDS data used by the CDS application include total student headcount, type of institutional control (public or private), and Carnegie classification[4] for each institution. Using the student headcount data from IPEDS, EDUCAUSE derives the full-time equivalent (FTE) student enrollment by summing the total of all full-time students and one-third of the total of all part-time students. Institutional characteristics data in the 2009 CDS are based on 2008 IPEDS data, the latest available. (Note that international participants, for whom IPEDS data are not available, may provide corresponding institutional characteristics data for entry into the CDS records to be matched in the CDS database.)

In previous years, IPEDS data for faculty FTE and total institutional expenditures (which are also imported into EDUCAUSE database records) were posted in the institutional characteristics section of the CDS database service, and faculty FTE data were used to create ratios that were included in two tables in the first summary report. Subsequent to the publication of that 2002 report, we learned of problems related to the way these data are reported to IPEDS that preclude their use in calculating CDS ratios. As a result, we no longer post faculty FTE or total institutional expenditures in this section of the service. (For details, see the CDS announcement “Caution Advised in Using IPEDS Data for Ratios — March 2, 2004” at http://net.educause.edu/apps/coredata/news/.)

Beginning with the 2005 core data survey, two additional data points have been requested, albeit on an optional reporting basis, as part of the agreement to merge the CDS with the COSTS project (see Appendix A). These data points are needed to calculate benchmarks that had been available to COSTS Project participants but not previously available through the CDS database service. The requested data are total number of headcount employees (including faculty) reported the previous year to IPEDS and total campus expenses (not including financial aid) reported the previous year to IPEDS. Those who answer the latter question are also asked to indicate which accounting standards their campus used (FASB, Financial Accounting Standards Board, or GASB, Governmental Accounting Standards Board). Collection of these self-reported IPEDS data has enabled the incorporation of seven additional benchmarks into the interactive database service component of the CDS for the past three years.

Core Data Survey Participation

Nearly 900 institutions had submitted the 2009 survey when we froze the data set in May 2010 to do the analyses for this summary report. (A list of participating institutions is included in Appendix B.) Submissions continued to come in throughout the late spring and summer and likely will continue for the rest of the 2010 calendar year. *Indeed, members that have not yet submitted data are encouraged to do so by the December 31, 2010 deadline.* The table below summarizes the number of U.S. respondents in each Carnegie class, as well as the number of participating institutions from outside the U.S.

CDS Respondents by 2000 Carnegie Classification

Carnegie Classification	Respondents
Doctorate-granting institutions	165
Doctoral/Research Universities – Extensive (DR EXT)	*108*
Doctoral/Research Universities – Intensive (DR INT)	*57*
Master's Colleges and Universities	236
Master's Colleges and Universities I (MA I)	*200*
Master's Colleges and Universities II (MA II)	*36*
Baccalaureate Colleges	186
Baccalaureate Colleges – Liberal Arts (BA LA)	*113*
Baccalaureate Colleges – General (BA GEN)	*73*
Associate's Colleges	144
Other, specialized U.S. Institutions	59
SUBTOTAL U.S. INSTITUTIONS	**790**
Non-U.S. institutions	90
TOTAL CDS PARTICIPANTS	**880**

For some analyses, the effective sample size is less than the total set of respondents due to some non-responses, subsetting by class, and conditioning on a previous question, e.g., "of those institutions who indicated that a grants management system is in place, x% use this product." Sample sizes are not given for each separate analysis, since the sample sizes were adequate for a reasonably precise estimate, except where noted.

How Data Are Presented in This Summary Report

Data for this summary report are reported by the seven largest Carnegie Classifications. When referring to all responding institutions, we include these seven classes, along with other U.S. respondents (such as law schools, health-related institutions, art schools, and so forth), as well as participating non-U.S. institutions. The purpose of this report is to provide aggregate data in simple form for those who do not have access to the interactive database service. In our analyses we have not tried to provide every possible cut on the data but rather some summary data that we believe will be useful to the public. Keep in mind that the database service component of the CDS allows for viewing data much more discretely. The service offers filters, sorting tools, graphing tools, the ability to see trend data comparing last year's and this year's data, and a sixth section that provides automatically generated ratios in 14 areas. We urge readers who have access to the database service to use the service rather than this report for benchmarking purposes for a more refined and accurate picture than the tables and graphics in this report can provide.

The set of institutions that completed all five surveys from 2005 to 2009 is much smaller, reducing our sample size by about one-third. In this report, trend analyses were completed using all survey participants. Again, readers are encouraged to use the database service to construct the analysis that is most meaningful for the context of interest (although trend analysis in the database service is currently limited to the two most recent years).

In an effort to make the report more accessible and user friendly, several changes were made in 2008 and maintained for 2009. First, many lengthy tables were replaced by graphics. Graphics may make it harder to pinpoint an exact value, but often allow the reader to see patterns or make visual comparisons. Second, substantially more trend data are displayed. Third, rather than reporting means and medians for variables with highly skewed distributions, we present medians and in some cases quartiles (25th and 75th percentiles). For severely skewed distribution, the median is a more meaningful measure of the center of the data values. The quartiles also provide information on the variability within the data values (whether values are very spread out or are very similar and clumped together).

The types of graphics found in this report typically fall into one of the following categories, though there may be other types of graphs.

- Stacked bar plots: Stacked bar plots are used for multiple-choice questions. Typically, the horizontal axis indicates the class and year within the class. The vertical axis represents percentage of respondents, but here the percentages are "stacked" on top of each other. Percentages for all responses add to 100%, so the bars should reach 100%. However, often

categories with small response rates are not included in the plot for simplicity of the display. Figure 1-1, page 4, is an example of this type of graph.

- Quartile plots: Quartile plots are useful when the variable is numeric, rather than multiple-choice or multiple-select answers. We use a simplified box plot to display quartiles. As with the stacked bar plots, the horizontal axis indicates the class and year. The vertical axis, however, represents the values of the variable. The purpose of the plot is to show more than just the mean or median, but to give some information on variability of the responses within a class. On a quartile plot, the box indicates the location of the middle 50% of the responses. The top of the box is the 75th percentile and the bottom of the box is the 25th percentile. Thus the upper and lower 25% of respondents are not represented in such a plot. The bar across each box represents the median of the reported values in the class (approximately 50% of responses were above this point and approximately 50% of responses were below this point). Figure 1-4, page 7, is an example of this type of graph.

- Time trends: Both bar charts and quartile plots can be expanded to show time trends within a class. Most of the graphs in this report show trends from 2005–2009.

The Fallacy of Relying Only on Input Measures

We began this introductory section by asserting that collection and benchmarking of IT-related data are important for campus planning and management. A potential problem with IT benchmarks, however, is that collecting data about inputs—funding, staffing, and so forth—is easier than capturing data about outputs, such as measures of quantity and quality of services provided, to say nothing of user satisfaction and the impact of IT services on student performance, research productivity, or administrative efficiency. Moreover a focus on input measures can, and sometimes has, led to advocacy for more IT resources to keep pace with peers, as if more were necessarily better where technology is concerned.

Such pressure and focus on input measures is a fallacy that higher education must address. Rather than engaging in an "arms race," we need to focus on effectiveness—trying to determine which institutions seem to be doing the best job with the fewest resources, with an eye toward understanding the environment and practices that make this possible. Hawkins and Barone made the case for a new kind of assessment model that not only uses input measures but also recognizes the even greater importance of evaluating outcomes in higher education:

> Although…efforts [using input measures] may have leveraged additional funds (appropriately or not), they do not include measures that offer insight into how technology is enabling new and better research, whether or how technology is enhancing teaching and learning, or whether administrative functions are easier for students to access or less expensive to operate. The problem is that in order to effectively measure the success and/or value of an IT investment, we must come to grips with evaluating these functional outcomes of the college or university. However, we have thus far successfully avoided grappling with these difficult

> challenges of assessing learning outcomes, administrative efficiency, effectiveness, and so on. Without working in tandem with others on campus to identify and evaluate these outcomes and then to understand and describe the enabling role of IT in facilitating these accomplishments (or the failure thereof), we will never be able to reasonably and meaningfully assess the return on IT investment.[5]

Some might suggest that the EDUCAUSE CDS may contribute to the fallacy of overvaluing input measures, but we would counter such a critique on several fronts.

First, this kind of application is in very high demand by our members for a host of reasons, among them being able to understand where the market really is and what other campuses are actually doing, in order, potentially, to *reduce* the pressures on growth and expansion.

Second, even if legitimate outcome measures *were* available, we would still require input measures to understand the effectiveness equation. Efforts such as the CDS are necessary but not sufficient to achieve the ultimate goal of defining standards of optimal achievement of goals.

Third, the CDS database service has the potential to dispel some myths surrounding IT funding and investment by presenting detailed data that present a more accurate and reliable picture of campus IT environments.

Fourth, the interactive service is providing a useful network to help participants find and communicate with colleagues like themselves, who have similar systems and characteristics and who face similar challenges, and to learn from them.

Fifth, the CDS has the potential to promote more congruity in campus IT funding models, provide models for IT organization and support, identify exemplary processes for allocating and expending resources (both human and financial), and promote more effective IT management overall through prompting more widespread tracking of IT expenditures (whether these occur internally or externally to the central IT unit) at higher education institutions.

We believe that the CDS also has the potential to create a different sociometry for the IT community, complementing inquiries to peer e-mail lists, roundtable discussions, and calls to trusted colleagues. Not only does the CDS provide a standard, annually updated database of survey responses from peer institutions, but the database can also be used to identify prospective peers, or exemplars, based on both survey responses and institutional characteristics.

Moreover, since the CDS is embedded in the EDUCAUSE member database, participants can easily identify appropriate individuals who can provide additional information and context for their survey responses. This facilitation of communication between and among members of the community, based on information about areas of common interest or challenges, has from the beginning been a key objective of the EDUCAUSE CDS.

As highlighted in the quotation above, higher education has a clear and pressing need to focus on outcomes, and EDUCAUSE has been both an advocate and a partner with other higher education organizations to advance this agenda. We fully recognize that our core data program is not the endgame, but for many institutions the CDS has become an important component of their planning and management toolkit. The value of the CDS correlates strongly with the number of participants, so we encourage all EDUCAUSE members to complete the annual survey and explore the rich database available through the Core Data Service.[6]

Endnotes

1. B. L. Hawkins and C. A. Barone, "Assessing Information Technology: Changing the Conceptual Framework," in *Organizing and Managing Information Resources on Your Campus,* P. A. McClure, ed. (San Francisco: Jossey-Bass, 2003), pp. 129–145.
2. Previous CDS summary reports are available for free download in PDF from the EDUCAUSE website at http://www.educause.edu/coredata/.
3. The Integrated Postsecondary Education Data System (IPEDS) is a single, comprehensive, data-collection program designed to capture data by the U.S. National Center for Education Statistics (NCES) for all institutions and educational organizations whose primary purpose is to provide postsecondary education in the United States. IPEDS collects institution-level data in such areas as enrollments, program completions, faculty, staff, and finances. IPEDS data reporting requires the extensive effort of a variety of offices on any campus, and this is the "official" information the college or university stands behind, used by the federal government. See http://nces.ed.gov/ipeds/.
4. This CDS summary report uses the basic classification system from 2000 version of *The Carnegie Classification of Higher Education*. See Appendix D for more detail. The seven classes with the largest number of respondents are included in this report:

   DR EXT (Doctoral Institutions/Extensive): 50 or more doctoral degrees per year across at least 15 disciplines
   DR INT (Doctoral Institutions/Intensive): 10 or more doctoral degrees per year across three or more disciplines or at least 20 doctoral degrees per year overall
   MA I (Master's Institutions I): 40 or more Master's degrees per year across three or more disciplines
   MA II (Master's Institutions II): 20 or more Master's degrees per year
   BA LA (Baccalaureate Colleges–Liberal Arts): At least half of baccalaureate degrees in liberal arts fields
   BA GEN (Baccalaureate Colleges–General): Less than half of baccalaureate degrees in liberal arts fields
   AA (Associate's Colleges): Offer Associate's degrees, but typically no baccalaureate degrees

5. Hawkins and Barone, op. cit., p. 133.
6. In spring 2010 EDUCAUSE launched an initiative to assess usage and user satisfaction with the Core Data Service, update the survey content, redesign the interactive database service and its underlying software, review the appropriate use policy, and, potentially, reconceptualize the annual summary report. Progress on the CDS Redesign Project can be monitored on the CDS website: http://net.educause.edu/cds/.

1 IT Organization, Staffing, and Planning

The first section of the Core Data Survey included 10 questions about the leadership of centralized information technology organizations on campuses, the portfolios and staffing of the IT organization, the relationship, if any, between campus strategic plans and IT strategic plans, and the advisory groups that may be involved in the IT planning process.

Figure 1-1 summarizes titles for the highest-ranking IT administrator/officer on campuses. Since exact titles for administrators vary greatly across higher education, IT leaders' titles are grouped into three primary categories[1] and displayed by Carnegie Classification[2] for the past five years. Among doctoral/research universities, CIO and Vice President/Vice Chancellor are the dominant titles, whereas in the other five categories, a much greater proportion of institutions use the titles Director or Dean.

Figure 1-2 displays trends in IT reporting relationships. Some caution is advised in interpreting these differences, however, since (a) many institutions do not have both a chief administrative officer and chief business officer; (b) in other institutions, an administrator with one of these titles may report to the other; and (c) IT may report to two, or more, officers. The bars do not necessarily reach 100% since other types of reporting relationships were reported.

Figure 1-3 provides another indicator of centralized IT organization's place in the institutional hierarchy: inclusion of the IT leader on the president or chancellor's cabinet. All three indicators show fairly stable distributions over the past five years.

Table 1-1 summarizes the various functions of centralized IT organizations across the seven institutional types, based on responses to a "select all that apply" question. Nearly all organizations provide administrative information systems, user support services, and network infrastructure; operate one or more data centers; and provide leadership in IT policy and IT security. Predictably few provide IT services in affiliated hospitals, are responsible for institutional research, or operate mailrooms. A particularly noteworthy example of distributed IT is in research computing, where only 68% and 58%, respectively, of centralized IT organizations provide research computing support in DR EXT and DR INT universities. It is important to note that, in many cases, service provision is shared among the centralized IT organization and other units, especially in research universities. Examples of services with multiple campus providers may include user support, instructional technology, IT security, multimedia services, network infrastructure, research computing, and student computing.

The CDS survey requests information on staff and student workers in the centralized IT organization, as well as functional areas to which they are assigned. In addition, respondents have the opportunity to report an estimate of the number of full-time equivalent (FTE) IT personnel outside the centralized IT organization. Figure 1-4 and Figure 1-5 show trends in centralized IT staff FTEs and student worker FTEs, respectively. Medians for both staff and student employees increased slightly over this period, but these increases have really only kept up with enrollment,[3] as shown for staff FTEs in Figure 1-6. Medians in this plot have not increased over the past five years.

As shown in Figure 1-7, institutions that provide higher-level degrees tend to be more decentralized, as measured by the proportion of campus IT staff assigned to the centralized IT organization. Taken together, these two figures indicate the campus-wide ratio of students to IT staff. AA colleges have the highest ratio, whereas DR EXT universities and BA LA colleges show the lowest ratios. These disparities are not surprising, given the comparatively large per-student budgets (and higher tuitions) of most liberal arts colleges and larger per-student budgets and research intensities of the leading research universities. (Eleven percent of respondents were unable to estimate the number of decentralized IT staff.)

Table 1-2 displays the median number of centralized IT staff and student employee FTEs across 14 functional areas. Respondents reported approximate FTEs of centralized staff and student workers devoted to several functional areas. Respondents were allowed to assign decimal numbers of individuals to the various functions. This allows capture of staff that may cover more than one functional area. For example, if a staff member spent 50% of her time on network architecture, 30% of her time doing database work in administrative computing, and the remainder in security, the numbers 0.5, 0.3 and 0.2, respectively, would be appropriate to enter into those functional area cells for that individual.

Because these raw counts will vary considerably depending on the size of the centralized IT staff, Table 1-3 gives the median percentage of centralized IT staff and student employees. (Raw FTE counts were divided by total staff or student FTEs reported.) Across all classes, the top functional areas for staff are Administrative/Enterprise Information Systems; User Support Services; and Instructional Technology. Note that these data only capture centralized IT staff or student workers. Distributed staff may have responsibility for some of these functional areas.

Use of separate scales and titles for IT professionals can reflect their distinct contributions to the mission of the institutions, as well as differential labor market conditions. Campuses in all classes are much more likely to use separate job titles than separate salary scales, as seen in Figure 1-8 and Figure 1-9. Figure 1-10 shows that most institutions have included IT planning in the campus strategic plan and have a stand-alone IT strategic plan.

Table 1-4 summarizes which groups provide advice on IT strategic planning. Respondents could select all groups that apply, so the percentages do not add to 100%. Very few institutions have no advisory groups for IT planning.

Endnotes

1. Title data were aggregated for analysis into the groupings shown in Figure 1-1. A vice president or vice chancellor level title that also included CIO or CTO in the title was included in the VP/VC category, while any other title that included CIO or CTO was included in the CIO or CTO category.
2. This CDS summary report uses the basic classification system from the 2000 version of *The Carnegie Classifications of Higher Education*. See Appendix D for more detail. The seven classes with the largest number of respondents are included in this report:

   DR EXT (Doctoral Institutions/Extensive): 50 or more doctoral degrees per year across at least 15 disciplines
   DR INT (Doctoral Institutions/Intensive): 10 or more doctoral degrees per year across three or more disciplines or at least 20 doctoral degrees per year overall
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   BA GEN (Baccalaureate Colleges–General): Less than half of baccalaureate degrees in liberal arts fields
   AA (Associate's Colleges): Offer Associate's degrees, but typically no baccalaureate degrees

3. Data on student enrollment FTEs is collected from the Integrated Postsecondary Education Data System (IPEDS). IPEDS is a single, comprehensive data-collection program designed to capture data for the National Center for Education Statistics (NCES) for all institutions and educational organizations whose primary purpose is to provide postsecondary education in the United States. Among other data, campuses report the number of full-time and part-time undergraduate, graduate, and professional students to IPEDS. The total of those three categories is imported in to the CDS database as "total student headcount." The FTE student number is derived by adding the total full-time student number to one-third the total number of part-time students for all three categories.

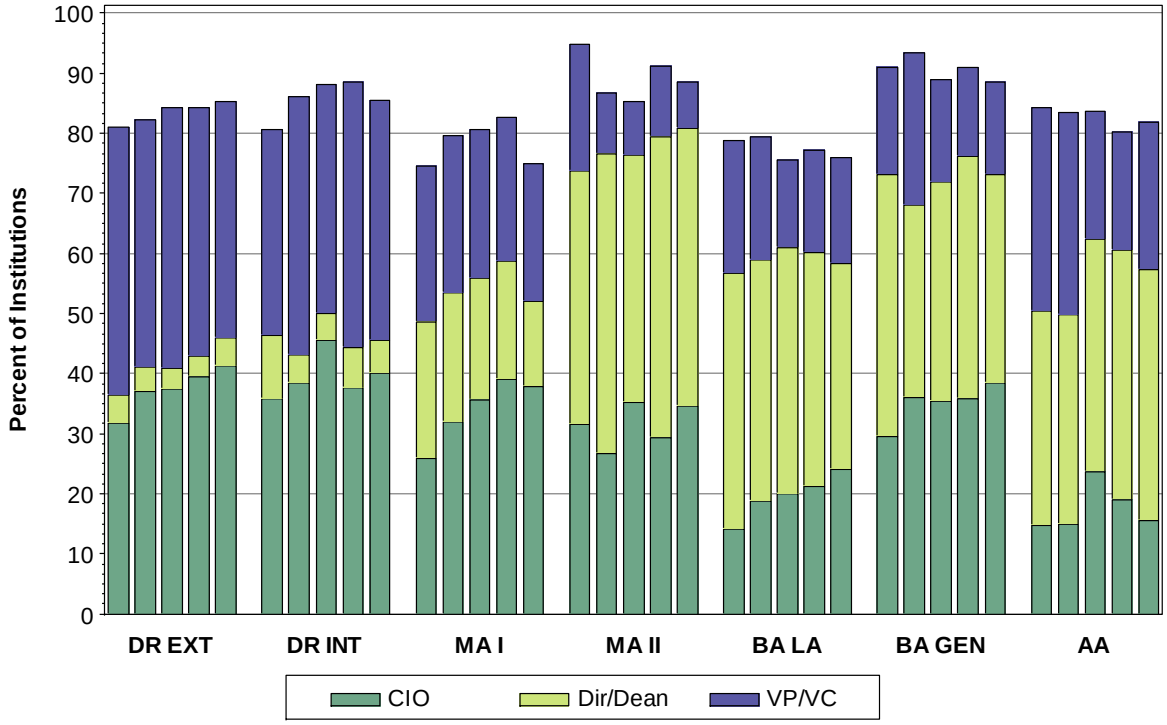

Figure 1-1 IT Leaders' Titles 2005–2009

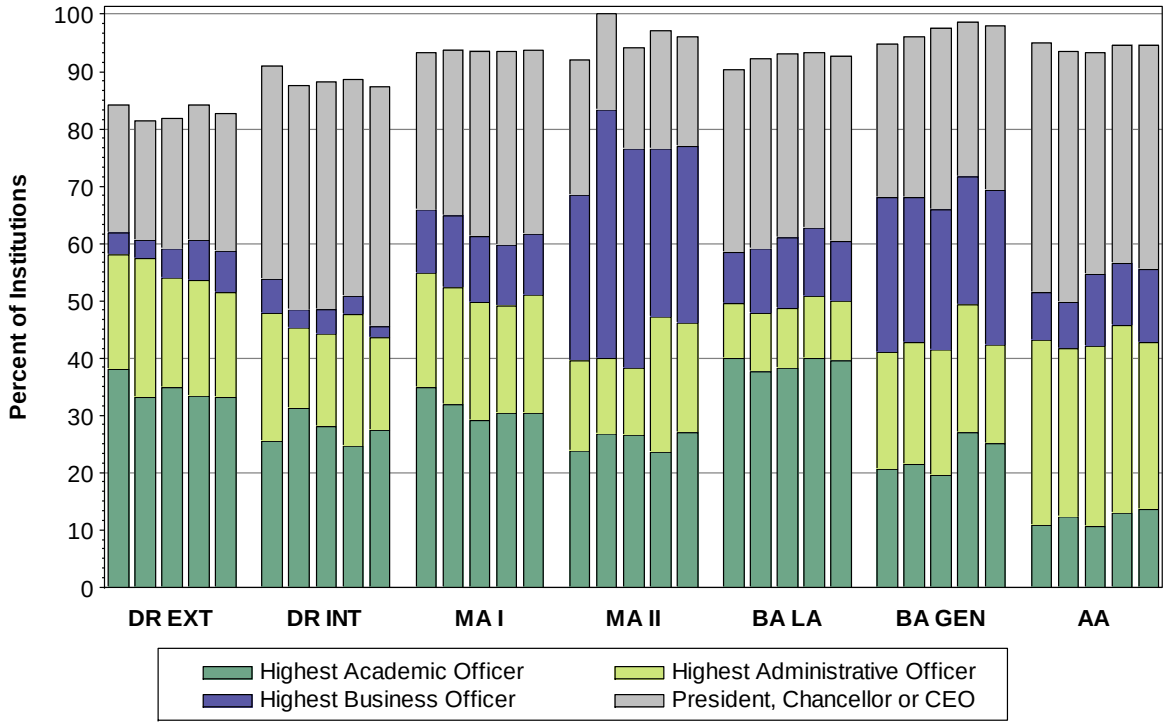

Figure 1-2 IT Reporting Relationships 2005–2009

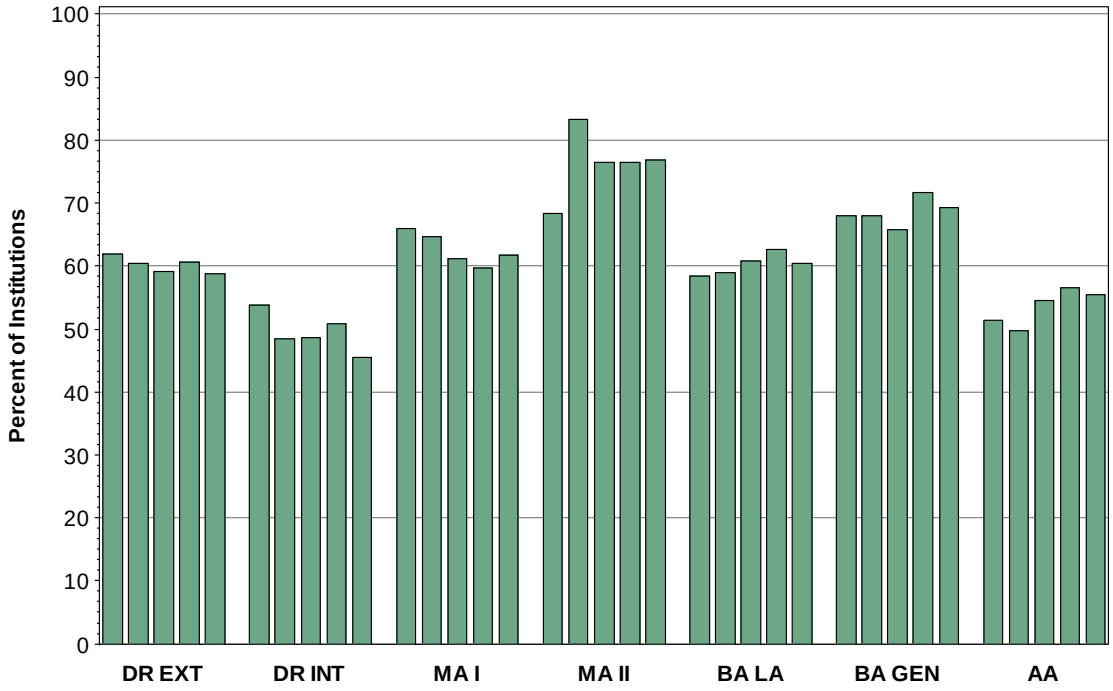

Figure 1-3 Executive Cabinet Membership 2005–2009

Table 1-1 Functional Areas Reporting to IT Leader 2009

	DR EXT	DR INT	MA I	MA II	BA LA	BA GEN	AA
Academic Computing	89%	84%	89%	92%	94%	87%	77%
Admin. of IT Organization	100%	100%	99%	100%	100%	98%	100%
Admin. Information Systems	95%	95%	96%	92%	99%	92%	95%
Computer Store	31%	15%	10%	4%	21%	10%	4%
User Support Services	100%	100%	100%	96%	100%	100%	100%
Identity Management	99%	98%	93%	92%	97%	81%	85%
Distance Education	12%	31%	37%	38%	20%	37%	35%
Institutional Research	5%	11%	10%	12%	7%	6%	5%
Instructional Technology	79%	75%	82%	73%	89%	77%	64%
IT in Affiliated Hospital	6%	0%	1%	0%	0%	0%	3%
IT Planning and Budgeting	84%	93%	94%	88%	91%	85%	90%
IT Policy	100%	98%	97%	100%	100%	98%	99%
IT Security	98%	98%	98%	100%	100%	98%	99%
Library	5%	18%	18%	12%	30%	8%	12%
Mailroom	2%	5%	3%	12%	10%	12%	8%
Multimedia Services	69%	69%	79%	77%	81%	67%	61%
Network Infrastructure	98%	100%	99%	100%	100%	100%	100%
Operations, Data Center	99%	98%	96%	96%	100%	94%	99%
Print /Copier Services	19%	24%	24%	58%	40%	56%	40%
Research Computing	68%	58%	35%	19%	46%	25%	11%
Student Computing	86%	84%	90%	92%	96%	92%	84%
Technology R&D	65%	51%	63%	58%	70%	54%	53%
Telephony	95%	91%	87%	88%	79%	83%	93%
Web Support Services	93%	87%	86%	77%	88%	75%	76%
Other Function	17%	16%	16%	12%	11%	8%	9%

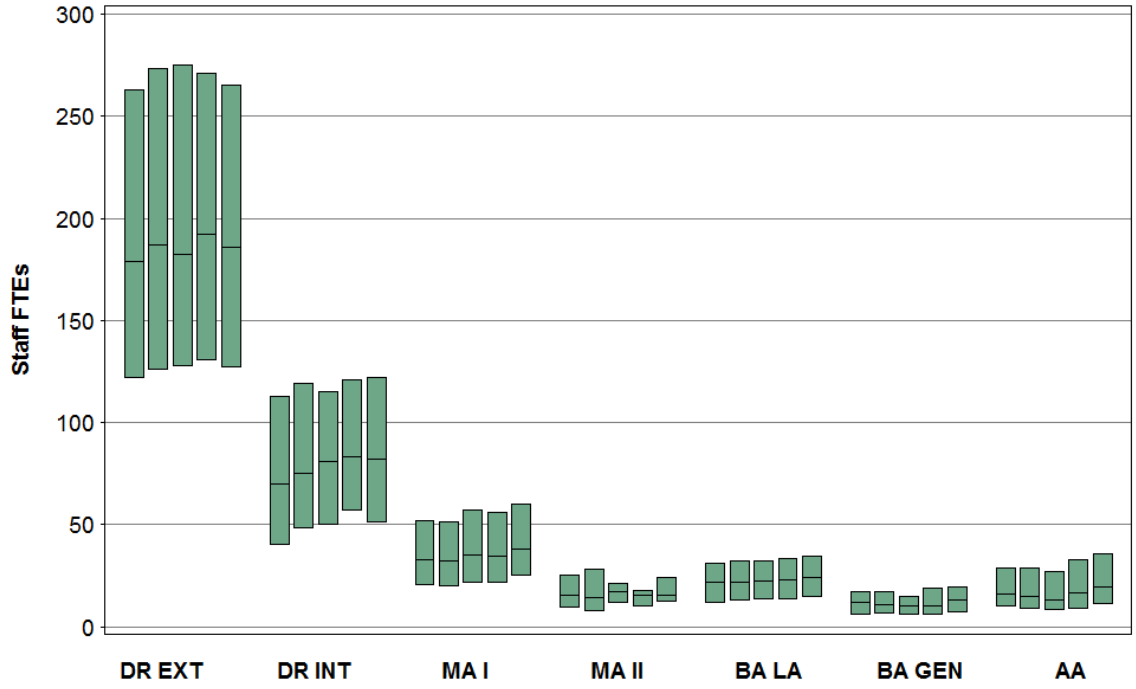

Figure 1-4 Centralized IT Staff FTEs 2005–2009

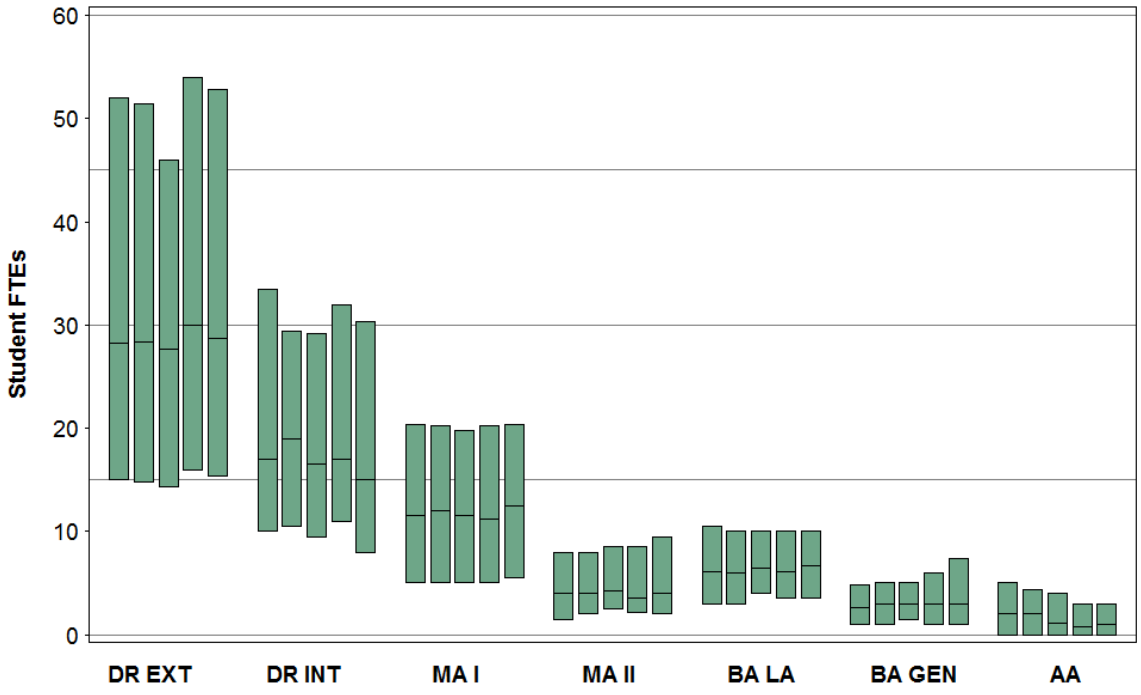

Figure 1-5 Centralized Student Worker FTEs 2005–2009

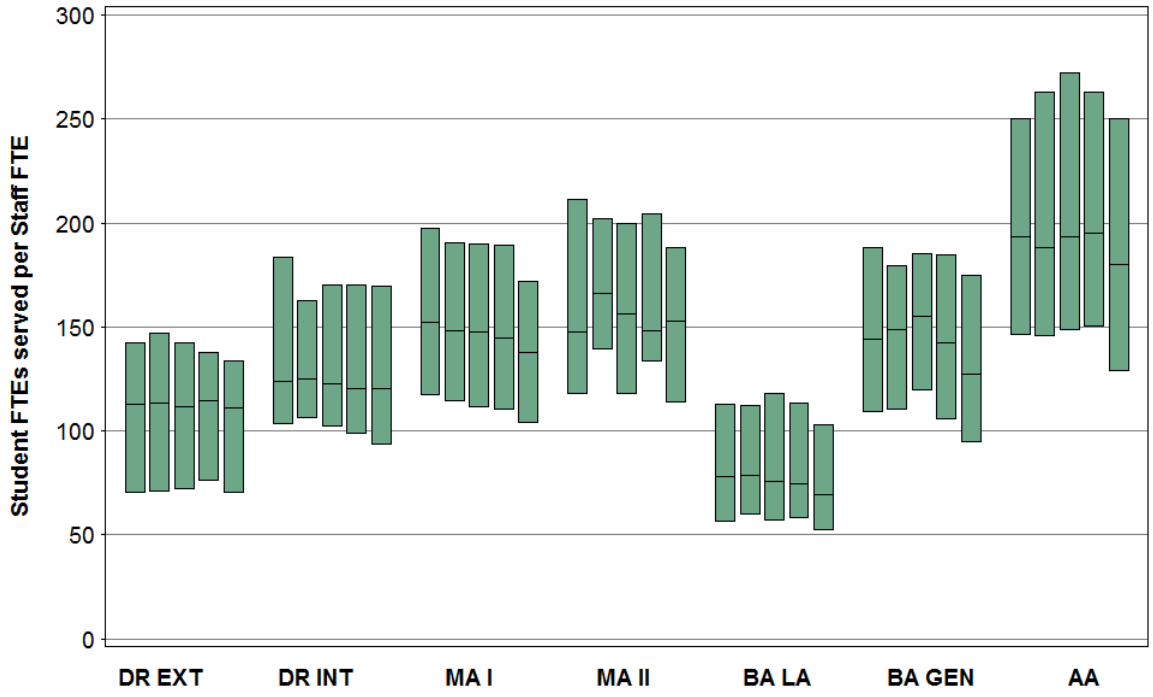

Figure 1-6 Student FTEs Served per Centralized IT staff FTE 2005–2009

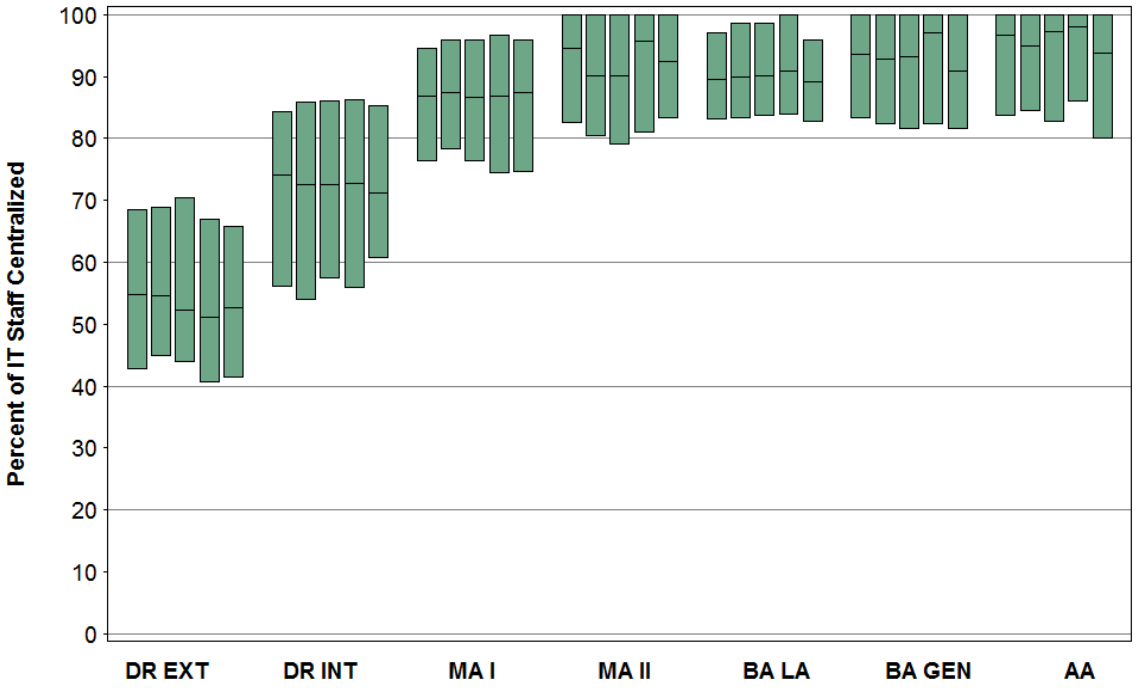

Figure 1-7 Centralized IT Staff as a Percentage of Total IT Staff 2005–2009

Table 1-2 Median Staff and Student Worker FTEs by Functional Area 2009

		DR EXT	DR INT	MA I	MA II	BA LA	BA GEN	AA
Administration of IT Organization, IT Planning	Staff	15	6	3	1	2	1	1
	Student	1	0	0	0	0	0	0
Administrative/Enterprise Information Systems	Staff	37	11	7	3	4	2	3
	Student	0	0	0	0	0	0	0
User Support Services, Training	Staff	17	10	6	2	4	2	4
	Student	2	2	2	1	1	0	0
Identity Management	Staff	14	6	2	1	1	0	1
	Student	0	0	0	0	0	0	0
Help Desk	Staff	8	5	3	2	2	1	1
	Student	5	3	3	1	2	2	0
IT Policy	Staff	1	0	0	0	0	0	0
	Student	0	0	0	0	0	0	0
IT Security	Staff	4	2	1	1	0	0	1
	Student	0	0	0	0	0	0	0
Instructional Technology, Student Computing	Staff	16	8	5	1	3	1	2
	Student	10	3	3	1	2	0	0
Network Infrastructure and Services	Staff	16	6	3	2	2	1	2
	Student	1	1	0	0	0	0	0
Operations, Data Center, Print Services	Staff	14	5	1	0	1	1	1
	Student	0	0	0	0	0	0	0
Research Computing	Staff	3	1	0	0	0	0	0
	Student	0	0	0	0	0	0	0
Telephony	Staff	11	6	2	1	1	1	1
	Student	0	0	0	0	0	0	0
Web Support Services	Staff	4	2	2	1	1	1	1
	Student	0	0	0	0	0	0	0
Other Function	Staff	4	3	2	2	1	1	2
	Student	0	0	0	1	0	0	0

Table 1-3 Median Percentage of Staff and Student Worker FTEs by Functional Area 2009

		DR EXT	DR INT	MA I	MA II	BA LA	BA GEN	AA
Administration of IT Organization, IT Planning	Staff	8%	9%	9%	8%	9%	10%	8%
	Student	3%	3%	2%	2%	1%	2%	1%
Administrative/Enterprise Information Systems	Staff	22%	17%	19%	20%	18%	18%	15%
	Student	2%	2%	1%	1%	0%	1%	1%
User Support Services, Training	Staff	10%	13%	14%	13%	17%	15%	19%
	Student	13%	20%	19%	17%	26%	10%	45%
Identity Management	Staff	9%	8%	6%	5%	5%	5%	4%
	Student	1%	2%	1%	0%	0%	0%	0%
Help Desk	Staff	4%	6%	7%	11%	7%	9%	8%
	Student	20%	19%	22%	32%	24%	33%	13%
IT Policy	Staff	0%	1%	1%	1%	1%	1%	1%
	Student	0%	0%	0%	0%	0%	0%	0%
IT Security	Staff	2%	2%	2%	2%	1%	2%	2%
	Student	1%	2%	0%	0%	0%	0%	0%
Instructional Technology, Student Computing	Staff	10%	13%	14%	10%	16%	11%	15%
	Student	41%	35%	38%	34%	36%	43%	30%
Network Infrastructure and Services	Staff	9%	7%	8%	11%	9%	10%	8%
	Student	4%	3%	3%	6%	2%	3%	3%
Operations, Data Center, Print Services	Staff	8%	8%	6%	4%	5%	6%	7%
	Student	3%	3%	2%	0%	1%	2%	1%
Research Computing	Staff	4%	3%	2%	2%	3%	2%	3%
	Student	3%	3%	2%	1%	2%	0%	2%
Telephony	Staff	8%	7%	5%	5%	4%	4%	3%
	Student	3%	3%	3%	0%	1%	2%	1%
Web Support Services	Staff	3%	4%	5%	4%	5%	6%	5%
	Student	4%	4%	3%	5%	4%	2%	2%
Other Function	Staff	2%	1%	2%	4%	1%	2%	3%
	Student	2%	1%	3%	2%	2%	2%	1%

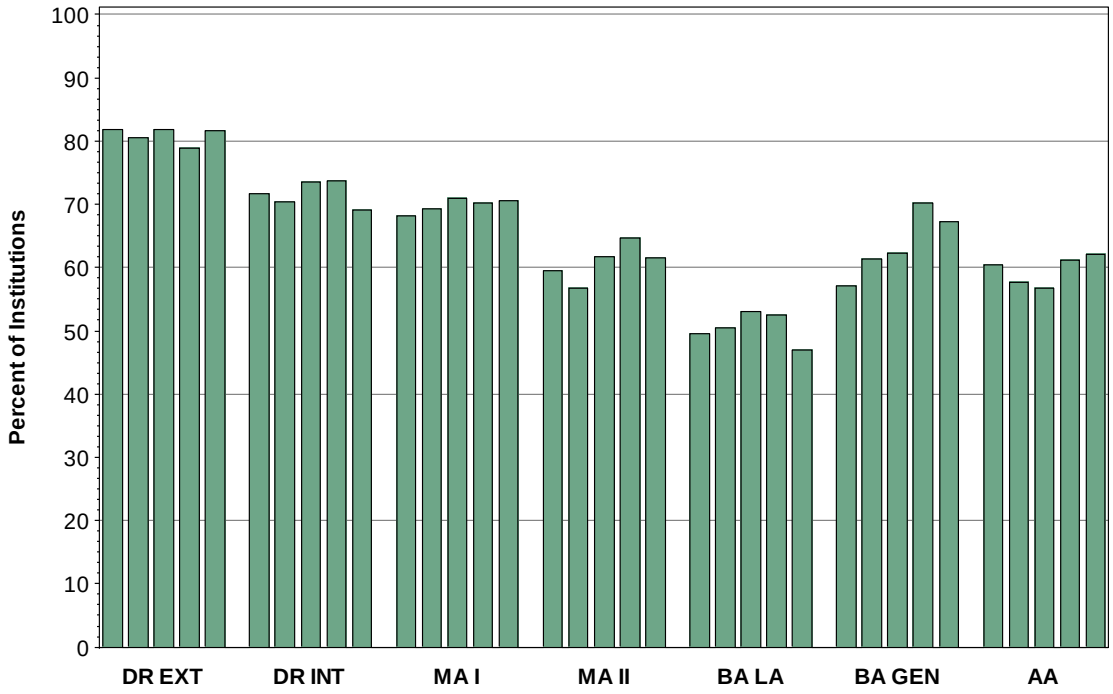

Figure 1-8 Separate Salary Scales 2005–2009

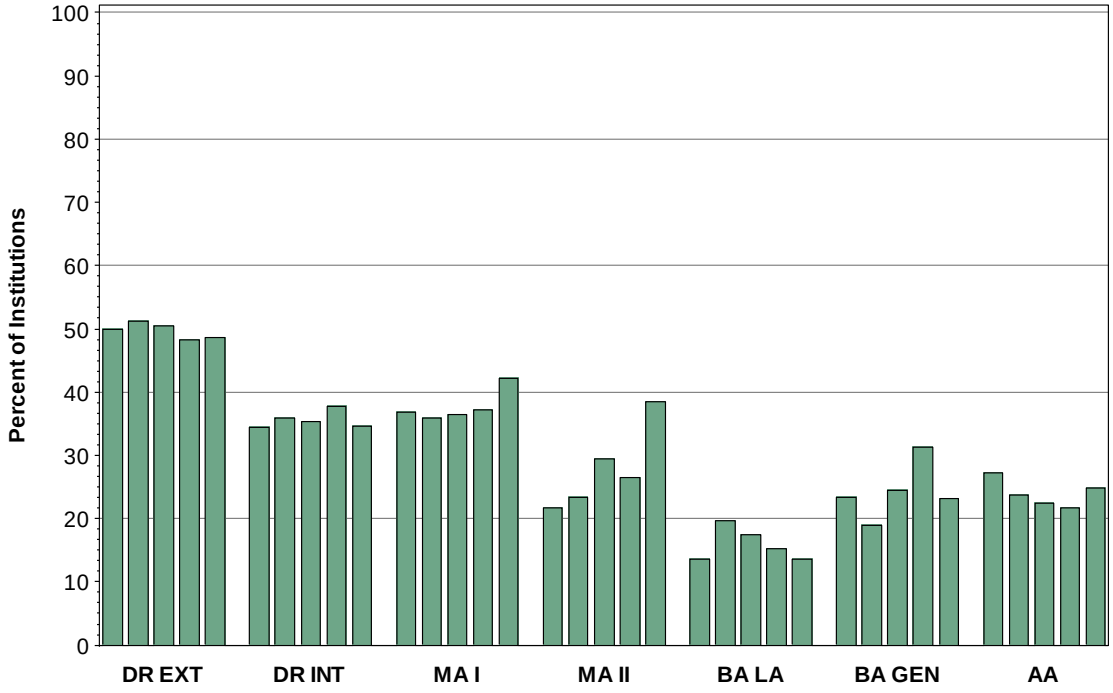

Figure 1-9 Separate Job Titles 2005–2009

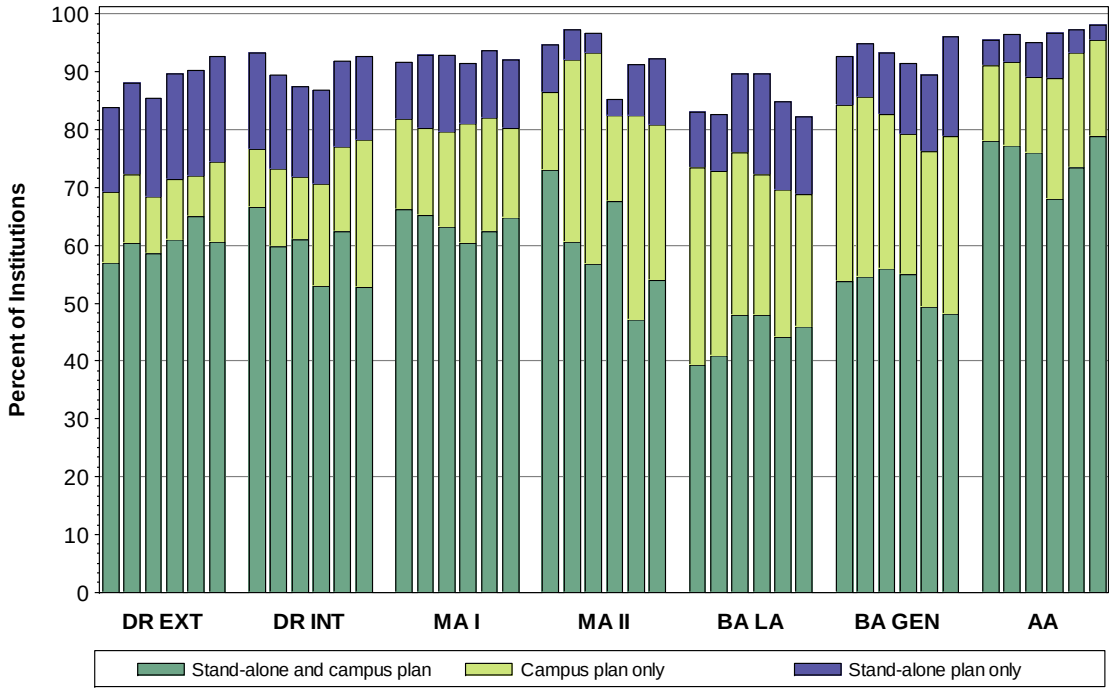

Figure 1-10 Stand-Alone and Campus Strategic Plans 2005–2009

Table 1-4 Advisory Groups to Centralized IT 2009

	DR EXT	DR INT	MA I	MA II	BA LA	BA GEN	AA
Trustee committee	35%	25%	22%	19%	34%	17%	6%
President's cabinet/council	69%	84%	82%	85%	79%	73%	85%
Administrative committee	85%	75%	67%	65%	64%	46%	66%
Acad. committee/fac. senate	85%	87%	77%	73%	67%	62%	61%
Tech. advisory committee	86%	87%	82%	65%	76%	69%	86%
Student committee	60%	56%	49%	42%	46%	27%	27%
State agency	25%	20%	21%	23%	0%	10%	36%
System office (multicampus)	17%	24%	32%	12%	0%	12%	36%
Other	25%	15%	13%	8%	7%	6%	8%
No IT advisory groups	1%	0%	1%	0%	0%	4%	1%

2 IT Financing and Management

Section two of the 2009 survey captures financial data from 17 questions about information technology on campus for fiscal year 2008–2009. The section also covers IT management practices, many of which have financial implications. Summarizing the funding and expenditures of campus IT organizations is a challenge. The CDS attempts to define parameters and methodology that would be relevant for all types of institutions.

Figure 2-1 and Figure 2-2 summarize trends in the distributions of centralized IT funding in millions of dollars in nominal (reported) dollars and adjusted for inflation to 2009 dollars,[1] respectively. After adjusting for inflation, most Carnegie classes[2] show an increase in median IT funding over the past five years. Increases in funding have roughly kept pace with enrollment,[3] even outpacing enrollment in 2009, including DR EXT, as shown in Figure 2-3 and Figure 2-4.

Respondents were offered a list of nine sources of funding for central IT organizations, plus a category of "Other funding." For each category, respondents indicated the amount of funding received from that source. Respondents were not allowed to skip any source; the survey required an entry of $0 or a non-zero value. The percentage of institutions reporting non-zero entries for each source is summarized in Table 2-1. Respondents could choose multiple sources of funding, so the columns of the table do not add to 100%. Other than DR EXT institutions, most campuses were able to capture all of their funding in one of the nine sources. (Refer to the percentage of institutions indicating "Other funding.")

As shown in Table 2-1, almost all institutions report funding from operating appropriation, and approximately two-thirds report funding from capital appropriations. Other funding sources are more variable across classes, notably revenue from sale of centralized services. Trends in operating appropriations are summarized in Figure 2-5 and Figure 2-6. Figure 2-7 shows operating appropriations per student FTE.

As seen in Figure 2-8, staff compensation as a percentage of centralized IT funding has been fairly consistent within classes over the past five years, with some differences among classes. Trends in staff and student worker compensation (including benefits) per FTE are summarized in Figure 2-9 through Figure 2-12. Compensation has remained fairly stable for both groups, especially after adjusting for inflation. Table 2-2 shows different types of personnel employed by the central IT organization. Figure 2-13 displays trends over time in percent of total compensation used for each type of personnel. Not surprisingly, the bulk of compensation is used for staff across all classes. The percentage of the budget used for consultants and contractors is about the same across classes.

Ongoing professional development can be a critical factor in recruiting, retaining, and retraining a qualified IT staff. Respondents were asked how many dollars are set aside in the annual budget for professional development or training per centralized FTE IT staff member. The amount of funding budgeted per year per FTE has remained fairly stable within each class, as seen in Figure 2-14.

IT-related expenditures outside the centralized IT organization vary dramatically across classes. This includes expenditures for categories such as personnel, hardware, and software in administrative offices and academic departments. Only about 70% of respondents could give a reasonable estimate of decentralized IT compensation, and less than 60% could give a reasonable estimate for other decentralized IT expenditures. DR institutions were least likely to be able to estimate decentralized expenditures, owing perhaps to their institutional complexity and distributed nature and the higher level of decentralized IT activities. Because the response rate is lower and the precision of responses is questionable, they are not presented in this report.

Figure 2-15 shows trends in the percentage of schools charging a general student technology fee. BA LA institutions are far less likely to have such a fee in place. Figure 2-16 shows that, when charged, the student technology fee is most often charged as a flat fee per year, semester, or quarter, except at AA institutions, which are more likely to charge a flat fee per credit hour. This is not surprising, due to the relatively high percentage of part-time students at these institutions.

Another type of technology fee is a separate fee for residence-hall network connections. Overall, this is not a common practice and has become slightly less common in the past year. In the 2009 survey, only about 12% of all campuses report charging such a fee. More detailed data are not included in this report.

Figure 2-17 summarizes the number of computers owned or leased by the institution per student FTE. In general, there is an increasing trend across the past five years. It is challenging for IT managers to assure that this equipment is replaced in a timely fashion in order to capitalize on newer technologies and to reduce support costs. As seen in Figure 2-18, from 50% (DR EXT) to nearly 90% (MA II) of campuses report having planned computer replacement cycles in place. Most cycles fall in the three-to-four-year range, although over 20% of MA II and AA institutions reported planned replacement cycles greater than four years in 2009.

Not all institutions provide funding to support computer replacement plans, however. As shown in Figure 2-19, the percentage of computers with budgeted replacement funding varies widely, even within classes. Irrespective of formal replacement plans and budgets, Figure 2-20 shows trends in the percent of institutionally owned computers actually replaced each year. Based on the number of institutions lacking funded replacement cycles, many institutions are reporting a low percentage of computers replaced: the median percentage of computers replaced ranges from 20% to 25% across the seven Carnegie classes.

As with computers, network infrastructure must also be refreshed or replaced. As shown in Figure 2-21, fewer than 60% of the institutions in any of the seven Carnegie classes report that their centralized IT funding model includes renewal of cabling, electronics, and related hardware and software. While some institutions fill gaps with one-time allocations and end-of-the-year "budget dust," absence of a robust funding model for critical infrastructure represents a serious problem on many campuses.

Respondents were asked about the use of service level agreements (SLAs) between the centralized IT organization and departments, and about outsourcing to external service providers. Figure 2-22 and Figure 2-23 show institutions reporting use of SLAs and external service providers, respectively. Use of both has been increasing in most classes. Table 2-3 and Table 2-4 provide more detail about how SLAs and external service providers are being used. Note that respondents could select multiple options, so the columns do not sum to 100%.

Endnotes

1. The US Bureau of Labor Statistics provides an "inflation calculator" at http://data.bls.gov/cgi-bin/cpicalc.pl. Using this calculator, data from previous surveys was converted to 2009 US dollars.
2. This CDS summary report uses the basic classification system from the 2000 version of *The Carnegie Classification of Higher Education*. See Appendix D for more detail. The seven classes with the largest number of respondents are included in this report:

   DR EXT (Doctoral Institutions/Extensive): 50 or more doctoral degrees per year across at least 15 disciplines
   DR INT (Doctoral Institutions/Intensive): 10 or more doctoral degrees per year across three or more disciplines or at least 20 doctoral degrees per year overall
   MA I (Master's Institutions I): 40 or more Master's degrees per year across three or more disciplines
   MA II (Master's Institutions II): 20 or more Master's degrees per year
   BA LA (Baccalaureate Colleges–Liberal Arts): At least half of baccalaureate degrees in liberal arts fields
   BA GEN (Baccalaureate Colleges–General): Less than half of baccalaureate degrees in liberal arts fields
   AA (Associate's Colleges): Offer Associate's degrees, but typically no baccalaureate degrees

3. Data on student enrollment FTEs is collected from the Integrated Postsecondary Education Data System (IPEDS). IPEDS is a single, comprehensive data-collection program designed to capture data for the National Center for Education Statistics (NCES) for all institutions and educational organizations whose primary purpose is to provide postsecondary education in the United States. Among other data, campuses report the number of full-time and part-time undergraduate, graduate, and professional students to IPEDS. The total of those three categories is imported in to the CDS database as "total student headcount." The FTE student number is derived by adding the total full-time student number to one-third the total number of part-time students for all three categories.

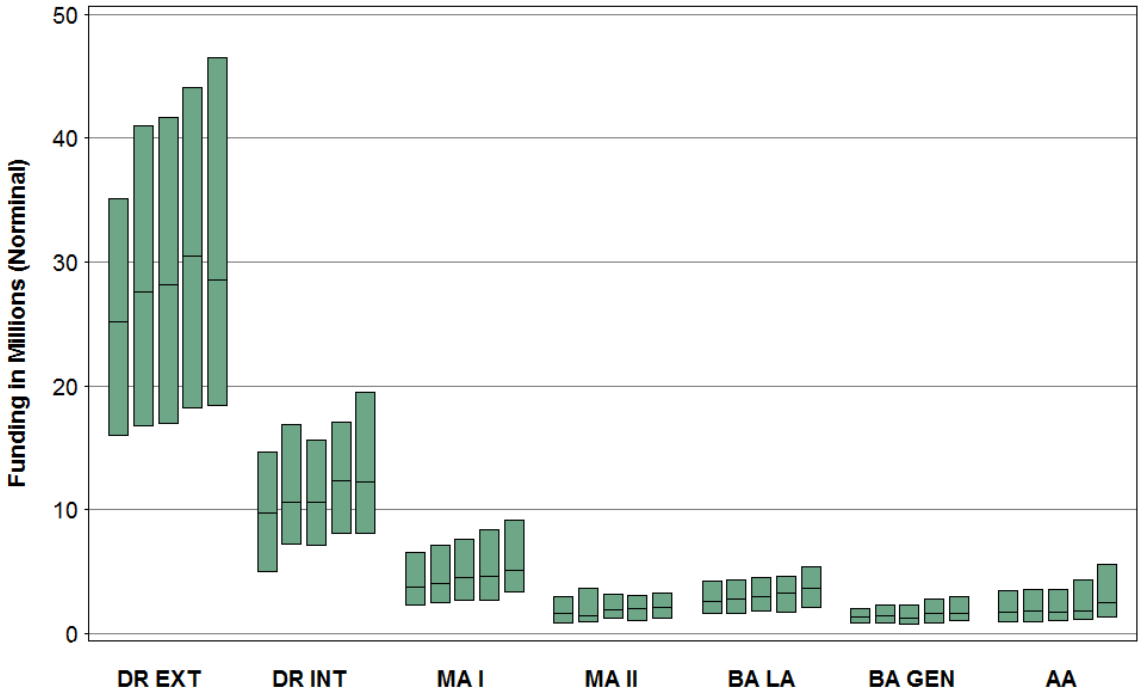

Figure 2-1 Centralized IT Funding (Nominal) 2005–2009

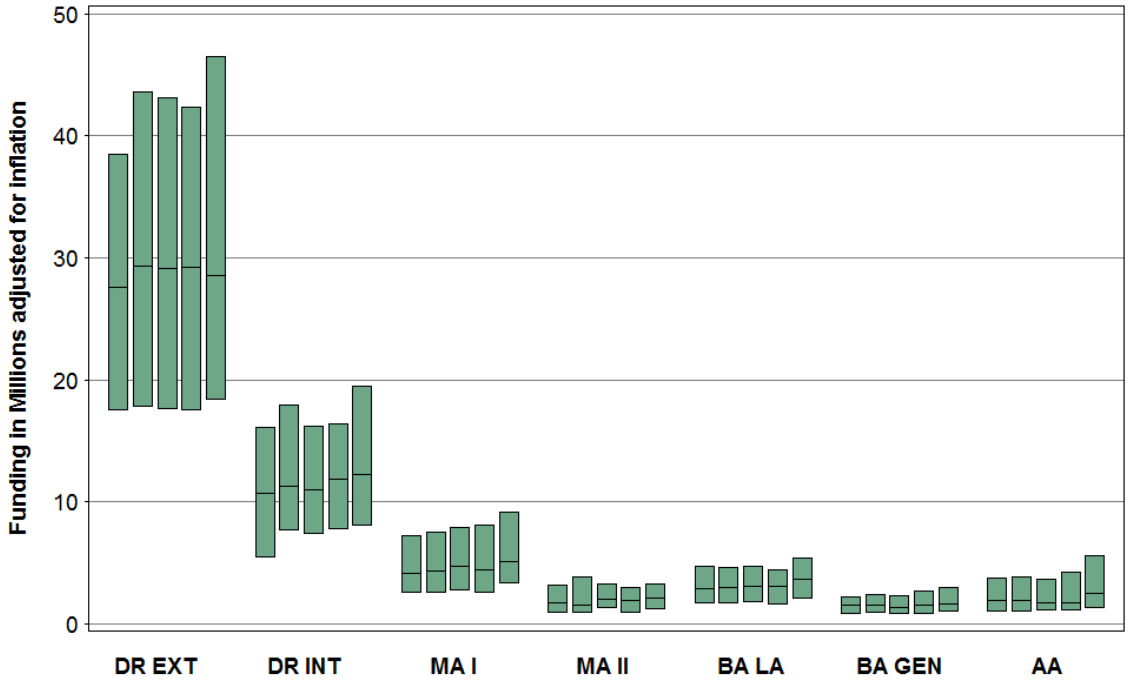

Figure 2-2 Centralized IT Funding (Adjusted for Inflation) 2005–2009

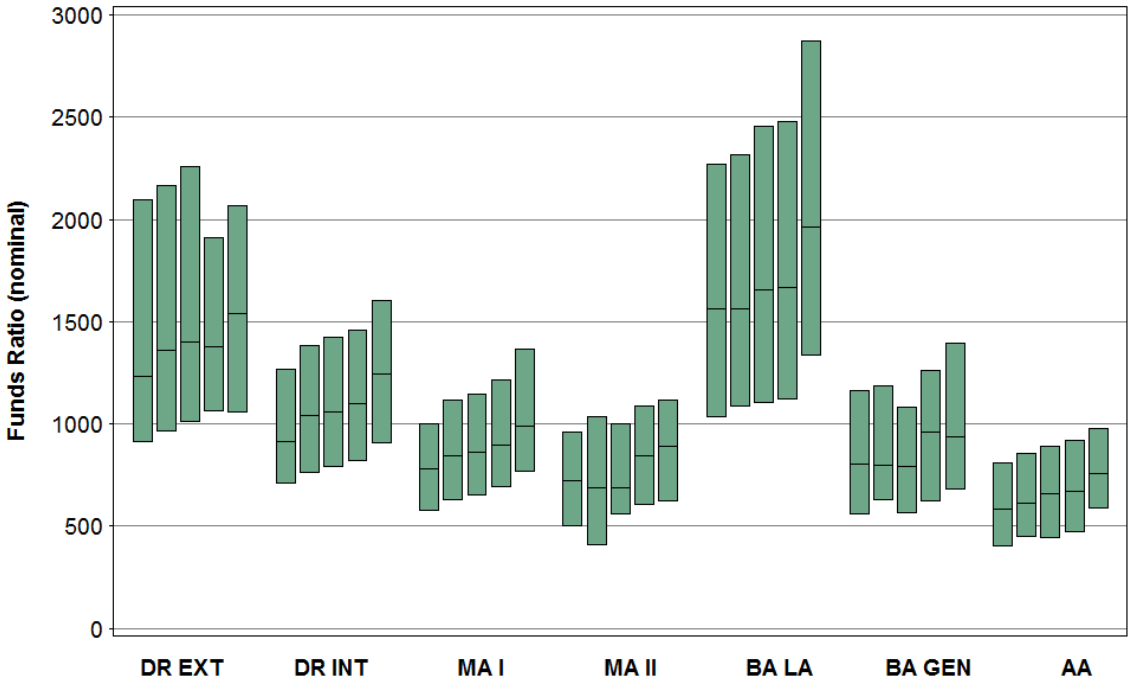

Figure 2-3 Centralized IT Funding per Student FTE (Nominal) 2005–2009

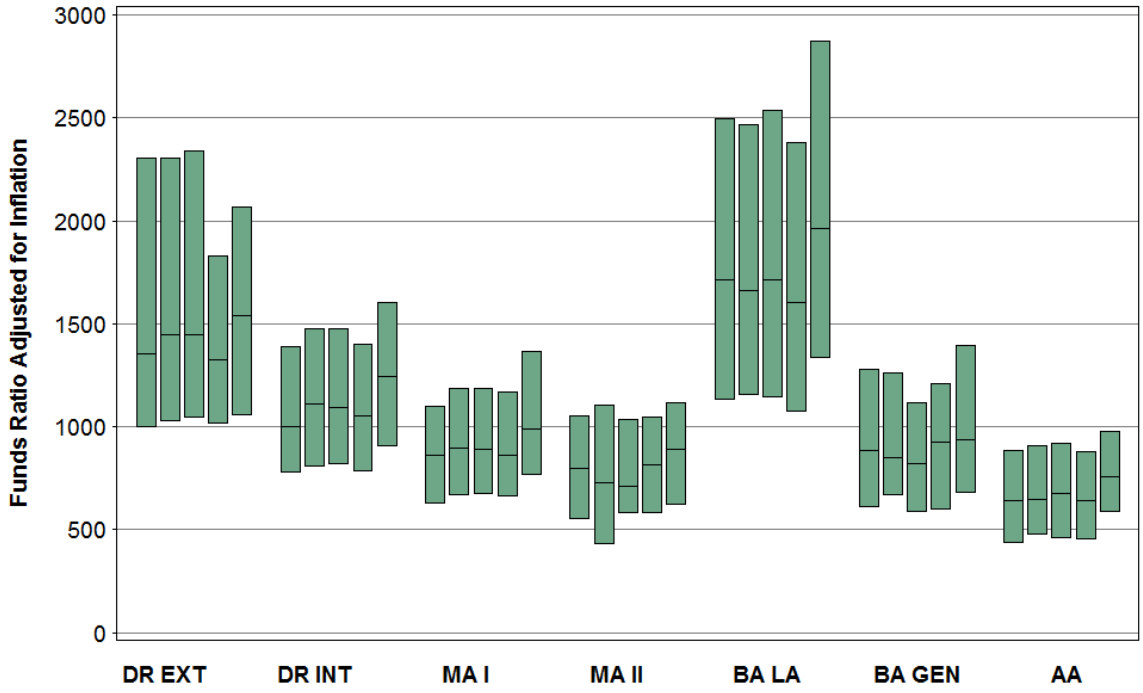

Figure 2-4 Centralized IT Funding per Student FTE (Adjusted for Inflation) 2005–2009

Table 2-1 Percent of Institutions Reporting Sources of Centralized IT Funding 2009

	DR EXT	DR INT	MA I	MA II	BA LA	BA GEN	AA
Operating appropriations	100%	100%	100%	100%	100%	98%	99%
Capital appropriations	65%	62%	61%	69%	73%	51%	58%
Appropriation from revenue generated from student technology fees	44%	36%	40%	19%	6%	20%	50%
Revenue from sale of centralized services	95%	73%	45%	31%	38%	27%	12%
Revenue from sale to entities external to the campus	36%	15%	6%	0%	7%	0%	1%
Net revenue from resale of products to campus community	28%	22%	9%	4%	8%	4%	2%
Net revenue from resale of products to entities external to the campus	12%	9%	4%	4%	3%	6%	0%
Your campus share of a multicampus system dollar equivalent for systems or services provided at the system or district level for which the campus is not charged	8%	18%	21%	23%	4%	16%	25%
Compensation for staff from an institutional budget	27%	15%	24%	15%	26%	27%	18%
Other funding category	33%	13%	15%	19%	9%	18%	13%

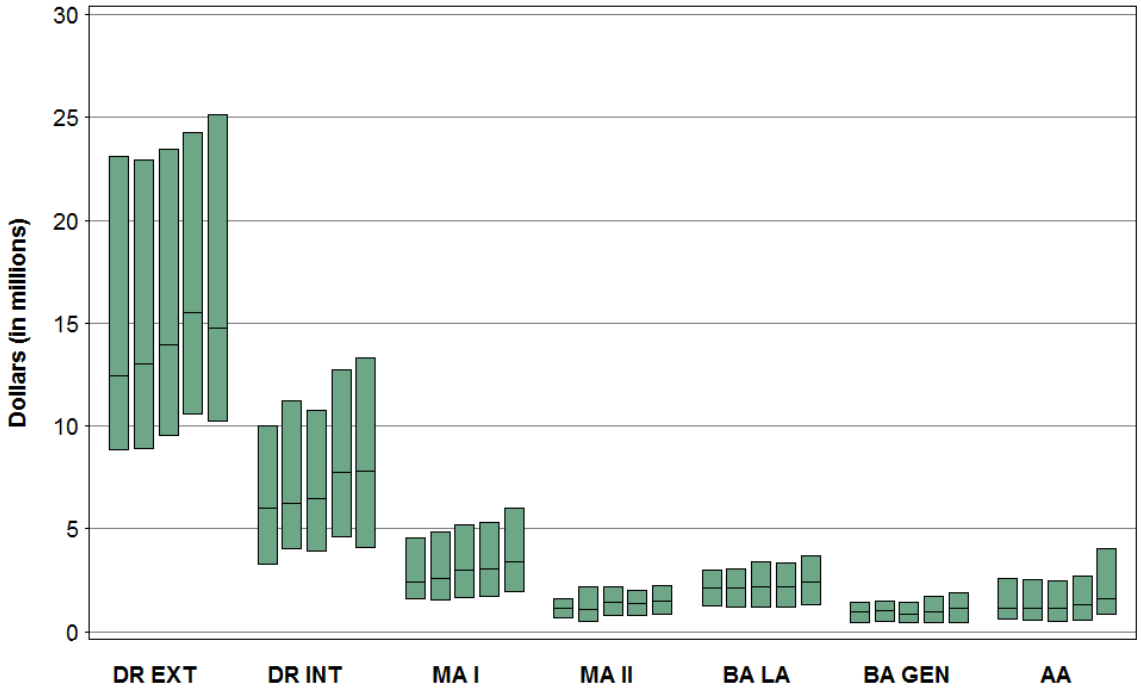

Figure 2-5 Operating Appropriation (Nominal) 2005–2009

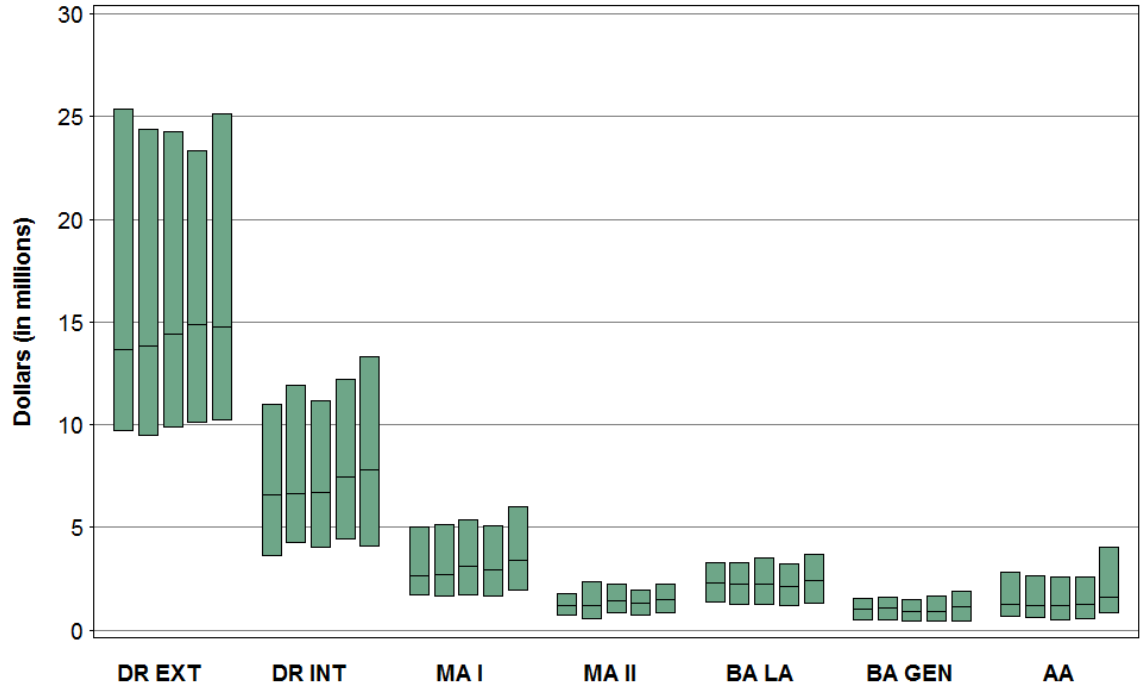

Figure 2-6 Operating Appropriation (Adjusted for Inflation) 2005–2009

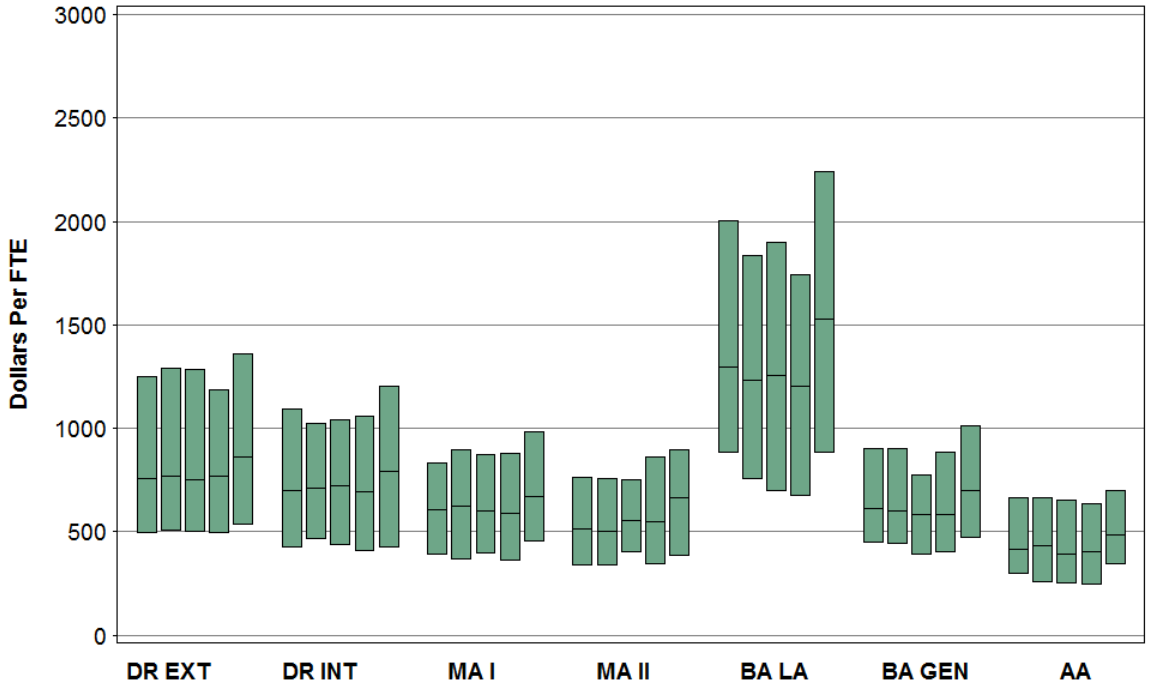

Figure 2-7 Operating Appropriation per Student FTE (Adjusted for Inflation) 2005–2009

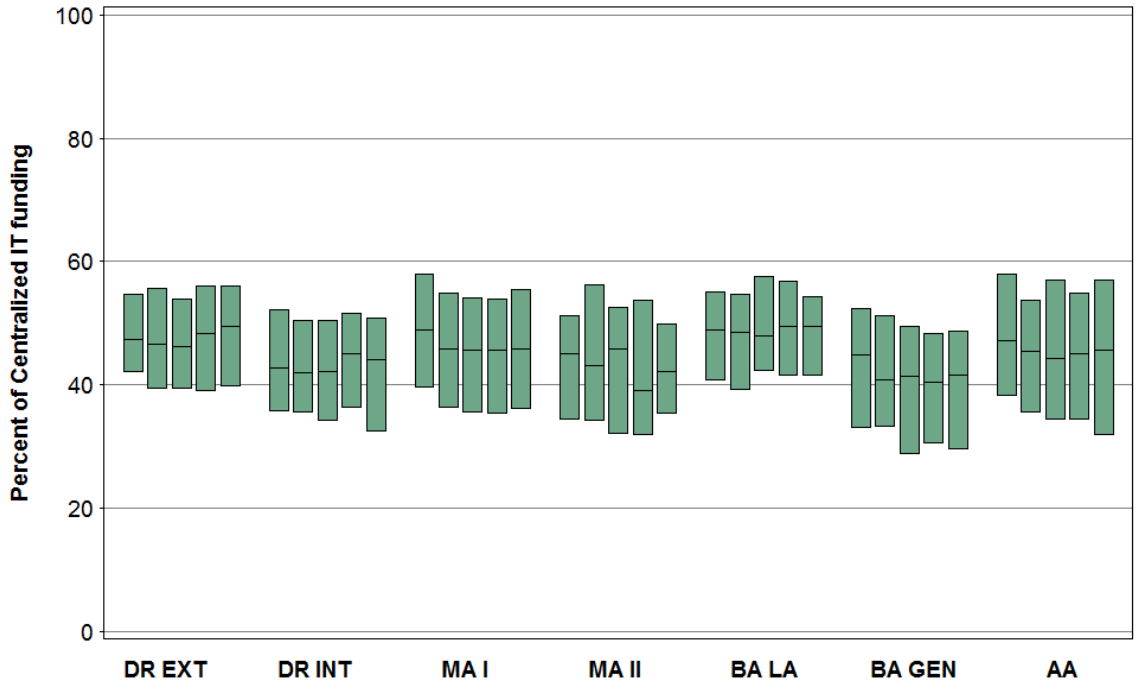

Figure 2-8 Staff Compensation as Percentage of Centralized IT Funding 2005–2009

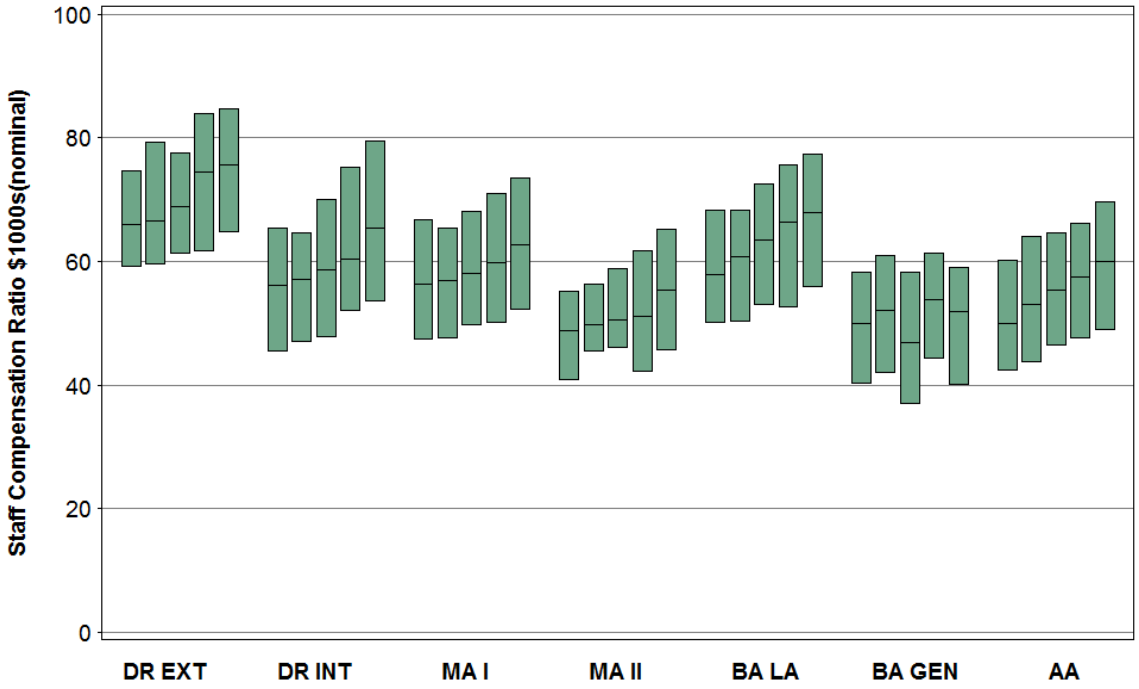

Figure 2-9 Staff Compensation per FTE (Nominal) 2005–2009

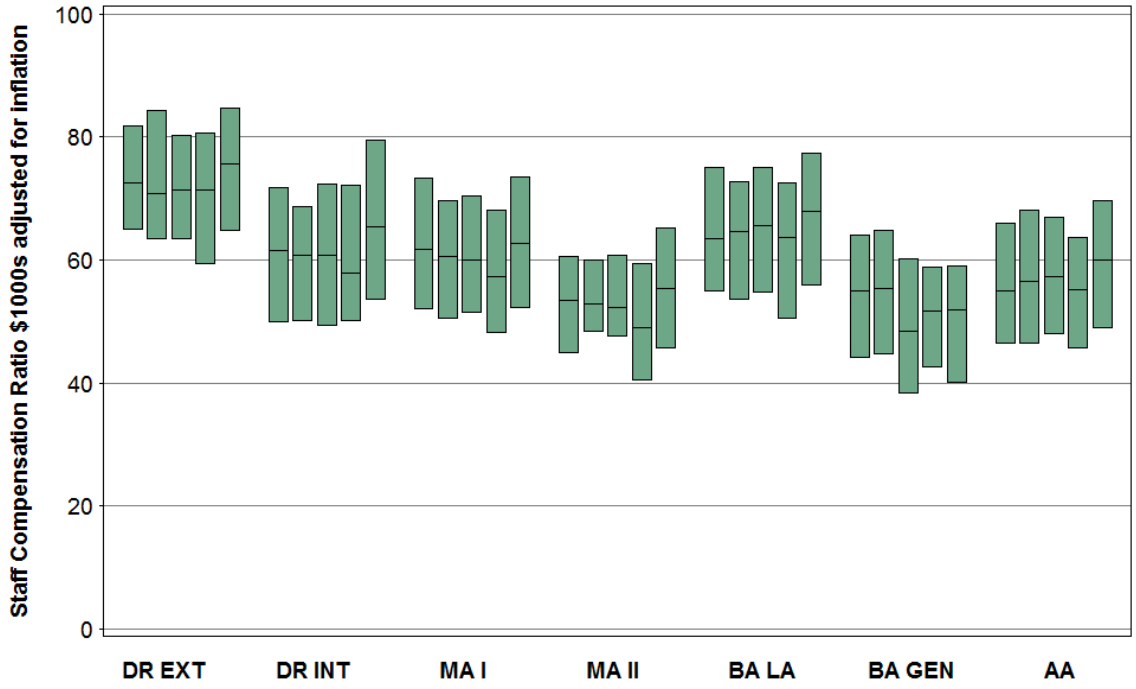

Figure 2-10 Staff Compensation per FTE (Adjusted for Inflation) 2005–2009

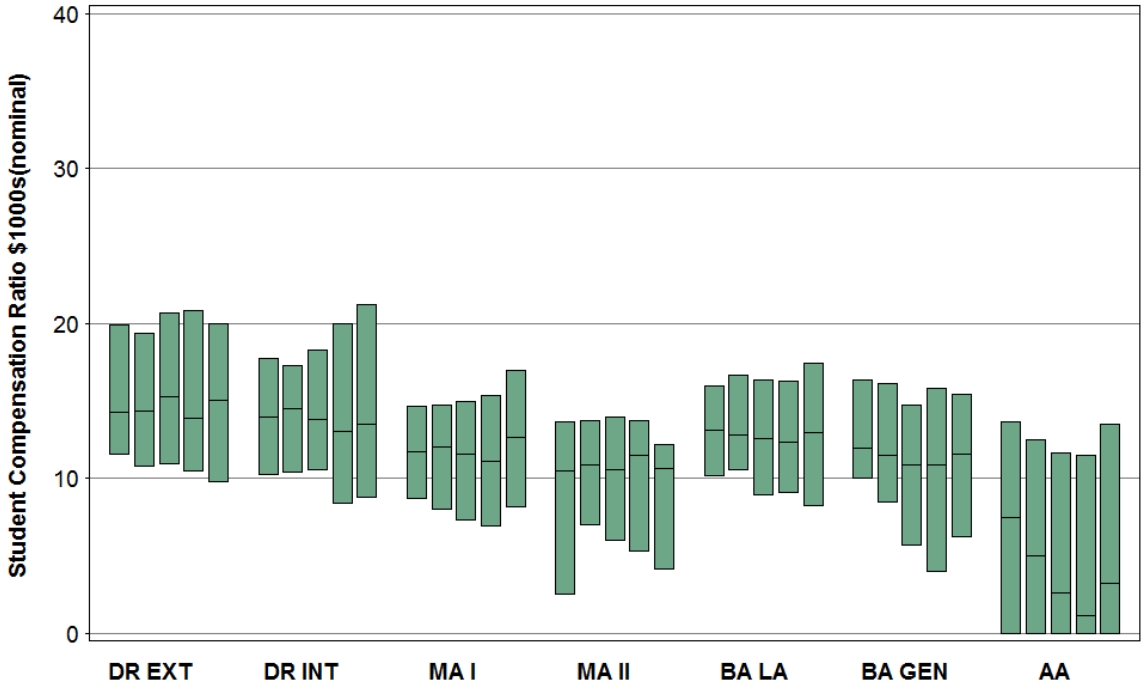

Figure 2-11 Student Worker Compensation per FTE (Nominal) 2005–2009

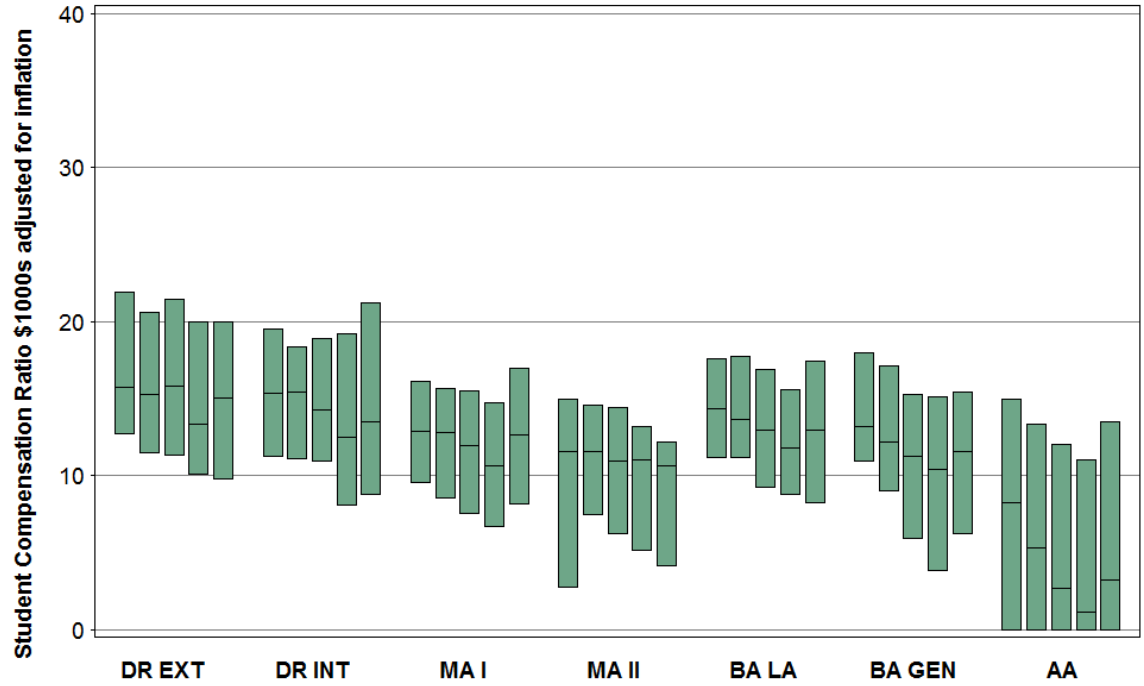

Figure 2-12 Student Worker Compensation per FTE (Adjusted for Inflation) 2005–2009

Table 2-2 Use of Various Types of Personnel 2009

	DR EXT	DR INT	MA I	MA_II	BA LA	BA GEN	AA
Staff	100%	100%	96%	96%	89%	88%	98%
Students	97%	95%	93%	81%	95%	90%	58%
Consultants	61%	49%	45%	46%	43%	43%	44%
Contractors	45%	35%	28%	27%	35%	33%	34%
Other	6%	5%	3%	0%	3%	0%	5%

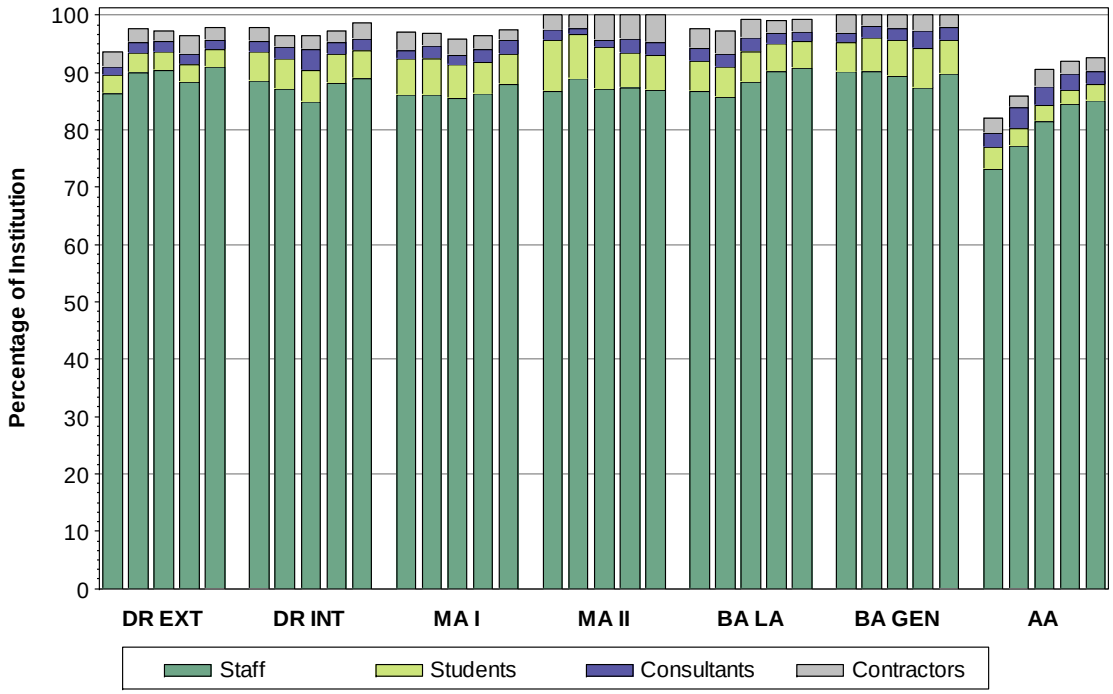

Figure 2-13 Percent of Total Compensation for Various Types of Personnel 2005-2009

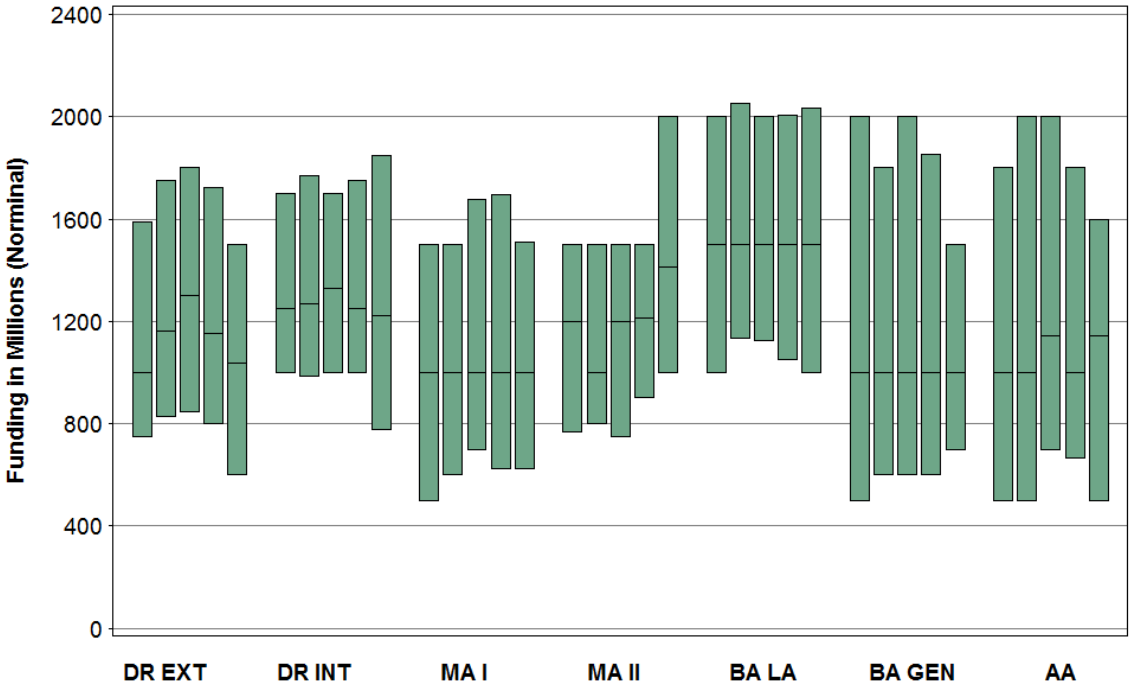

Figure 2-14 Annual Budget for Professional Development per Staff Member 2005–2009

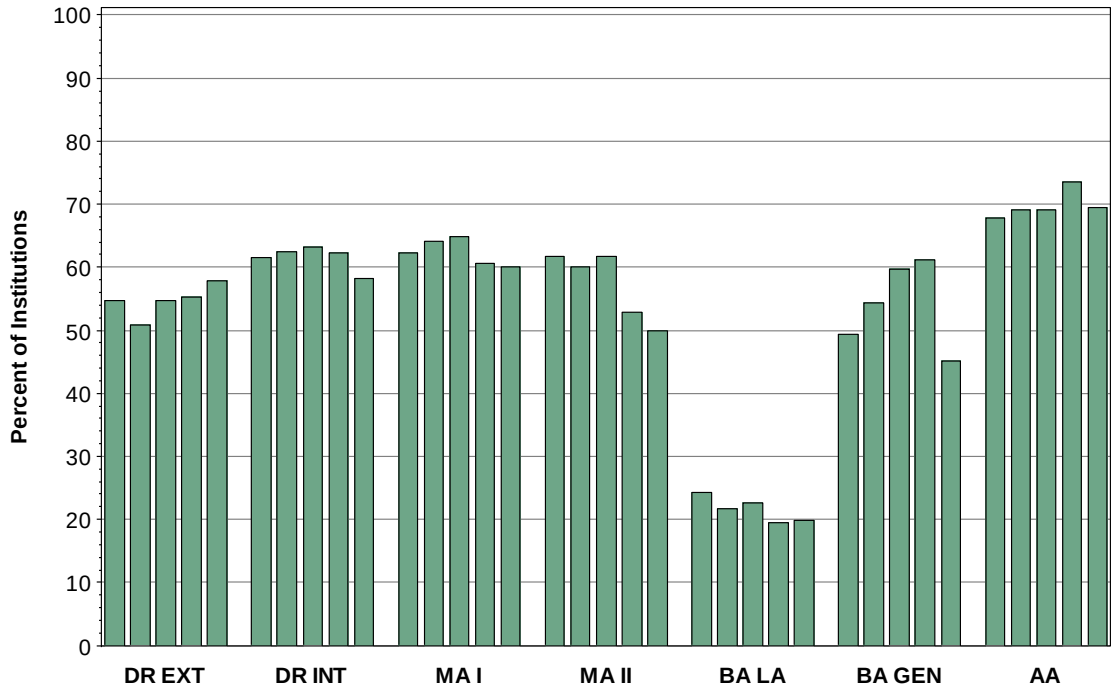

Figure 2-15 Charging of Student Technology Fees 2005–2009

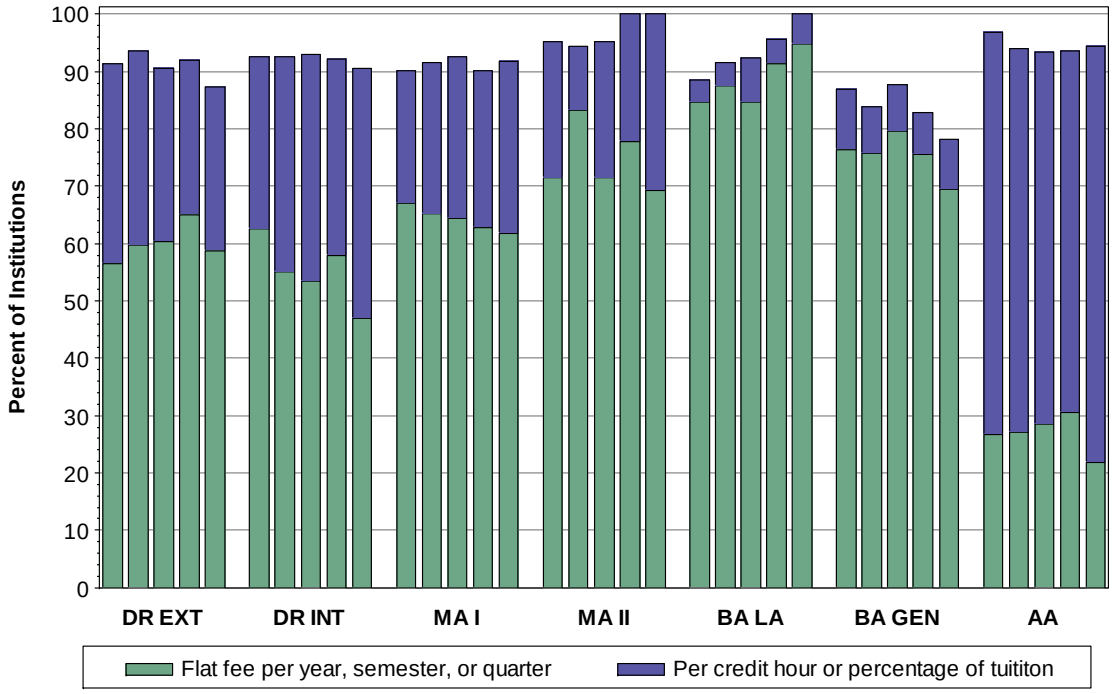

Figure 2-16 Method of Charging Technology Fee 2005–2009

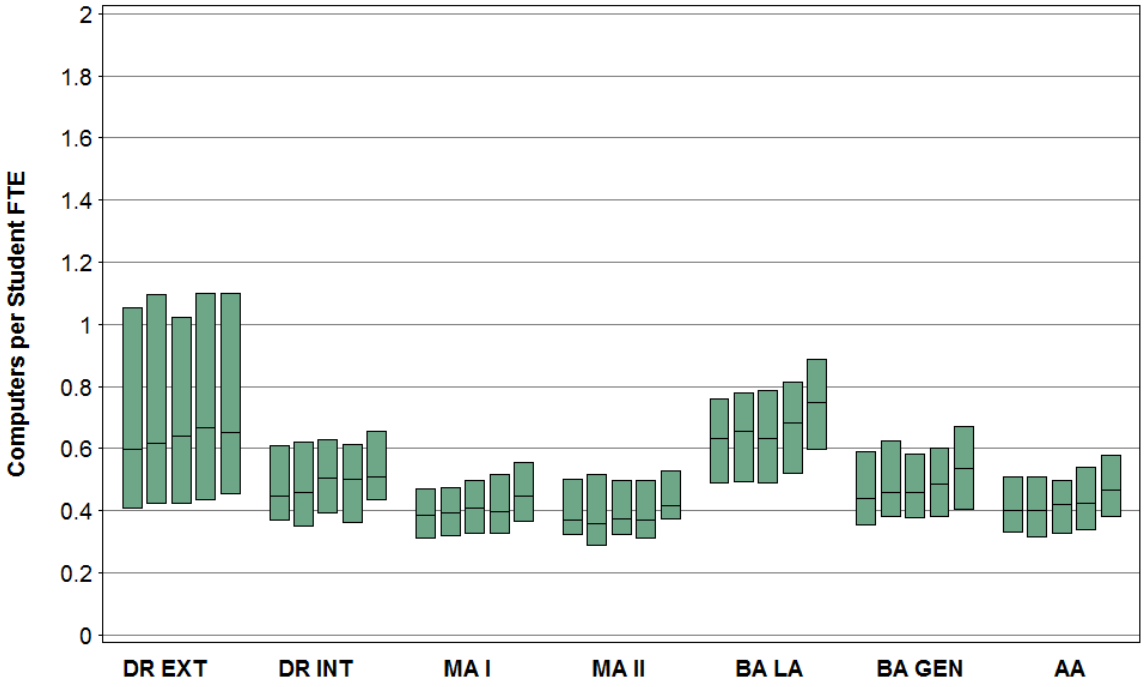

Figure 2-17 Computers Owned/Leased by the Institution per Student FTE 2005–2009

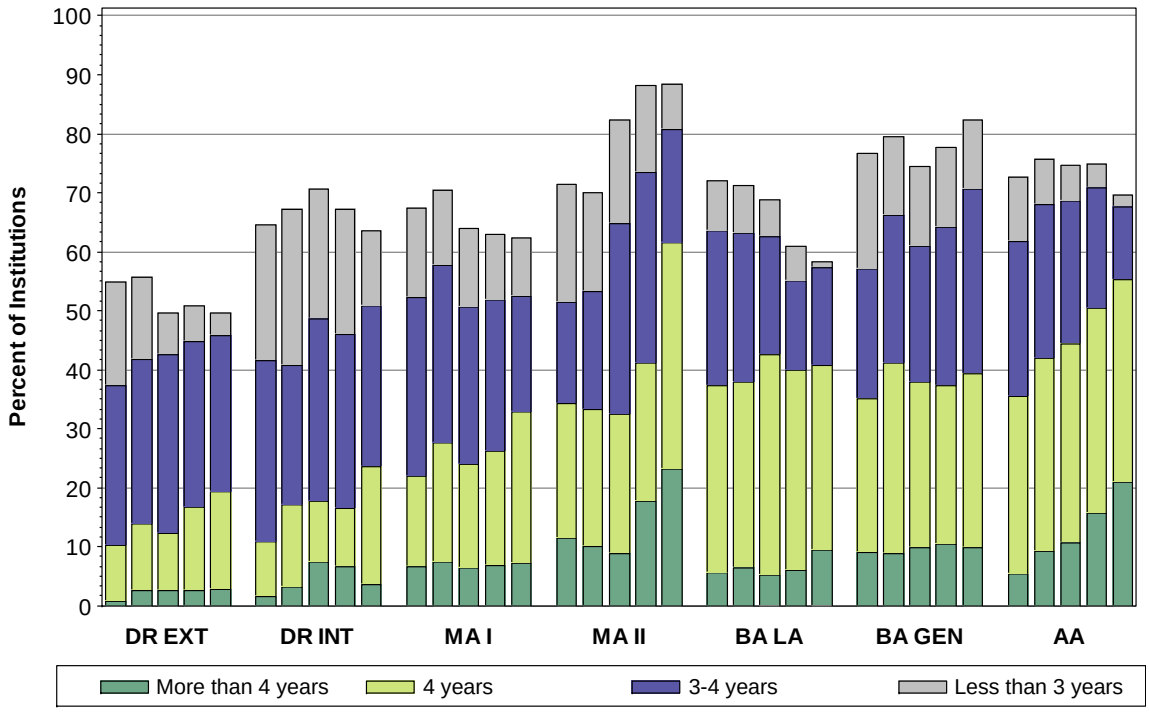

Figure 2-18 Computer Replacement Cycles 2005–2009

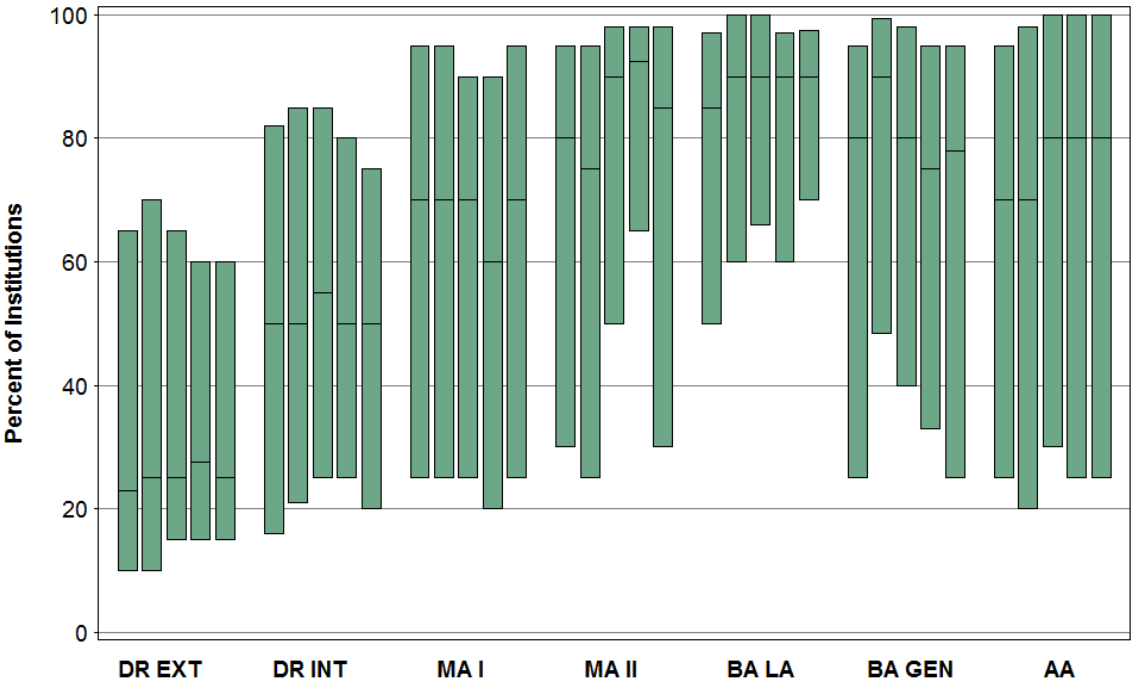

Figure 2-19 Replacement Funding for Computers 2005–2009

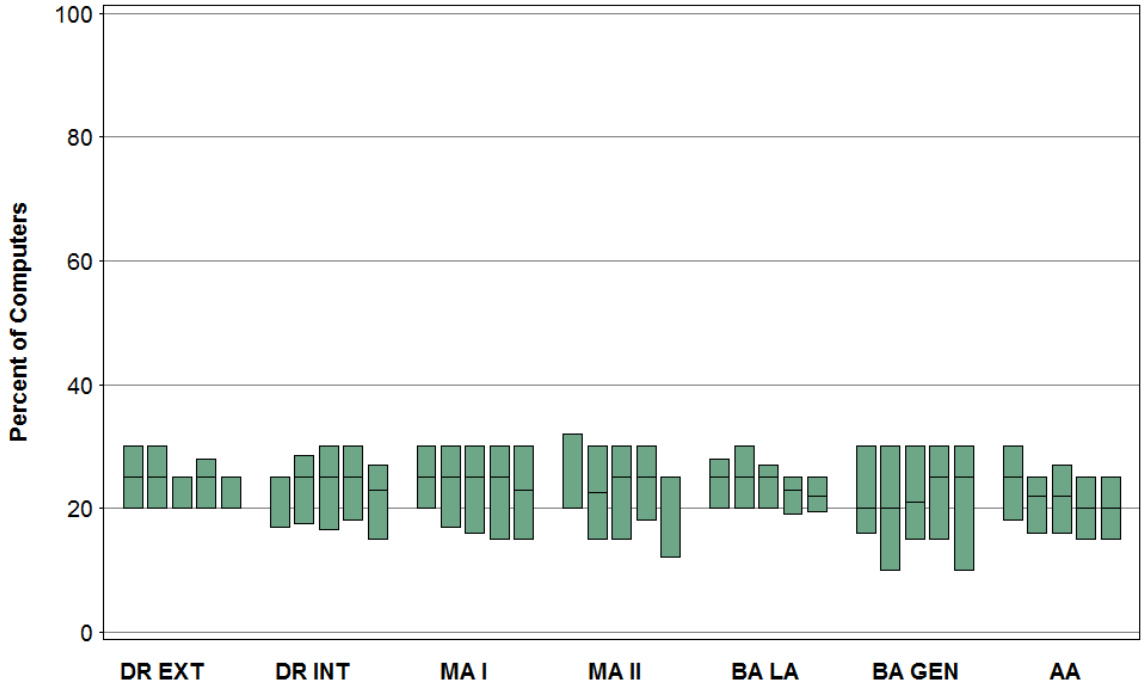

Figure 2-20 Actual Replacement of Computers 2005–2009

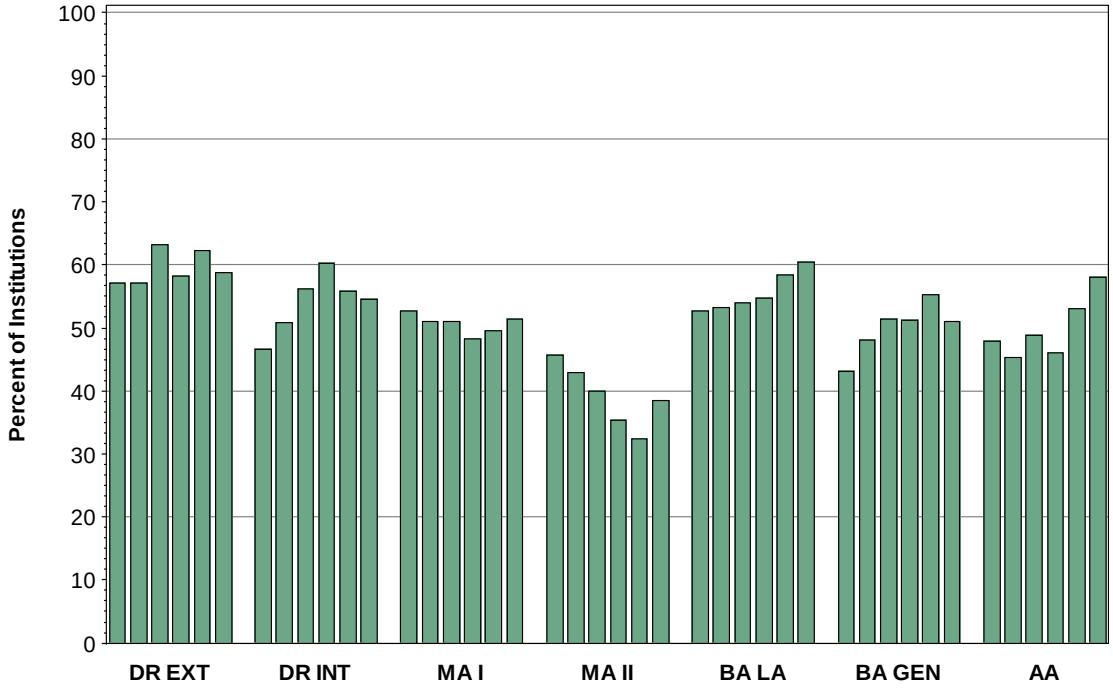

Figure 2-21 Funding for Network Infrastructure Renewal 2005–2009

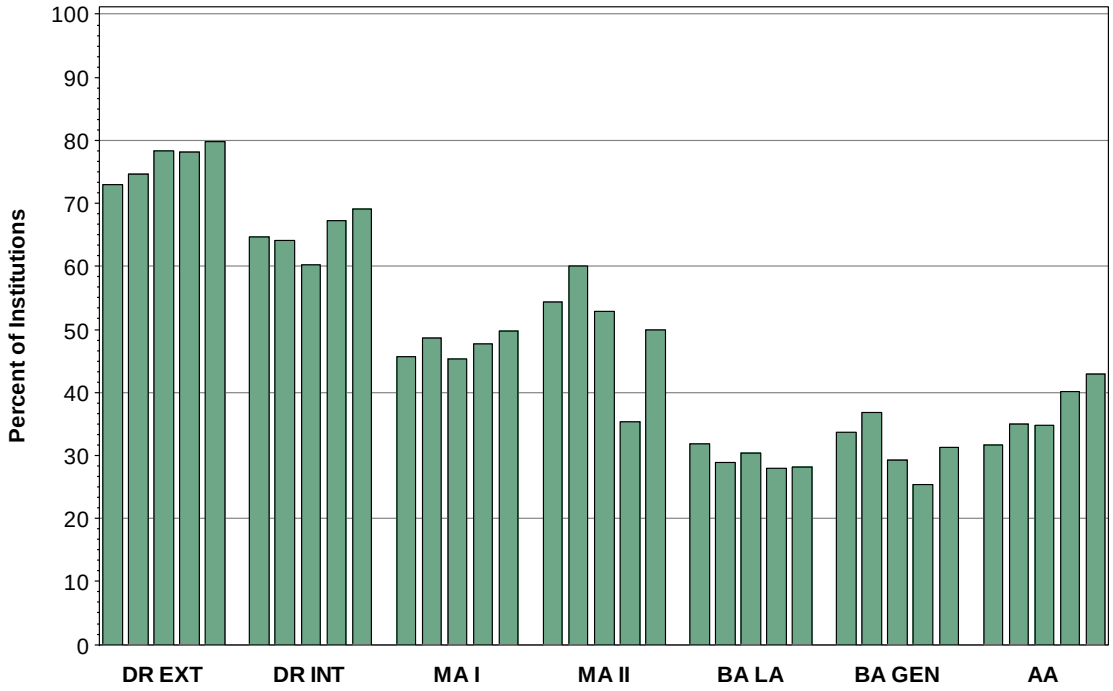

Figure 2-22 Use of Service Level Agreements (SLAs) 2005–2009

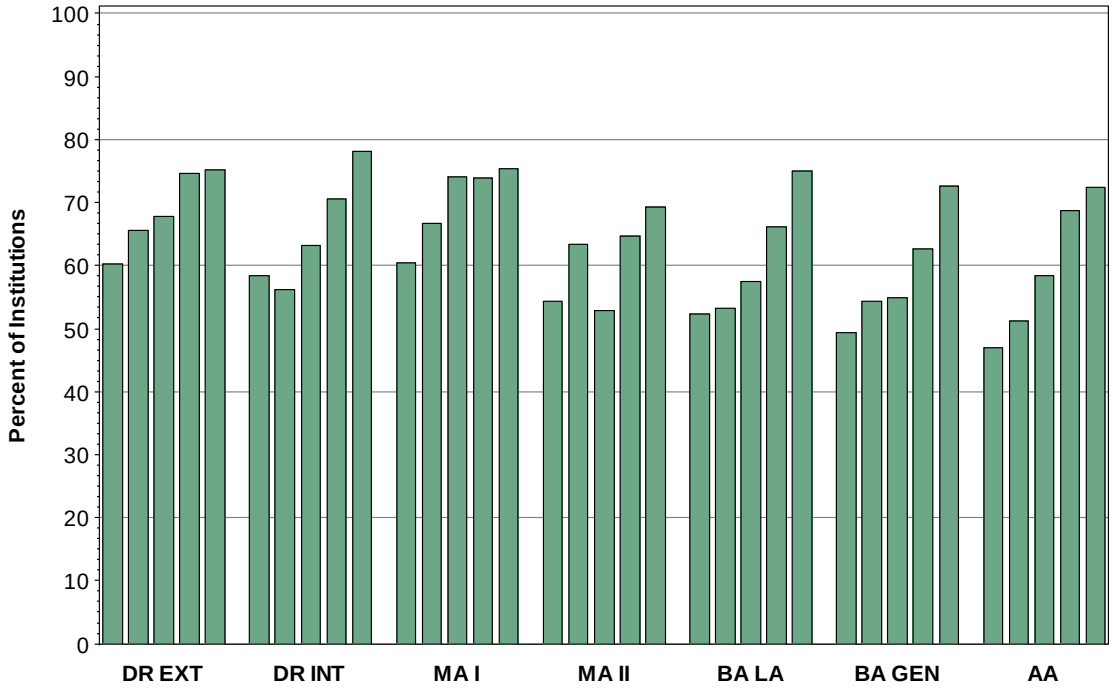

Figure 2-23 Use of External Suppliers 2005–2009

Table 2-3 Use of SLAs 2009

	DR EXT	DR INT	MA I	MA II	BA LA	BA GEN	AA
Academic/research support	36%	29%	16%	8%	4%	0%	8%
Admin/enterprise info systems support	37%	31%	25%	27%	13%	22%	23%
Computer/network security	19%	24%	11%	19%	5%	6%	22%
Data center services	50%	40%	21%	35%	7%	12%	17%
User support serv./help desk	56%	49%	31%	31%	17%	16%	31%
Instruc. technology support	21%	29%	16%	19%	4%	6%	13%
Multimedia services	17%	16%	13%	12%	4%	4%	13%
Network services	35%	31%	22%	31%	10%	14%	25%
Print services	14%	16%	11%	19%	4%	10%	15%
Telephone services	32%	33%	26%	23%	6%	16%	23%
Training	5%	5%	4%	4%	3%	2%	5%
Web support services	29%	24%	16%	15%	2%	6%	12%
Other	21%	13%	9%	4%	2%	4%	3%
No SLAs	20%	31%	50%	50%	72%	69%	57%

Table 2-4 Use of External Suppliers 2009

	DR EXT	DR INT	MA I	MA II	BA LA	BA GEN	AA
Admin. system(s): transaction systems operation	27%	20%	24%	12%	17%	14%	17%
Admin. systems: application development	9%	11%	9%	4%	4%	8%	13%
Admin. systems: project mgmt for implementations	12%	9%	8%	8%	2%	2%	10%
All/nearly all centralized IT staff and services	0%	2%	2%	0%	0%	0%	2%
CIO/top IT administrator	0%	0%	2%	0%	0%	2%	3%
Computer and network security	2%	9%	4%	0%	0%	2%	3%
Computer operations	2%	4%	3%	0%	2%	0%	3%
Data center	5%	2%	5%	0%	2%	0%	2%
Desktop computer maintenance, and/or repair services	11%	16%	9%	4%	11%	4%	4%
Distance education	9%	7%	13%	12%	1%	2%	17%
Help desk	7%	15%	8%	0%	2%	6%	15%
Course management system	10%	24%	25%	23%	19%	16%	31%
Multimedia services	4%	2%	4%	0%	4%	4%	4%
Network services on campus	4%	5%	3%	0%	6%	2%	4%
Portal	4%	11%	5%	8%	3%	2%	4%

3 Faculty and Student Computing

Section three of the survey contained 11 questions about the support centralized IT organizations provide to the faculty and students at the institution. This section of the report includes analyses of characteristics of such support across a range of technologies.

Nearly all institutions provide a central help desk. The number of hours that the help desk is open during the academic year varies widely, across and within Carnegie classes,[1] as shown in Figure 3-1. While there is much discussion about the need for support on an around-the-clock basis, survey respondents tell us that this is not common practice. As shown in Figure 3-1, about 75% of institutions have 80 hours or less of help desk availability per week.

Campuses vary greatly as to their requirements and expectations regarding student access to a personally owned or leased computer. See Figure 3-2. Over 90% of DR EXT institutions have some requirements or recommendations, whereas only about 20% of AA colleges have such guidelines. DR institutions are the most likely to have some departments that require students to buy or lease a PC. Providing PCs is most common in BA institutions, but only about 6% of campuses report this practice. Practices seem fairly stable over the past five years.

Whether due to institutional requirements, recommendations, or other factors, private institutions report that 90% or more of students own their own computers, except at private AA institutions, as shown in Figure 3-3. Figure 3-4 shows that across all Carnegie classes, compared to private institutions, public institutions report a smaller percentage of students with personally owned computers. (It should be noted that two of the categories in these figures are quite small: 28 public AA colleges, and 24 public BA-LA colleges, respectively, responded to the most recent survey.)

Internet service in residence halls is nearly ubiquitous, with a growing percentage of institutions deploying wireless networks for this purpose, as seen in Figure 3-5. Wireless is likely to be augmenting previously installed Ethernet in many residence halls, in some cases, substituting for Ethernet in new network installations and new construction; these distinctions cannot be determined from the survey responses. Figure 3-6 summarizes the speed of these networks, which is typically 10/100 Mbps or better. Across all institutional classes, the network speed (bandwidth) available in residence halls has been increasing between 2005 and 2009, with 50%–60% offering service at 100 Mbps or higher.

In response to the students' desire for access to music and movies, as well as concerns about unauthorized file-sharing, some institutions offer students a campus-negotiated service to provide these online services. Figure 3-7 shows that since 2005, there was a modest increase in campuses offering such services, followed by a sharp decline. Most campuses do not offer this service and are not considering it for the future.

As seen in Figure 3-8, nearly all four-year institutions have issued students e-mail accounts since 2005. However, for AA institutions, the practice has increased from about 70% to around 90% of

institutions over the same period. Because many students arrive on campus with e-mail accounts already, actual usage of university-provided e-mail varies widely, with some students said to prefer their "personal" address, often known to friends and family, and often providing more storage and other desirable features than the institution's official e-mail service. Accordingly, a number of institutions have discontinued or outsourced student e-mail, or are studying the prospect. Figure 3-8 shows that in 2005, only a handful of campuses were considering it, but in the past five years, the percentages have increased in all classes.

Wired connectivity remains very common in classrooms, as seen in Figure 3-9, although the survey question did not distinguish between a single network connection for instructor use and a network connection to every classroom seat. Availability of wireless network connectivity in centrally scheduled classrooms has increased dramatically in all classes since 2005, as shown in Figure 3-10. The median for all classes is at least 90% of classrooms with wireless connectivity. However, there is more variability in wireless connectivity than wired connectivity, as evidenced by broader ranges between the first and third quartiles in Figure 3-10 relative to Figure 3-9.

A third dimension of general campus support is the extent to which technology is available in classrooms so that faculty and students can use IT to enhance in-class experience (although some faculty express concern that technology in classrooms can be a distraction as well). Figure 3-11 through Figure 3-17 show that presence of other classroom technologies—computers, document projectors, LCD projectors, televisions, smart boards, and clickers—is generally increasing, except for televisions, widely considered a legacy instructional delivery system. The survey did not capture data on actual usage of classroom technology, including whether larger or smaller classes or classes in certain disciplines make more use of the available technologies.

IT can augment learning both in and out of the classroom, especially if support for faculty to learn about and incorporate digital capabilities into their courses is available. The upward trends in centralized IT support are not as clear or consistent as with the presence of technologies; see Figure 3-18 through Figure 3-31. It should be noted, however, that in many institutions support for instructional technology and pedagogical innovation is provided by other units, sometimes elsewhere in the central administration (a center for teaching excellence, for example) and sometimes in schools and academic departments. As with classroom technology, the presence of support does not guarantee widespread use (or effectiveness) of such support.

Finally, we examined the nature and extent of faculty use of centrally supported course management systems. At the majority of campuses, faculty members use these systems selectively. Figure 3-32 shows the trend for campuses where use of the supported CMS(s) or hybrid approach is employed for "all or nearly all courses." Generally, ubiquitous use has increased since 2005, though it is still well below the 50% mark. Regarding these measures, the survey did not capture patterns of faculty use of the various features of course management systems, so there is a possibility that simply posting the semester syllabus online is considered "use" by some respondents.

Endnotes

1. This CDS summary report uses the basic classification system from the 2000 version of *The Carnegie Classification of Higher Education*. See Appendix D for more detail. The seven classes with the largest number of respondents are included in this report:

   DR EXT (Doctoral Institutions/Extensive): 50 or more doctoral degrees per year across at least 15 disciplines
   DR INT (Doctoral Institutions/Intensive): 10 or more doctoral degrees per year across three or more disciplines or at least 20 doctoral degrees per year overall
   MA I (Master's Institutions I): 40 or more Master's degrees per year across three or more disciplines
   MA II (Master's Institutions II): 20 or more Master's degrees per year
   BA LA (Baccalaureate Colleges–Liberal Arts): At least half of baccalaureate degrees in liberal arts fields
   BA GEN (Baccalaureate Colleges–General): Less than half of baccalaureate degrees in liberal arts fields
   AA (Associate's Colleges): Offer Associate's degrees, but typically no baccalaureate degrees

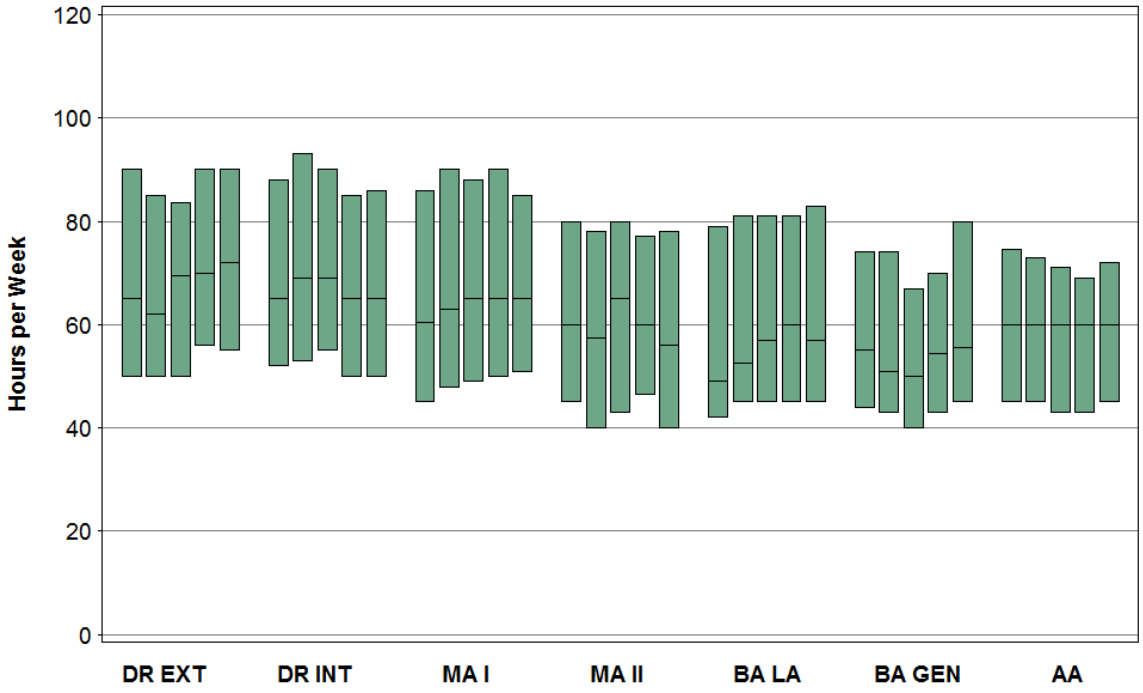

Figure 3-1 Hours of Help Desk Availability 2005–2009

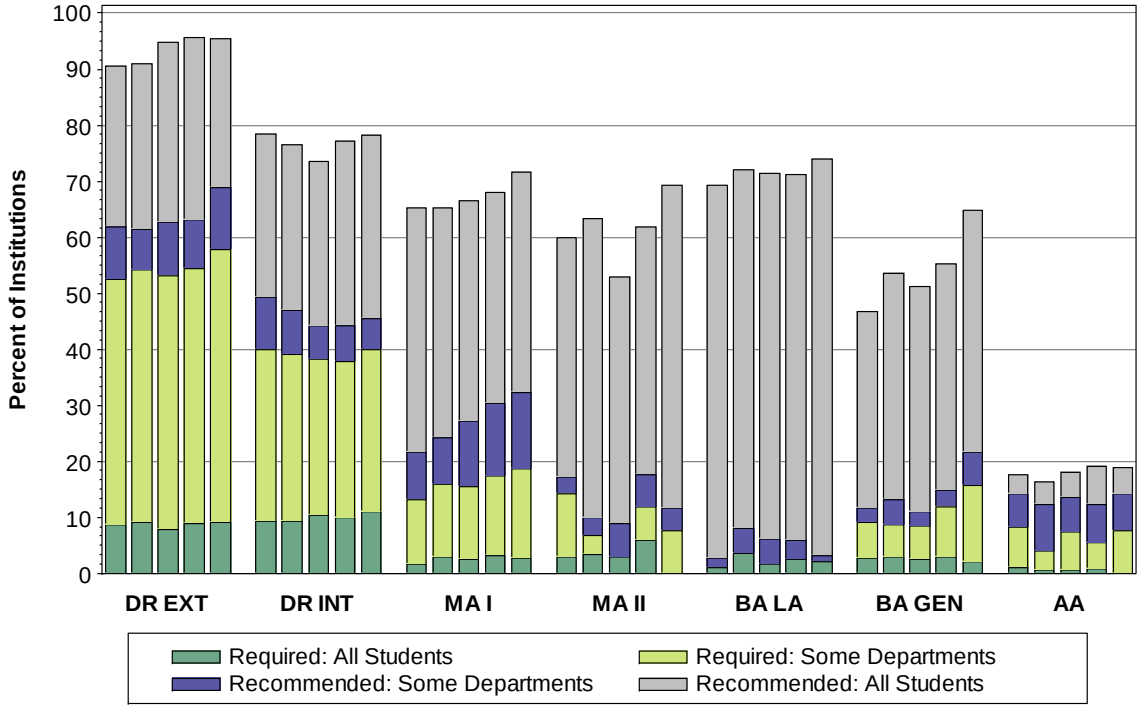

Figure 3-2 Student Computer Requirements and Recommendations 2005–2009

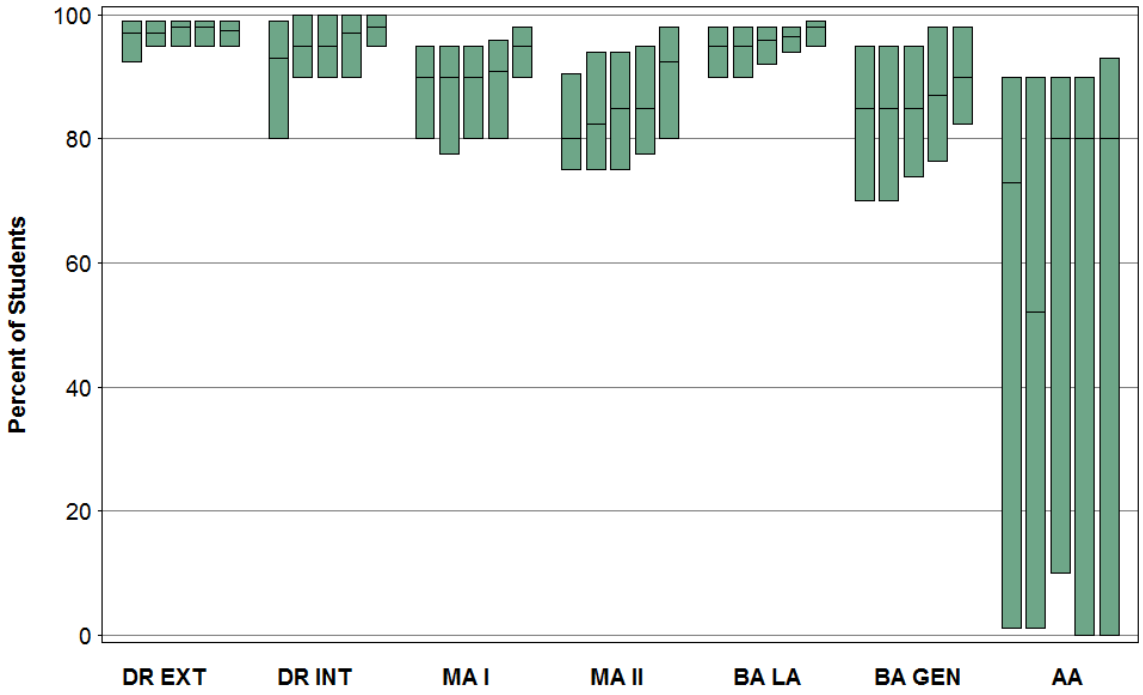

Figure 3-3 Student Computer Ownership (Private Institutions) 2005–2009

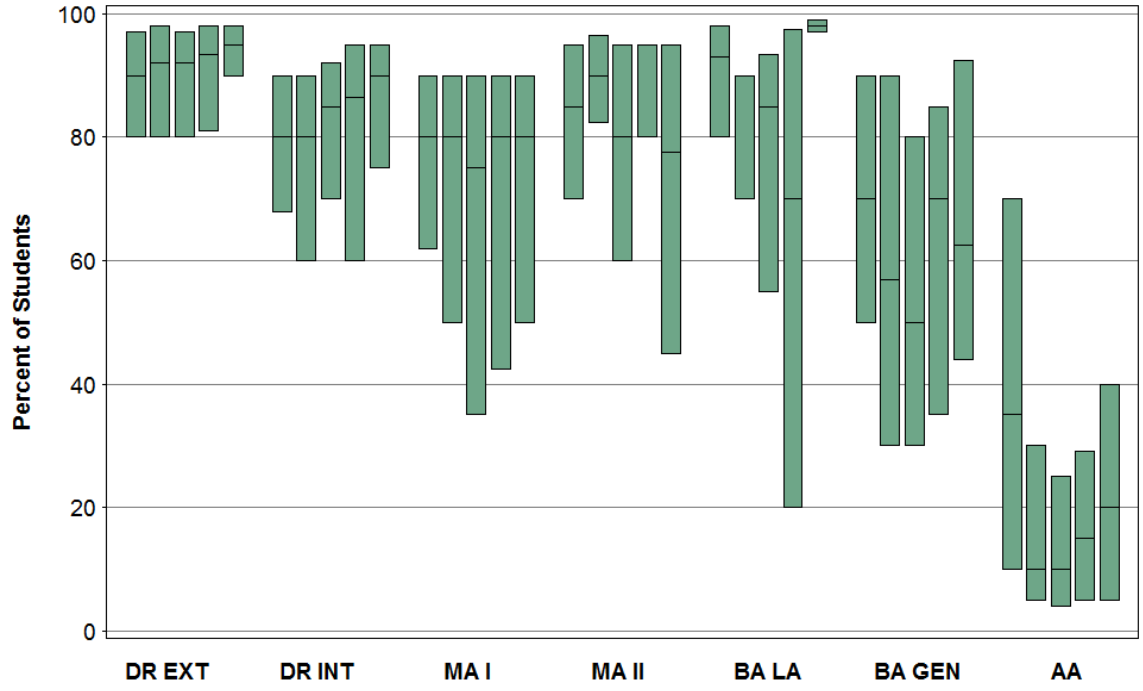

Figure 3-4 Student Computer Ownership (Public Institutions) 2005–2009

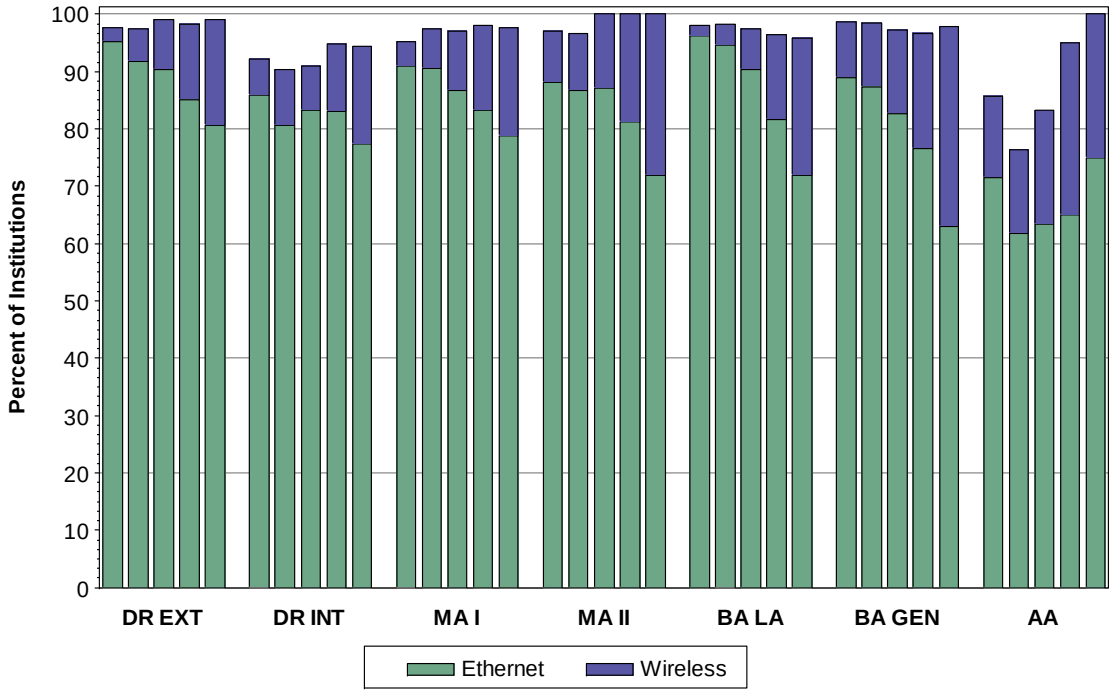

Figure 3-5 Internet Service in Residence Halls 2005-2009

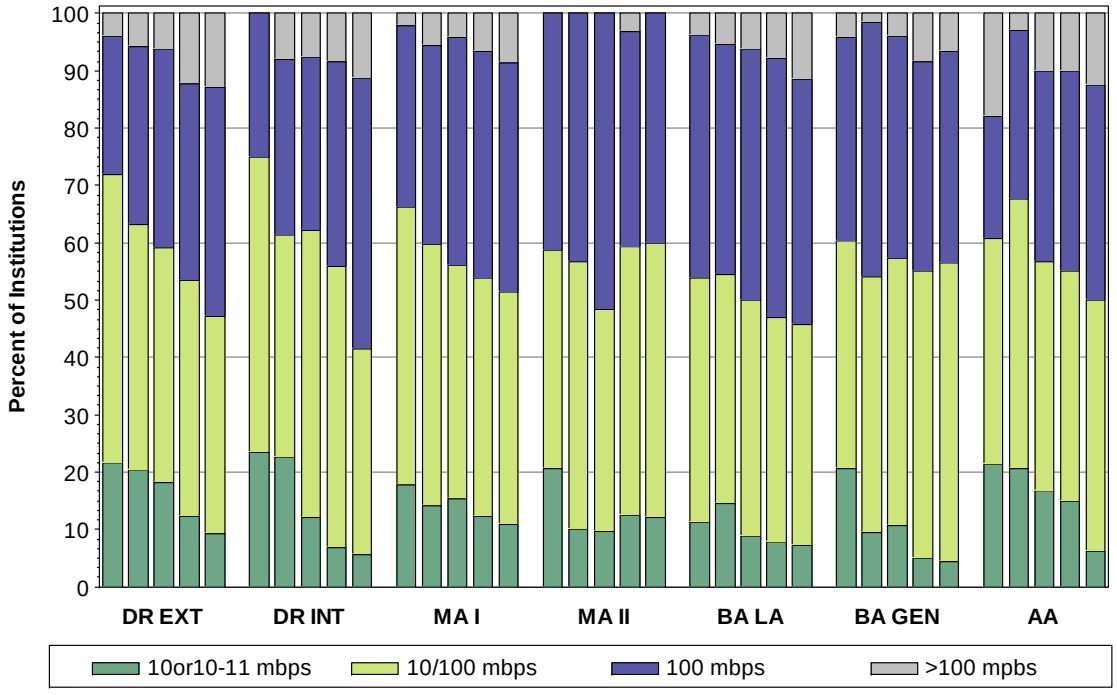

Figure 3-6 Network Speed in Residence Halls 2005–2009

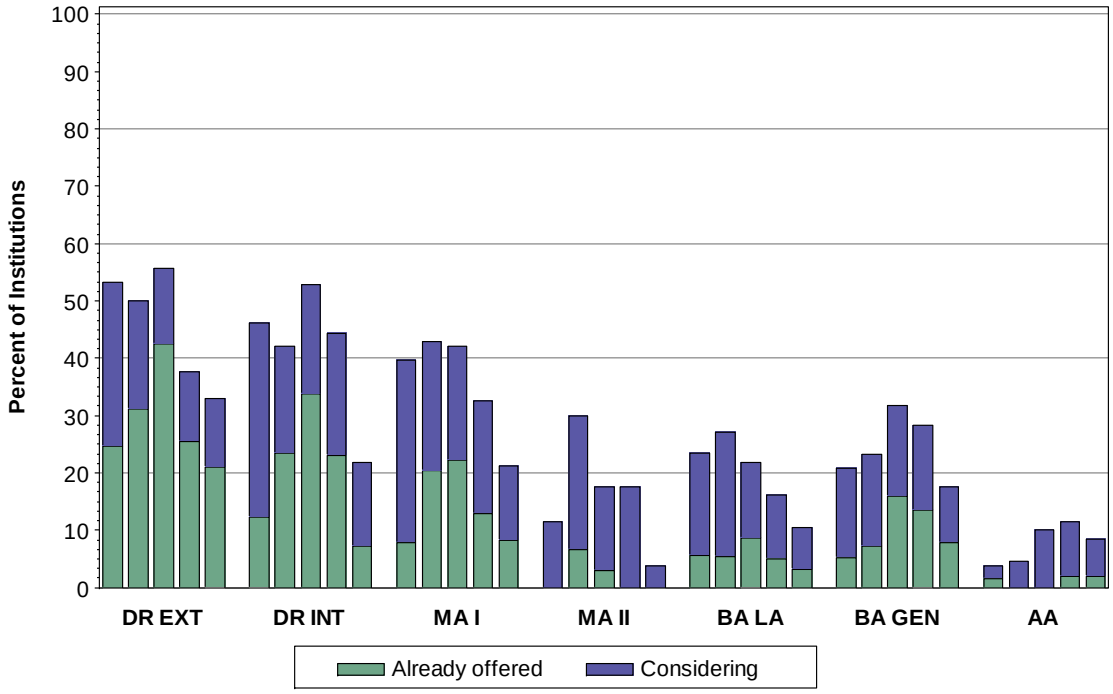

Figure 3-7 Negotiated Access for Online Media (2005–2009)

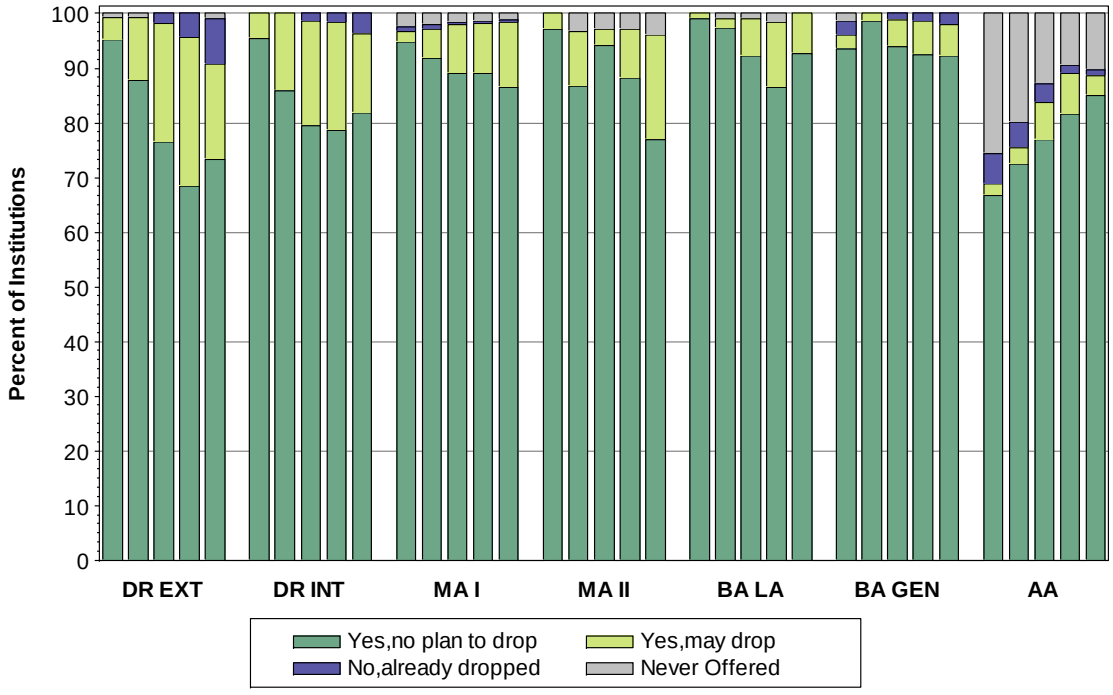

Figure 3-8 Issuing Student E-mail Accounts 2005–2009

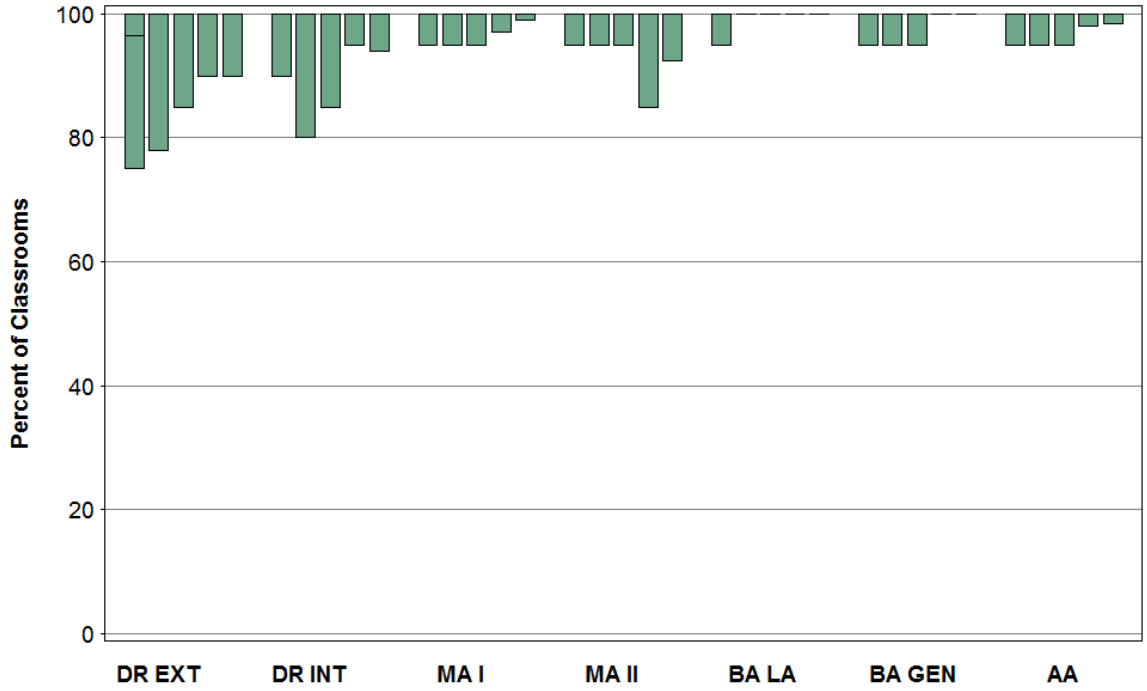

Figure 3-9 Wired Connectivity in Classrooms 2005–2009

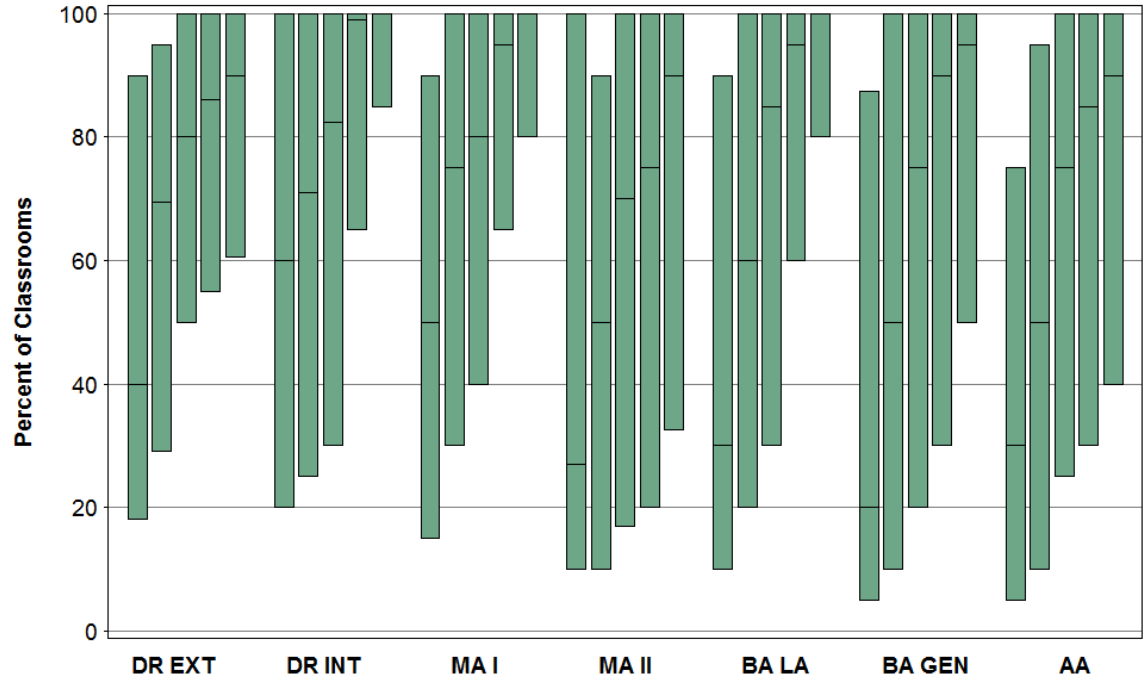

Figure 3-10 Wireless Connectivity in Classrooms 2005–2009

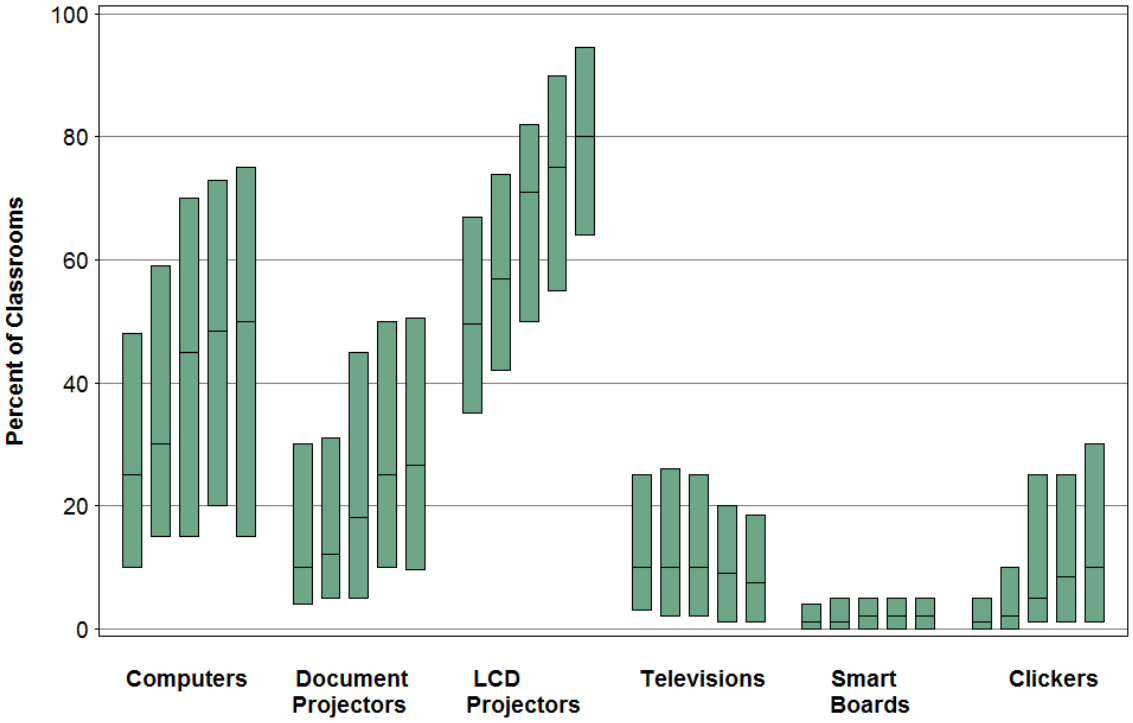

Figure 3-11 Classroom Technologies (DR EXT) 2005–2009

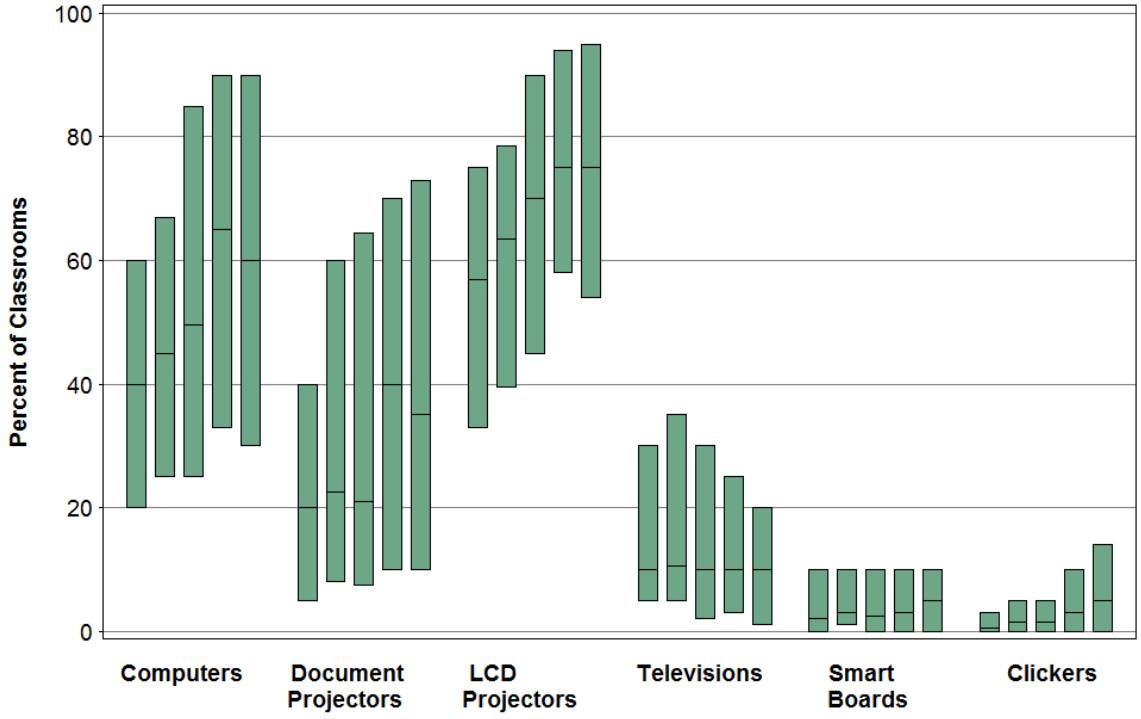

Figure 3-12 Classroom Technologies (DR INT) 2005–2009

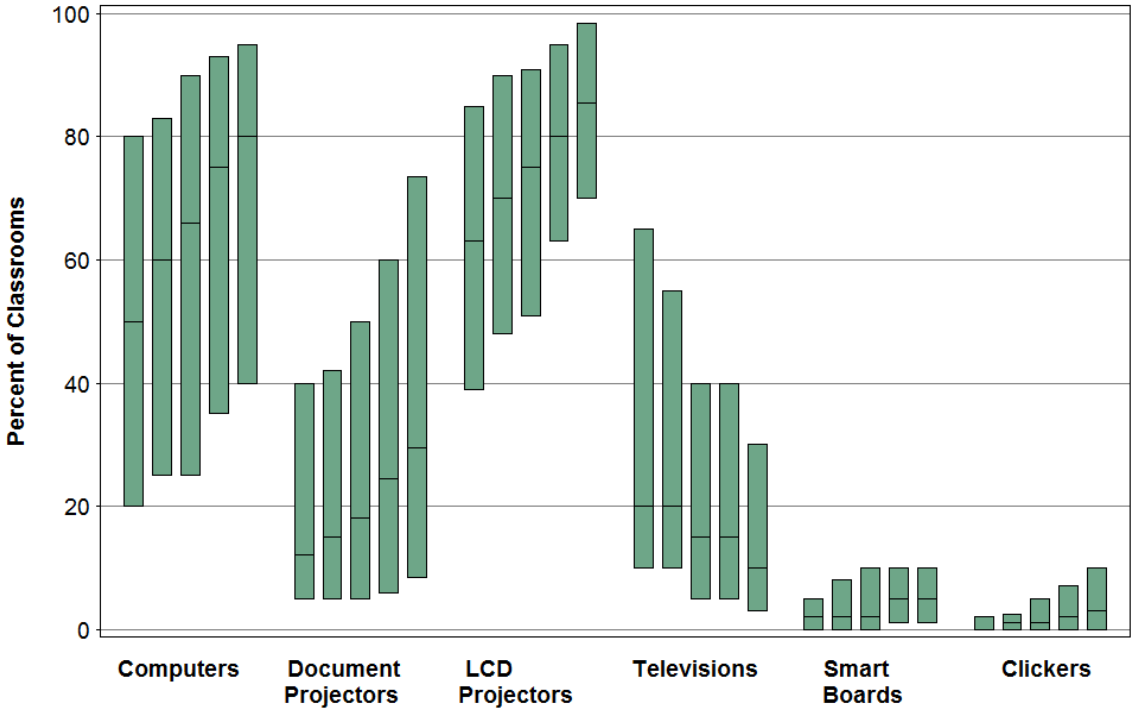

Figure 3-13 Classroom Technologies (MA I) 2005–2009

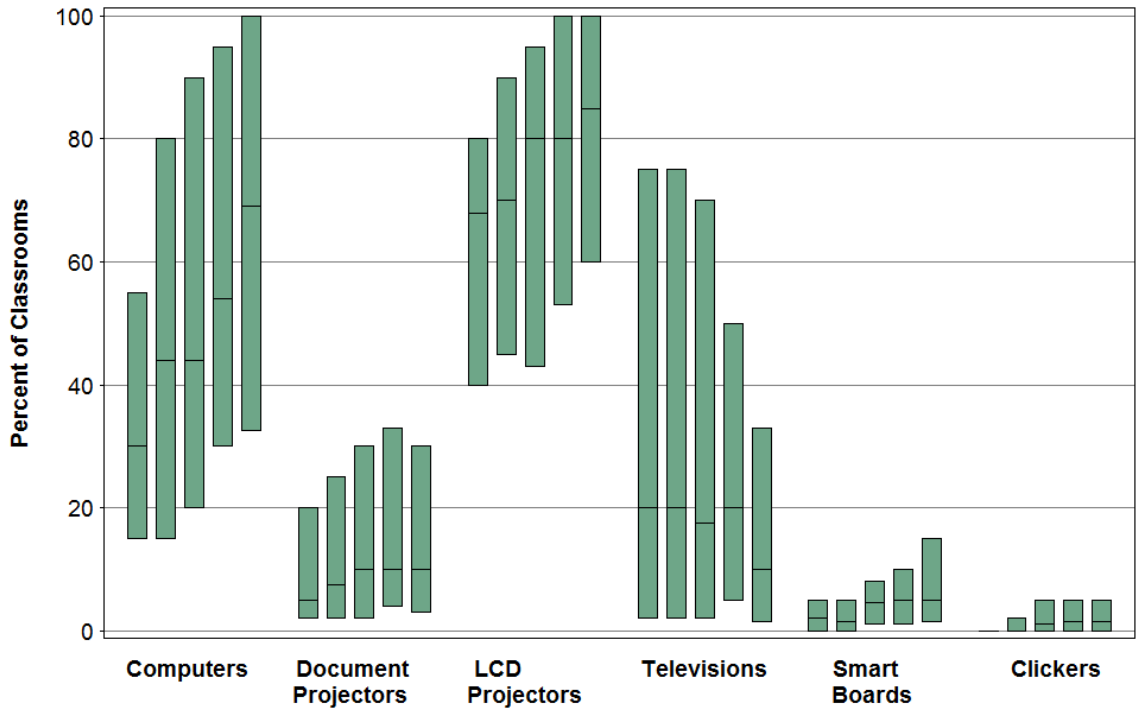

Figure 3-14 Classroom Technologies (MA II) 2005–2009

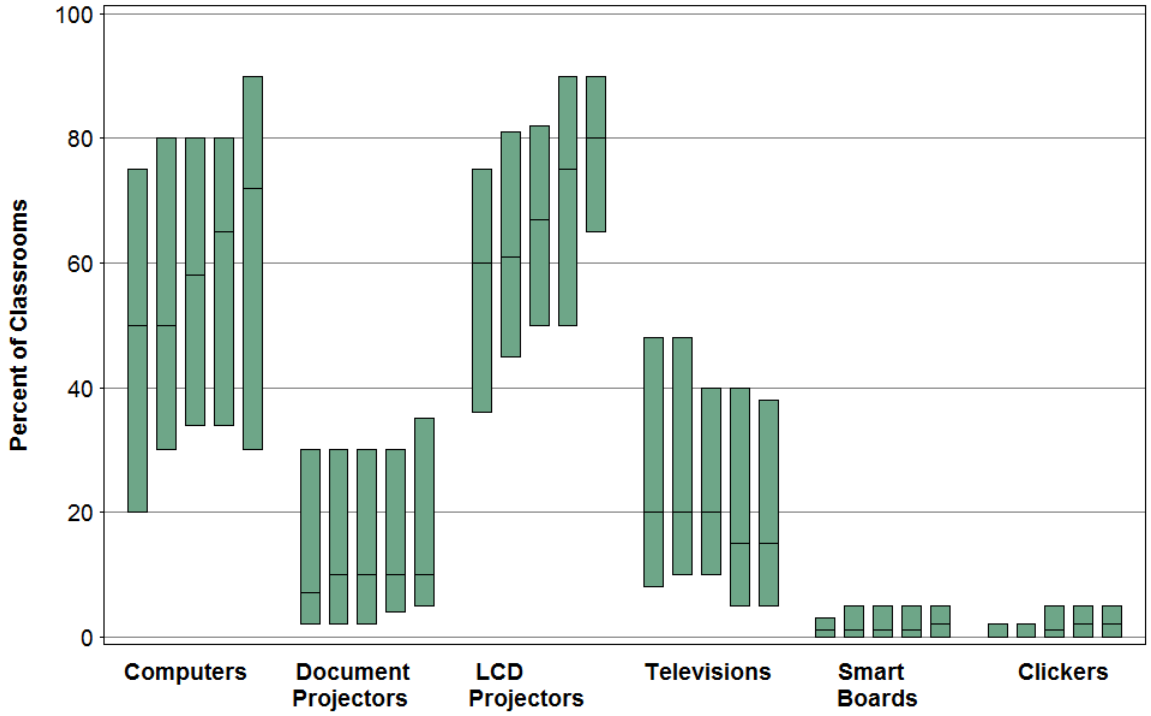

Figure 3-15 Classroom Technologies (BA LA) 2005–2009

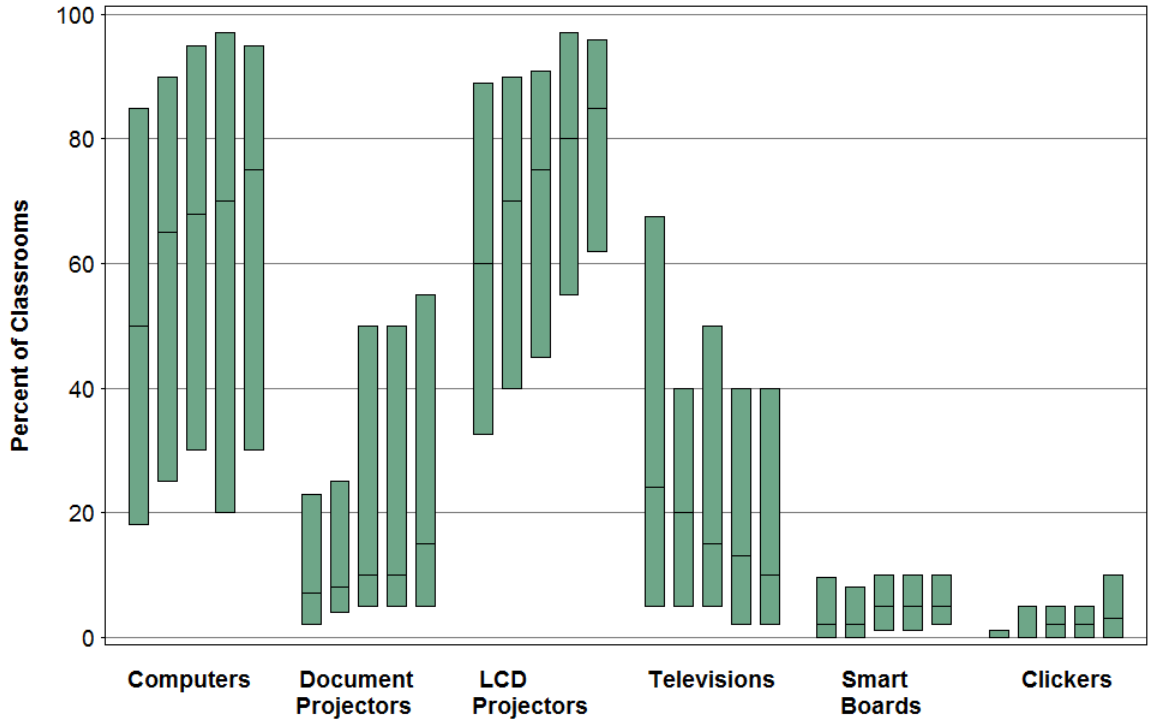

Figure 3-16 Classroom Technologies (BA GEN) 2005–2009

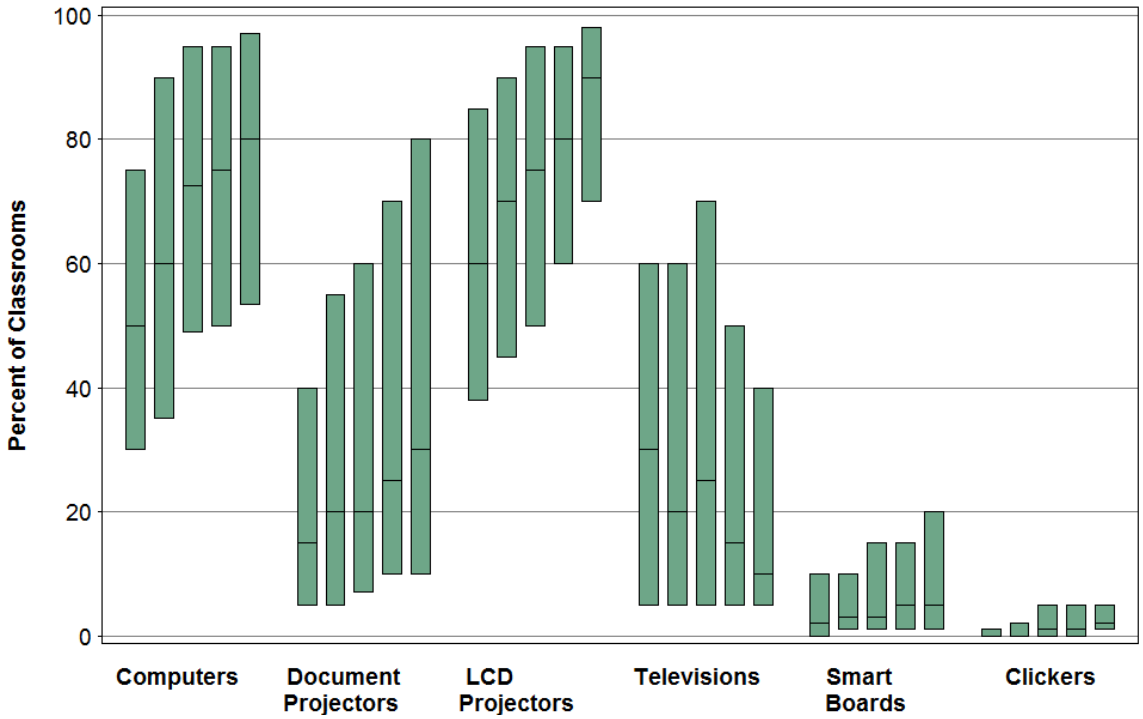

Figure 3-17 Classroom Technologies (AA) 2005–2009

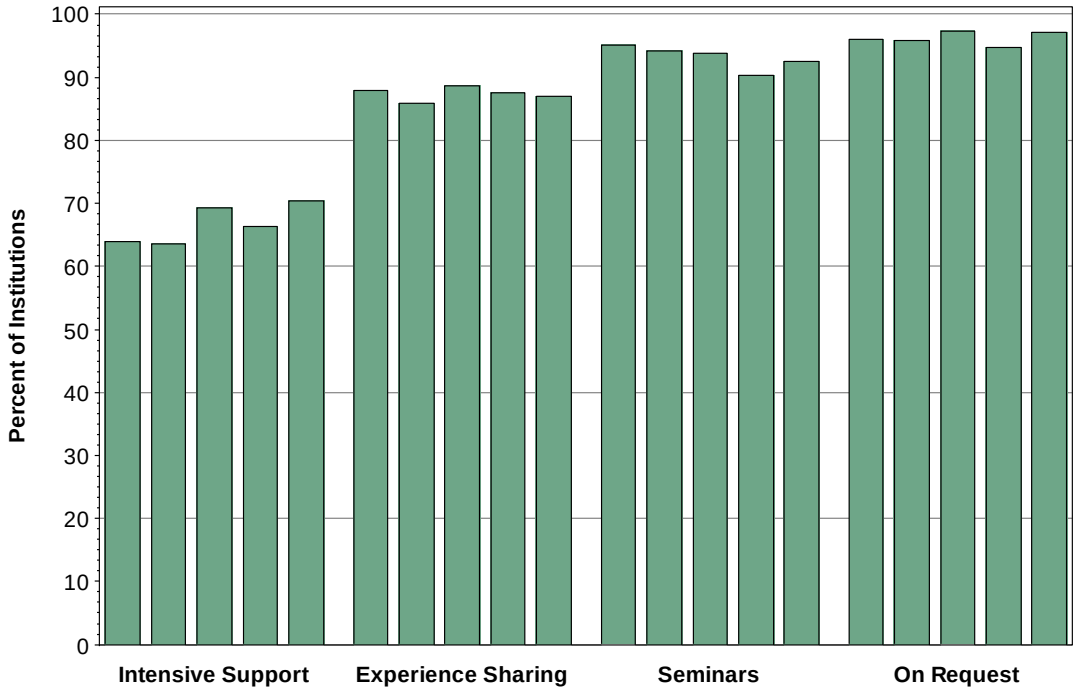

Figure 3-18 Types of Faculty Support (1) (DR EXT) 2005–2009

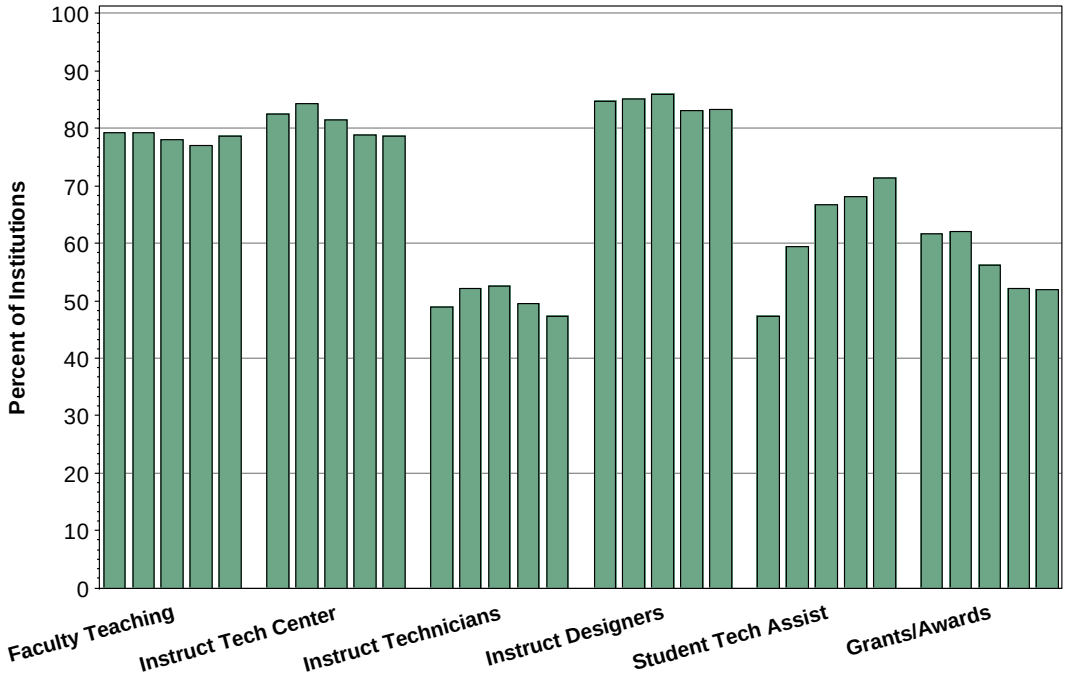

Figure 3-19 Types of Faculty Support (2) (DR EXT) 2005–2009

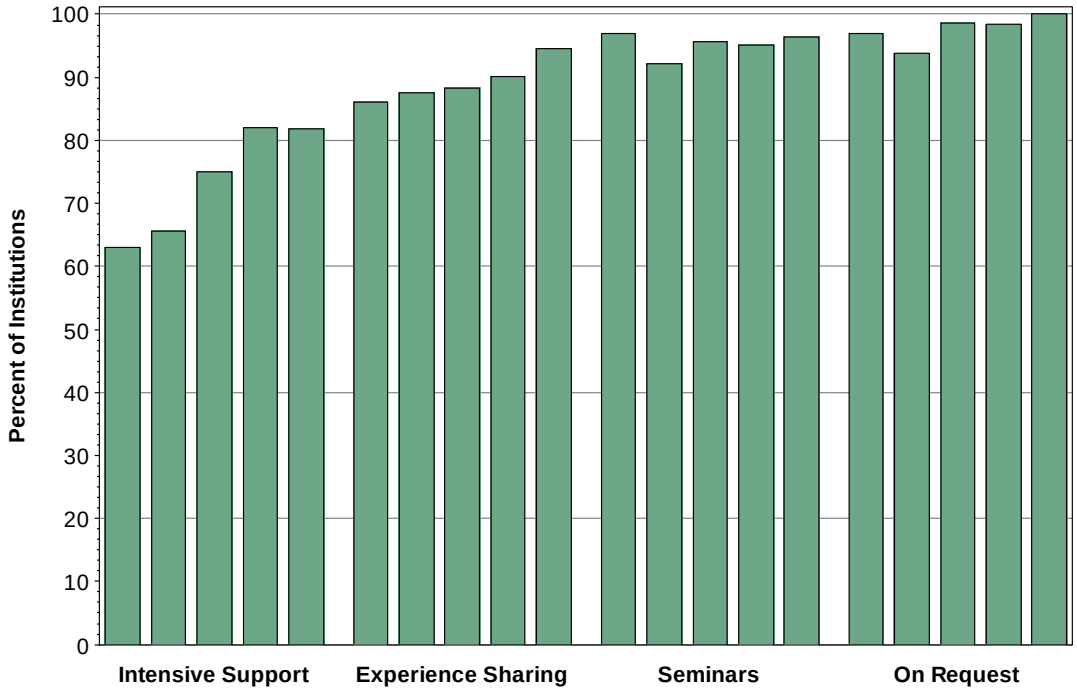

Figure 3-20 Types of Faculty Support (1) (DR INT) 2005–2009

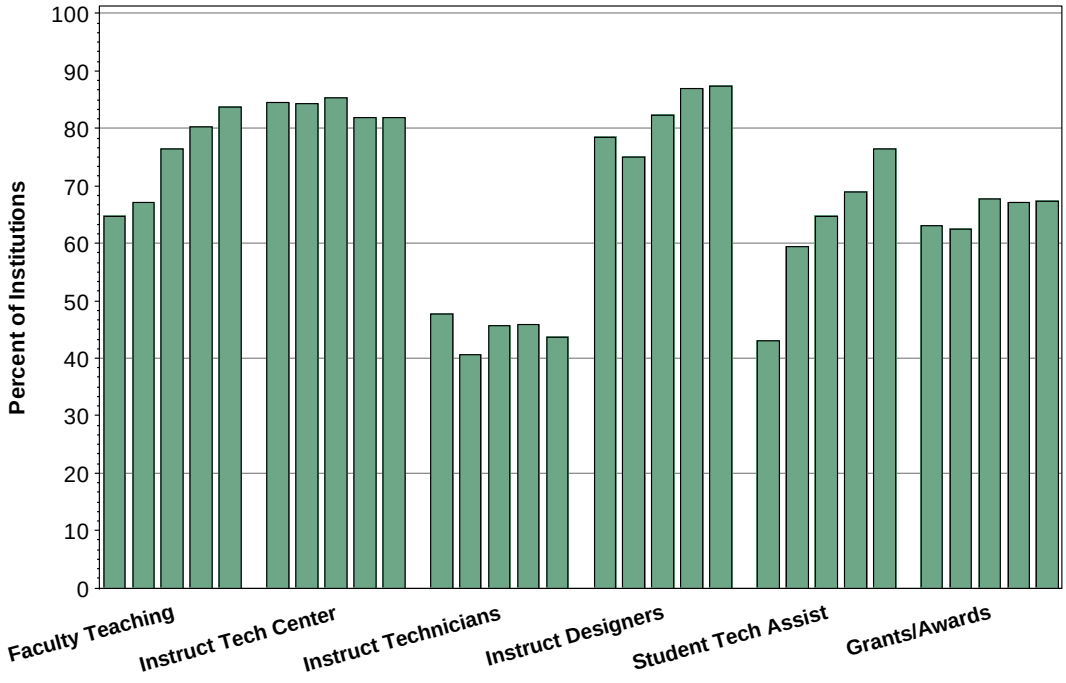

Figure 3-21 Types of Faculty Support (2) (DR INT) 2005–2009

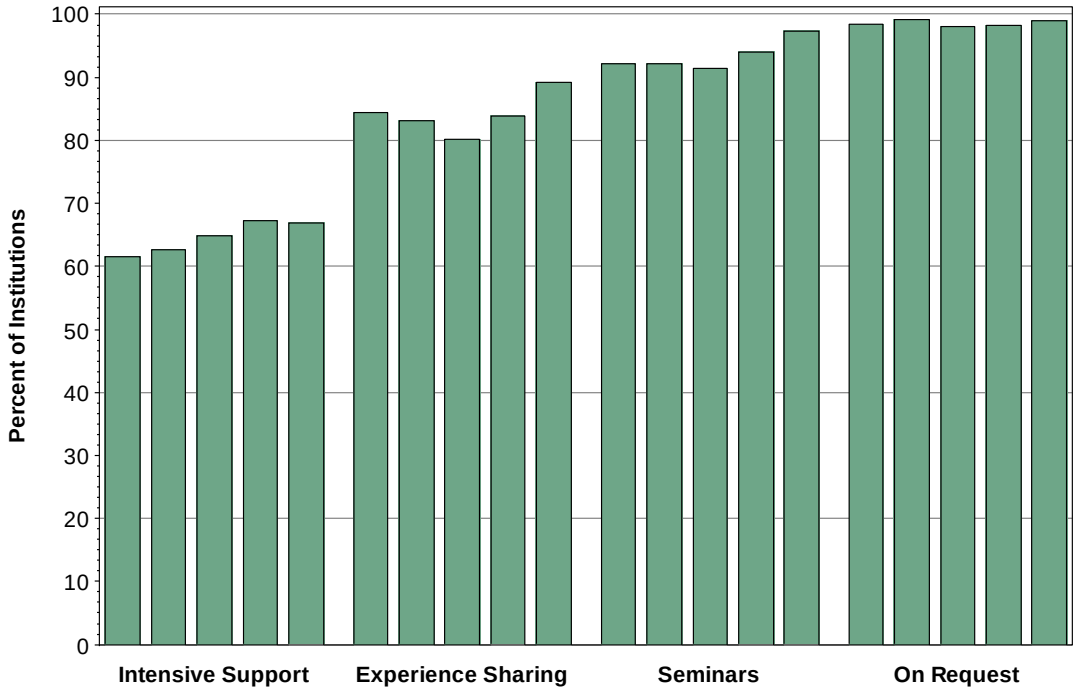

Figure 3-22 Types of Faculty Support (1) (MA I) 2005–2009

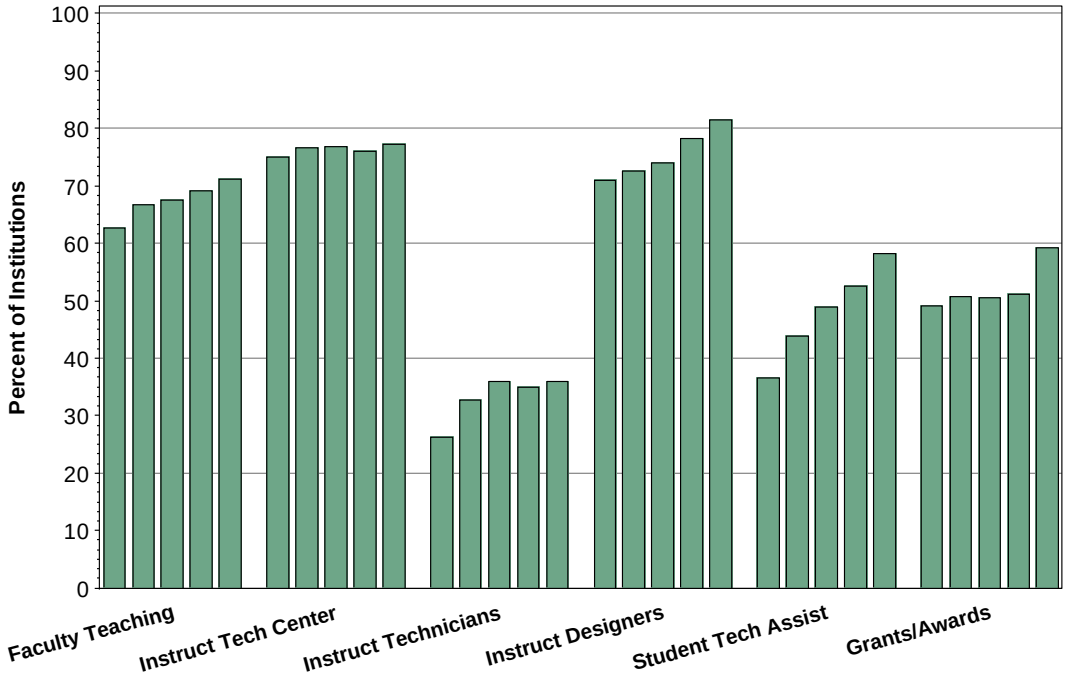

Figure 3-23 Types of Faculty Support (2) (MA I) 2005–2009

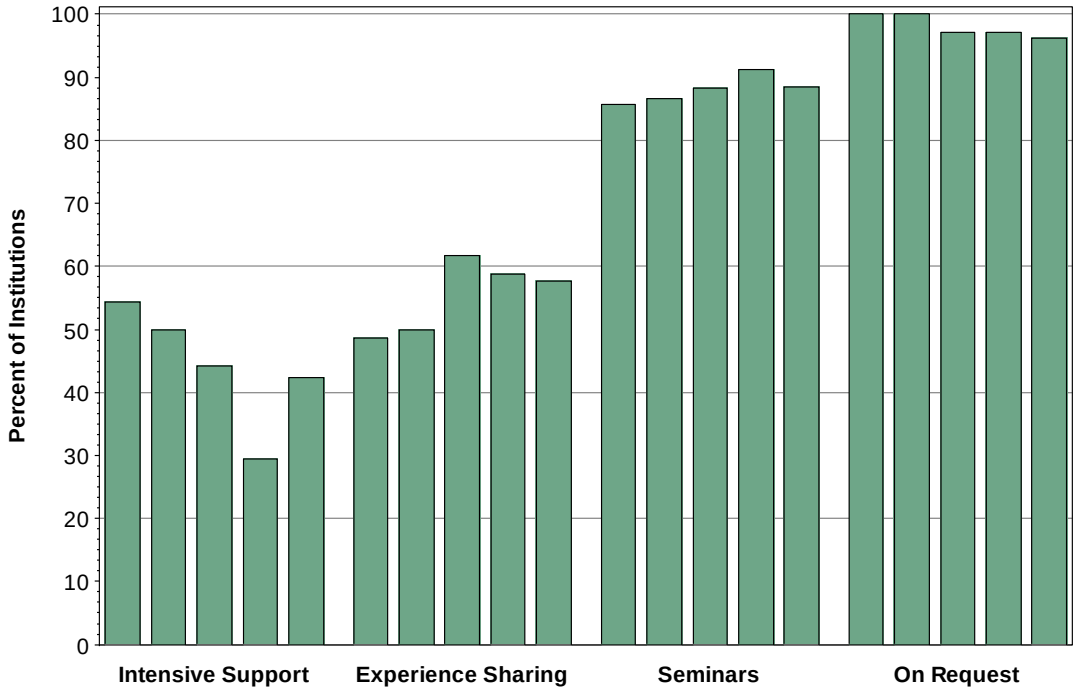

Figure 3-24 Types of Faculty Support (1) (MA II) 2005–2009

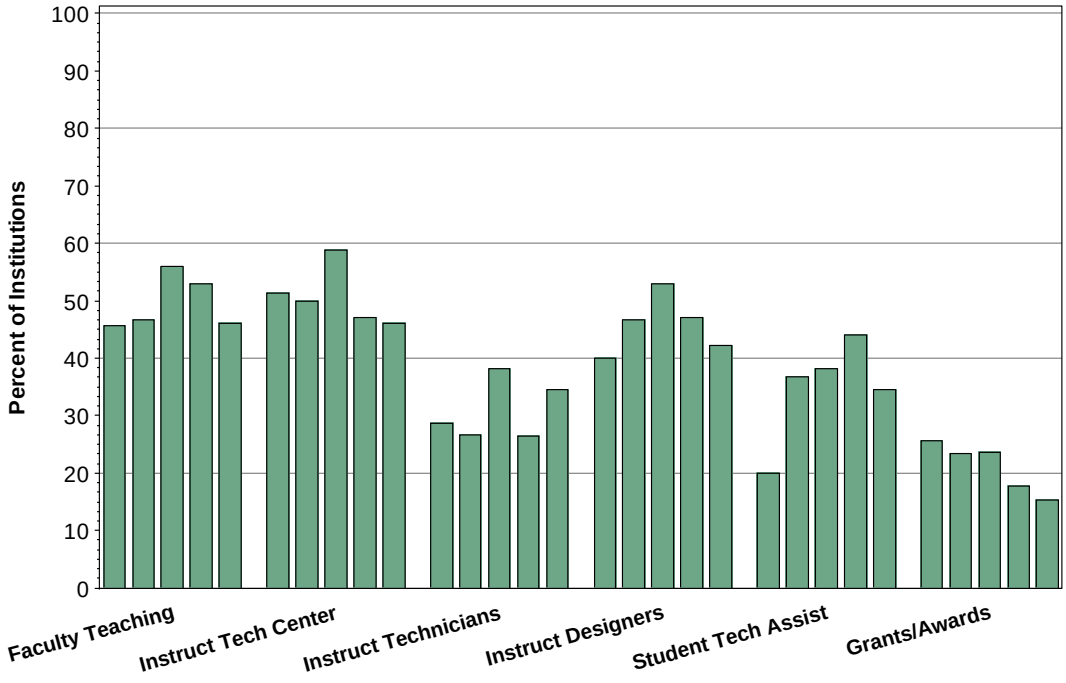

Figure 3-25 Types of Faculty Support (2) (MA II) 2005–2009

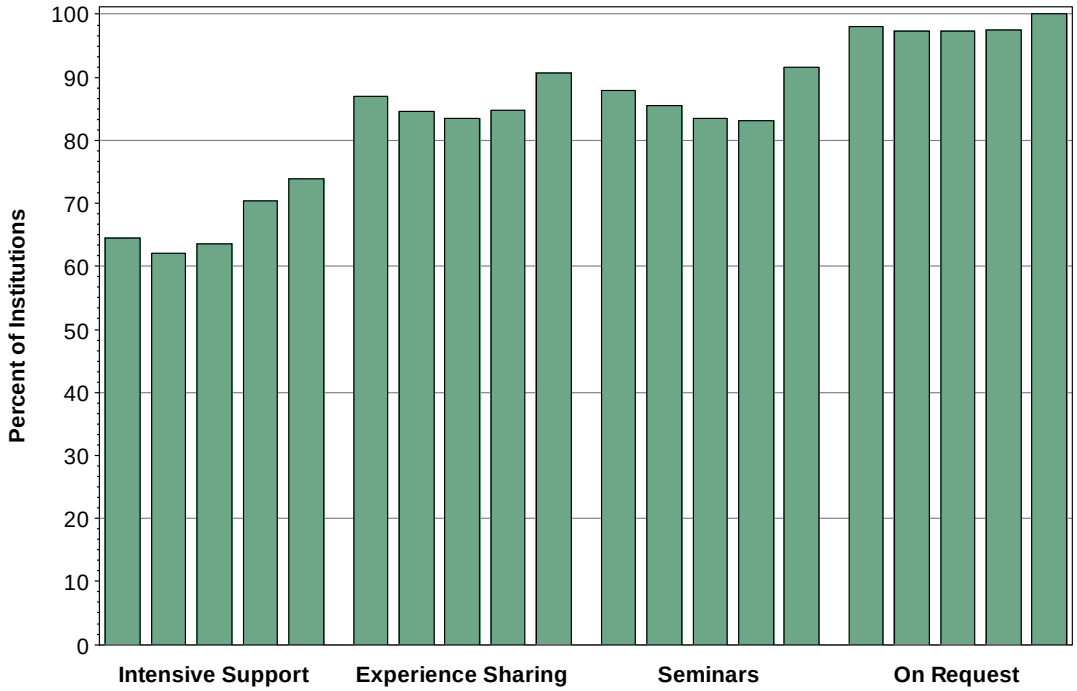

Figure 3-26 Types of Faculty Support (1) (BA LA) 2005–2009

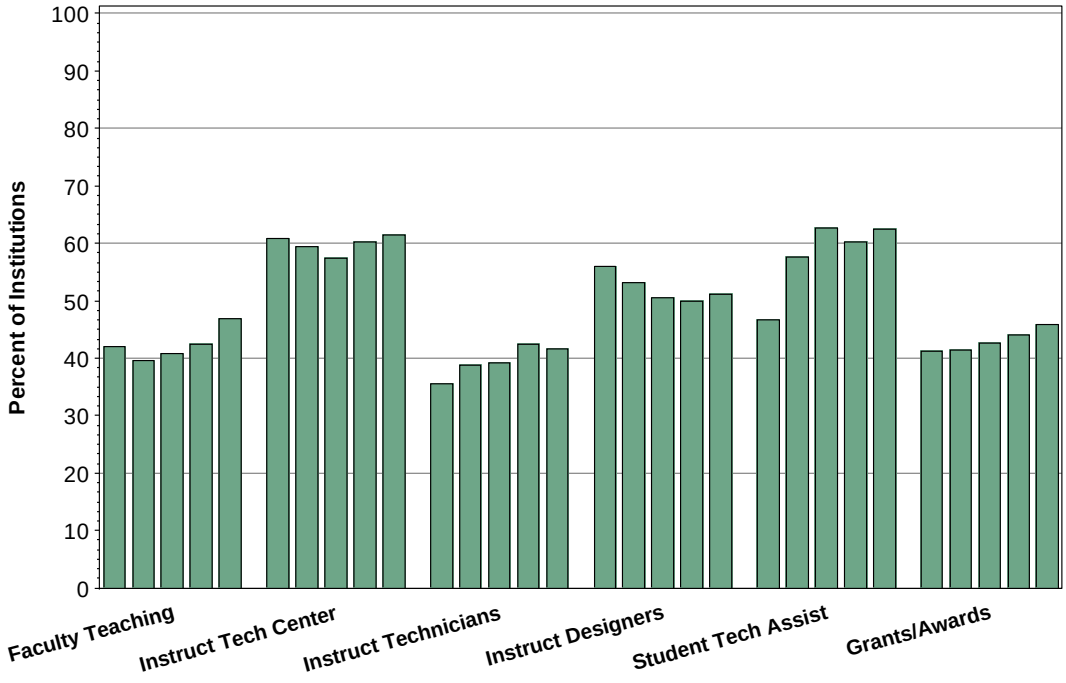

Figure 3-27 Types of Faculty Support (2) (BA LA) 2005–2009

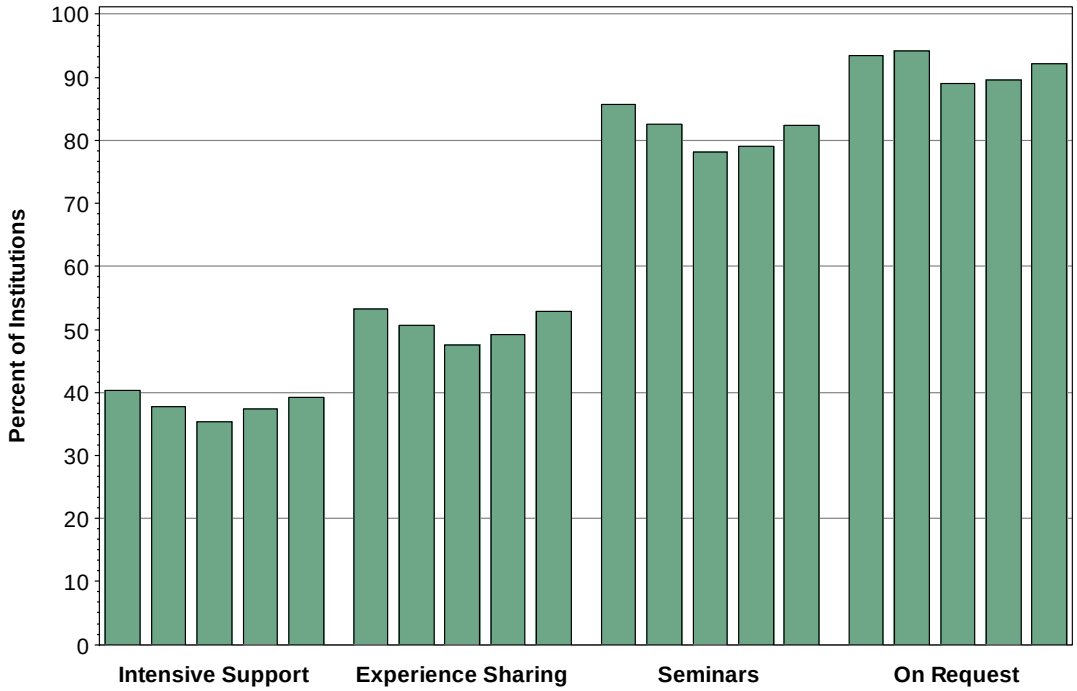

Figure 3-28 Types of Faculty Support (1) (BA GEN) 2005–2009

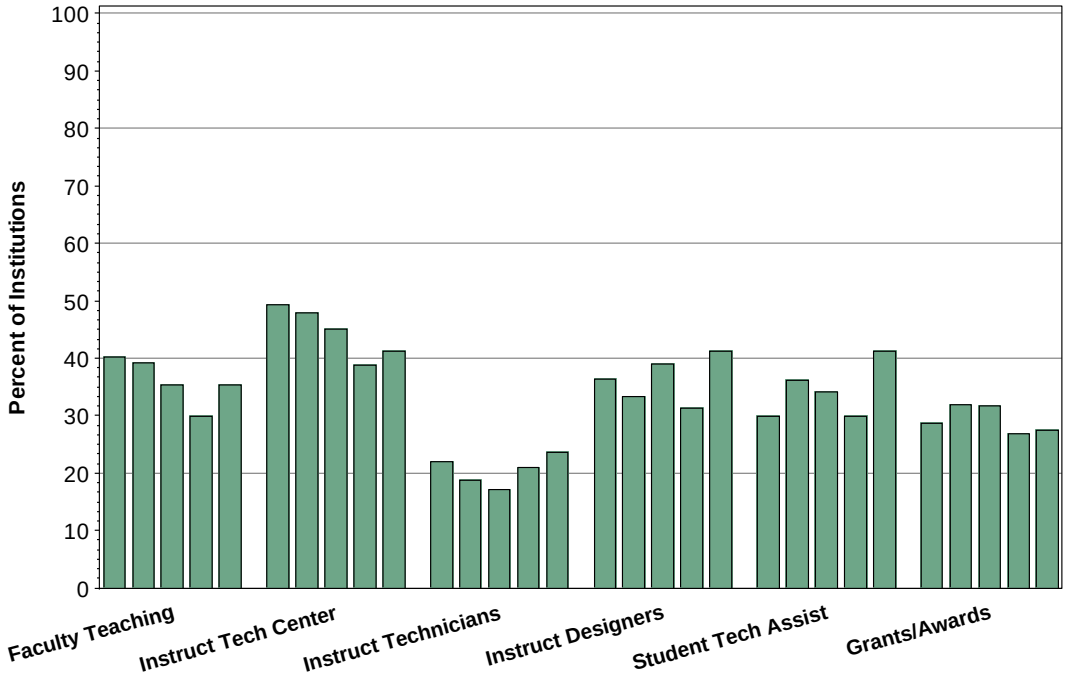

Figure 3-29 Types of Faculty Support (2) (BA GEN) 2005–2009

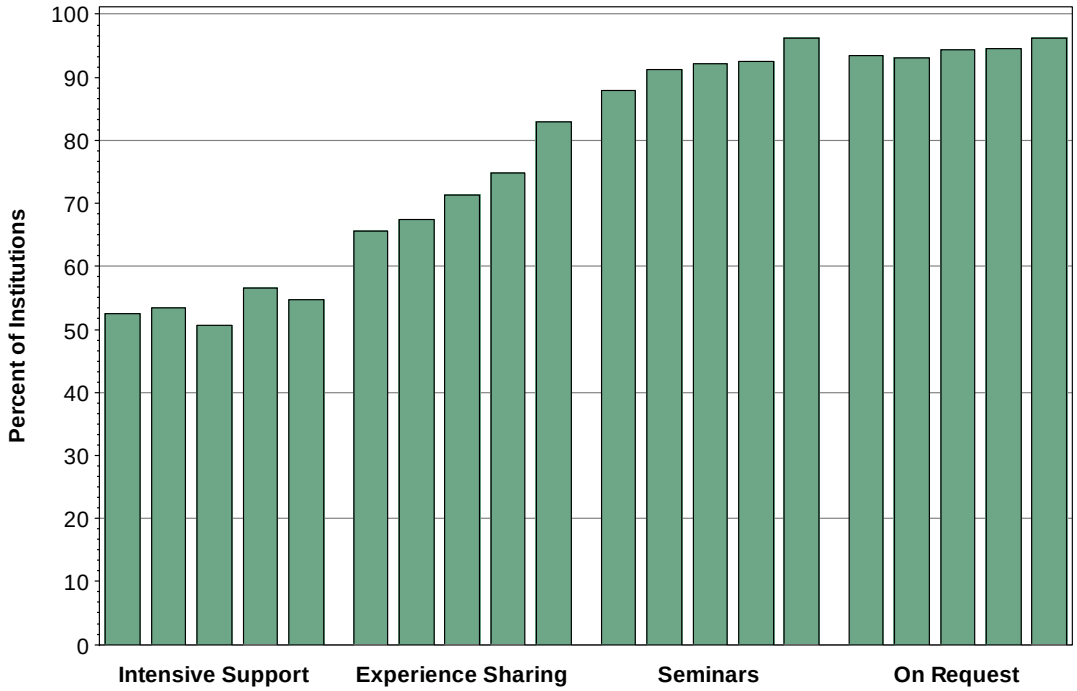

Figure 3-30 Types of Faculty Support (1) (AA) 2005–2009

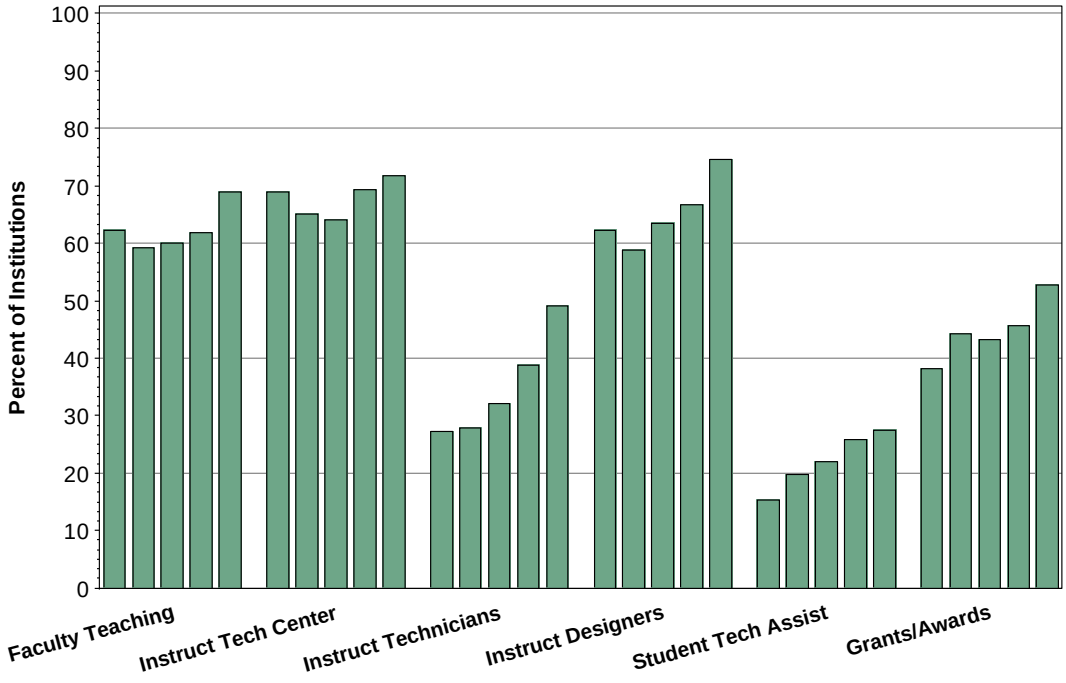

Figure 3-31 Types of Faculty Support (2) (AA) 2005–2009

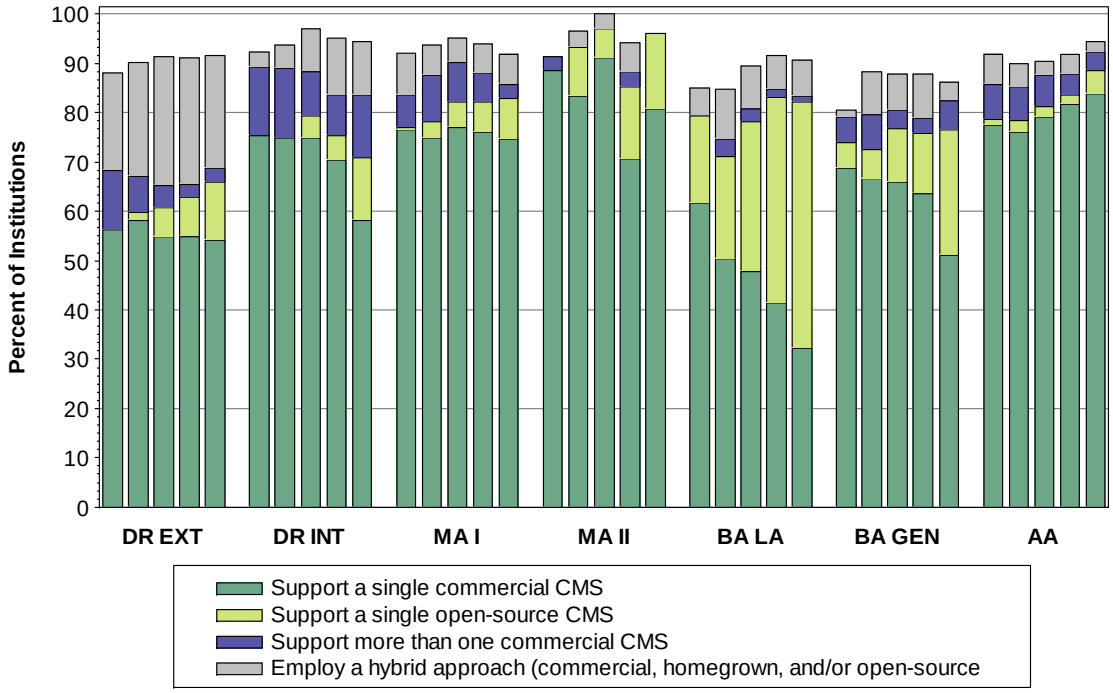

Figure 3-32 Support for Course Management Systems (CMS) 2005–2009

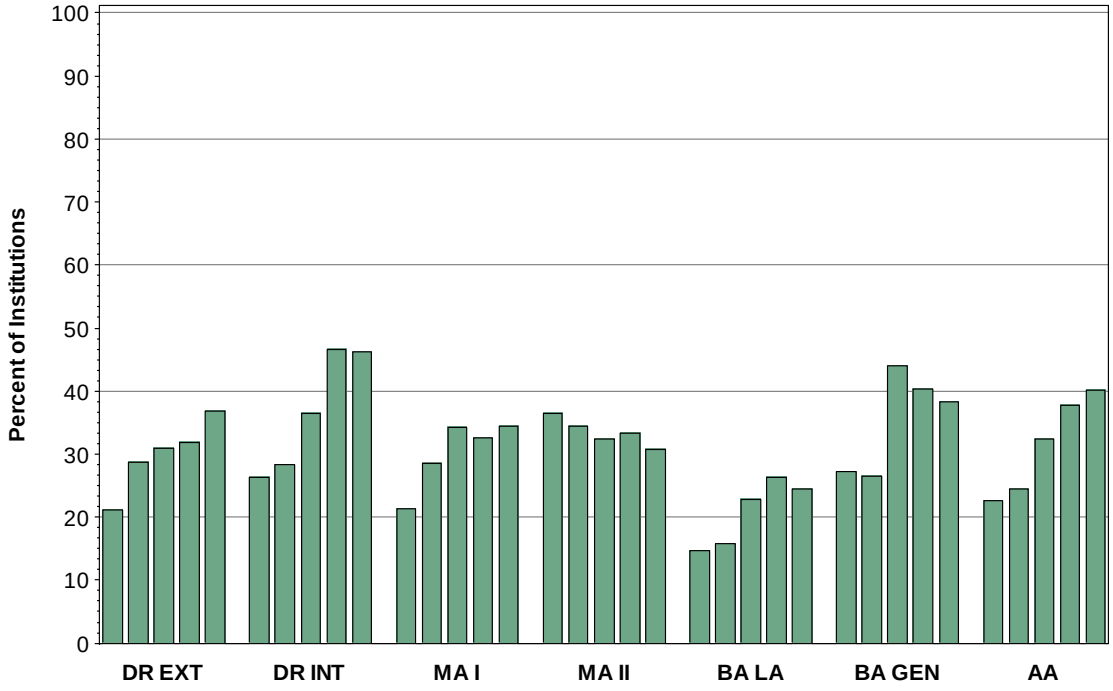

Figure 3-33 Faculty use of Course Management Systems (CMS) 2005–2009

4 Networking and Security

The fourth section of the survey contained 12 questions about centralized networking and security services.

The survey requested data about the bandwidth available from a campus to the commodity Internet and to high-performance research and education networks. Bandwidth to the commodity Internet has been steadily increasing in all Carnegie classes.[1] As shown in Figure 4-1, medians and/or quartiles have risen each year for each class since 2005. As expected, DR universities are the dominant subscribers to high-performance networks, such as Internet2 and National LambdaRail and their metropolitan area, state, and regional partner networks; see Figure 4-2. In recent years, however, the R&E networks have added commodity Internet transit and peering to their offerings, so there is increasing ambiguity in the interpretations of these two figures.

Shaping bandwidth refers to adjusting parameters on the campus Internet connection to limit use through various means, such as type of connection, location of connection, direction of traffic, time of day, or other specific characteristics. A campus may choose to shape bandwidth to minimize the impact of lower-priority and nonacademic network traffic.

Most campuses track bandwidth utilization as shown in Figure 4-3. Figure 4-4 through Figure 4-7 show how institutions are shaping bandwidth. These percentages have not changed significantly in the past five years, except at AA institutions. While AA institutions are well behind other classes in shaping bandwidth, clear increasing trends can be seen over the past five years.

Figure 4-8 through Figure 4-21 display the growing availability of wireless data networks across all seven Carnegie classes. The survey asked for breakdowns of wireless penetration for seven types of campus facilities, plus open spaces. It is reasonable to assume that, in nearly all buildings, wireless network access augments wired, although there have been recent reports of residence halls that support only wireless access in student rooms.

Most campuses have facilities for videoconferencing, though availability of dedicated sites varies across classes; see Figure 4-22. In addition to dedicated sites for videoconferencing, respondents were asked about the percentage of campus computers that could deploy videoconferencing. As shown in Figure 4-23, there have been large increases in the percentage of computers with videoconferencing capabilities over the past five years (although many fewer, presumably, have video cameras actually attached).

The survey asked respondents about the deployment level of 17 technologies, either campus-wide or in individual departments. These technologies include five that are primarily security related, five related to network services, and seven focused on identity management. Figure 4-24 through Figure 4-44 show deployment of each technology for each class. Antispam and antivirus software are used at virtually all institutions, as expected, with antispyware is not far behind. Emergency notification (added to the survey in 2007) has become very common as well. Most identity management technologies, except for enterprise directory technology, are not in heavy use, but many campuses report considering deployment of some of these technologies.

The final area of analysis in this section is security practices, including the processes being used to secure campuses from disruptions of service, incursions, and other security breaches. The results in Figure 4-45 show that DR EXT campuses are the least likely class to require end-user authentication for all network access as a component of overall security strategies. The bars in the figure do not reach 100% because respondents could choose "other" as the status of the authentication approach.

Figure 4-46 through Figure 4-52 show the firewall practices across the seven Carnegie classes. Deployment of firewalls is considered an important component of institutional security strategy. A single firewall at the external Internet connection is not adequate for security, however, because some computers on the campus network may be insecure and some members of the campus community may pose security threats themselves. Less than 1% of all respondents report that no firewall is being used.

The majority of campuses have a firewall at the external Internet connection, although only 60% of DR EXT campuses do. There is increasing use of firewalls around high-security servers and networks. Doctoral institutions lead the way in this area as well as in firewalls deployed by or on behalf of individual departments. There have been increases in the site licensing of personal firewall software, although the survey does not provide information on actual deployment and use of these products. About one-third of DR EXT institutions have plans to implement additional firewalls. This percentage is lower in all other classes.

Other institutional security policies and practices in the areas of software patch management and vulnerability scanning are summarized in Figure 4-53 through Figure 4-59. Almost all campuses require expeditiously patching or updating of critical systems (about 98% of all respondents). All other surveyed practices are in common use, though measures related to personal computers are less common.

About 70% of all campuses reported that they have conducted a campus IT security risk assessment. More campuses have begun conducting such assessments since 2005. Figure 4-60 shows the increasing trends in each class.

Endnotes

1. This CDS summary report uses the basic classification system from the 2000 version of *The Carnegie Classification of Higher Education*. See Appendix D for more detail. The seven classes with the largest number of respondents are included in this report:

   DR EXT (Doctoral Institutions/Extensive): 50 or more doctoral degrees per year across at least 15 disciplines
   DR INT (Doctoral Institutions/Intensive): 10 or more doctoral degrees per year across three or more disciplines or at least 20 doctoral degrees per year overall
   MA I (Master's Institutions I): 40 or more Master's degrees per year across three or more disciplines
   MA II (Master's Institutions II): 20 or more Master's degrees per year
   BA LA (Baccalaureate Colleges–Liberal Arts): At least half of baccalaureate degrees in liberal arts fields
   BA GEN (Baccalaureate Colleges–General): Less than half of baccalaureate degrees in liberal arts fields
   AA (Associate's Colleges): Offer Associate's degrees, but typically no baccalaureate degrees

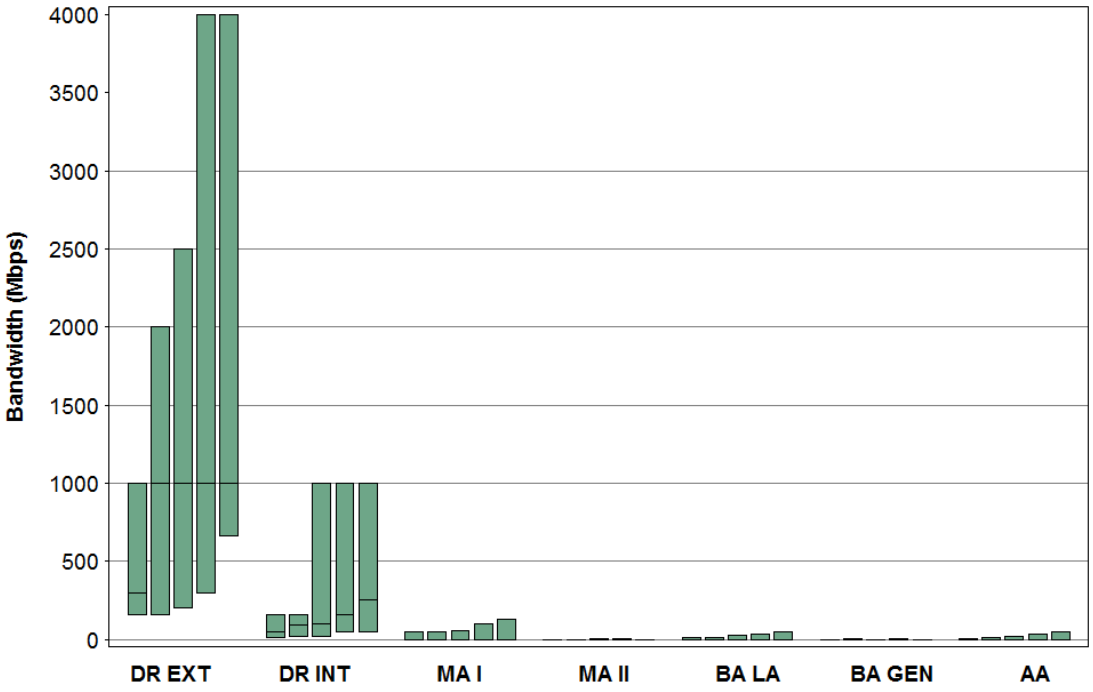

Figure 4-1 Bandwidth to Commodity Internet 2005–2009

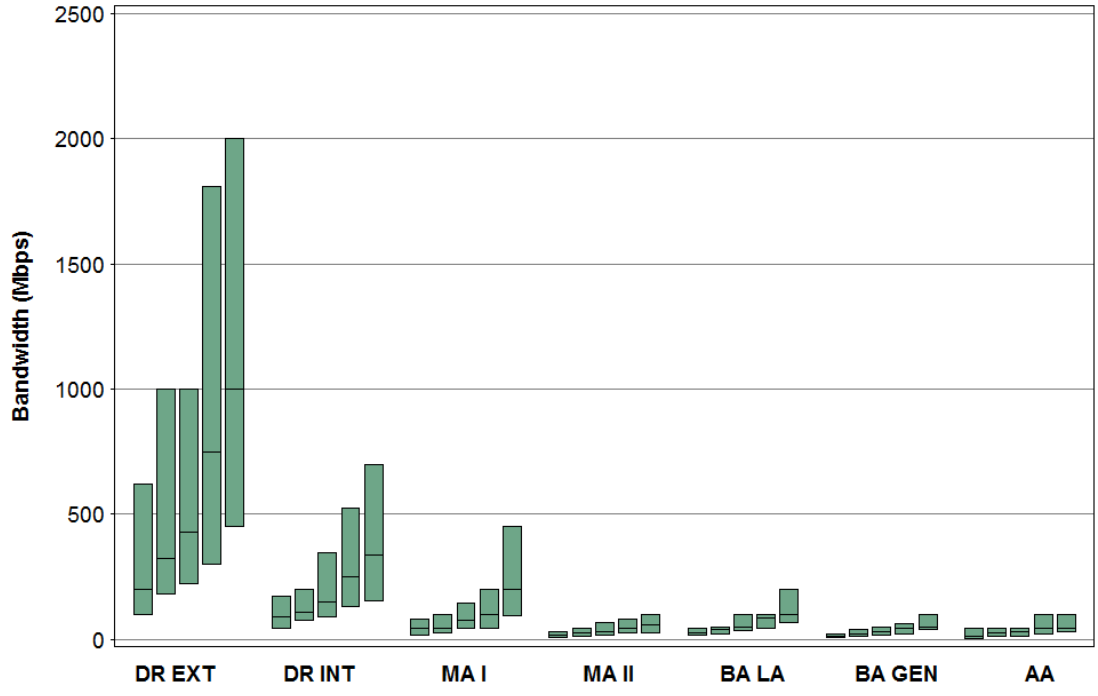

Figure 4-2 Bandwidth to High-Performance Networks 2005–2009

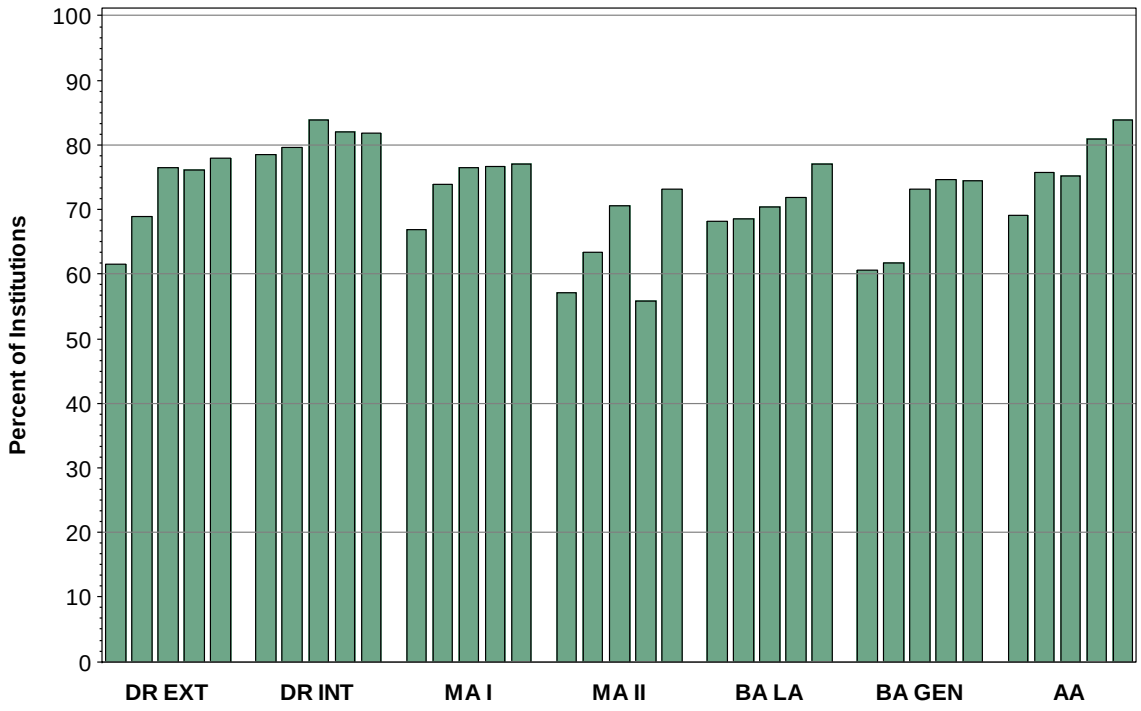

Figure 4-3 Tracking Bandwidth Utilization 2005–2009

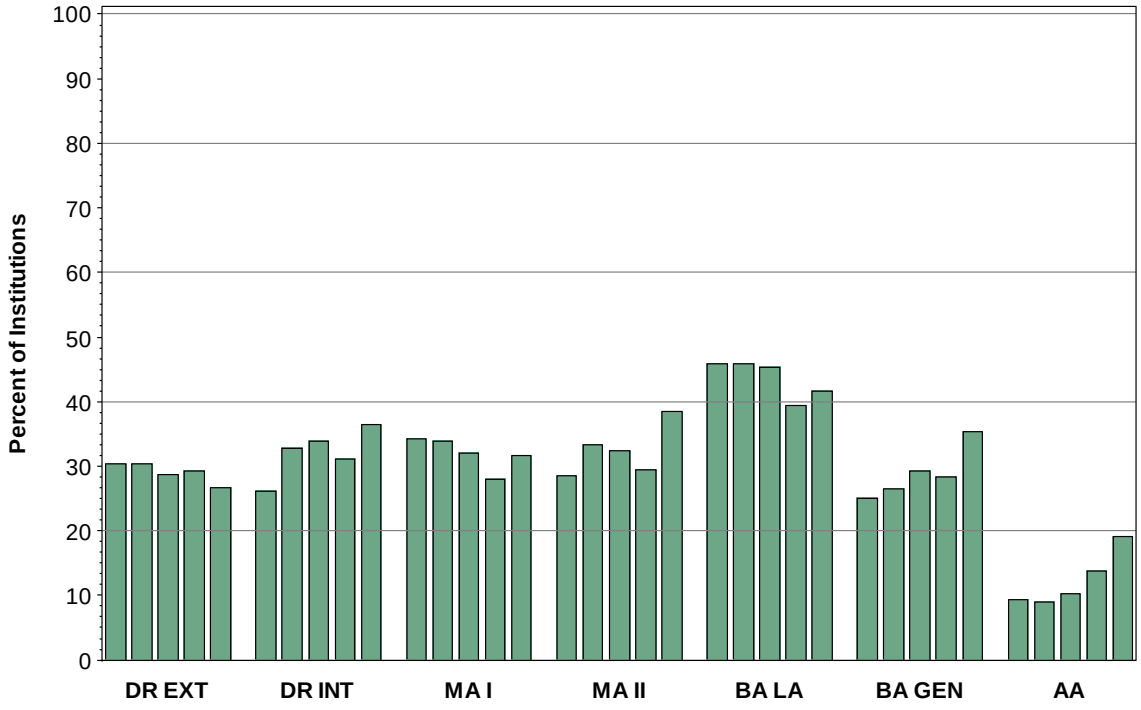

Figure 4-4 Shaping Bandwidth by Time of Day 2005–2009

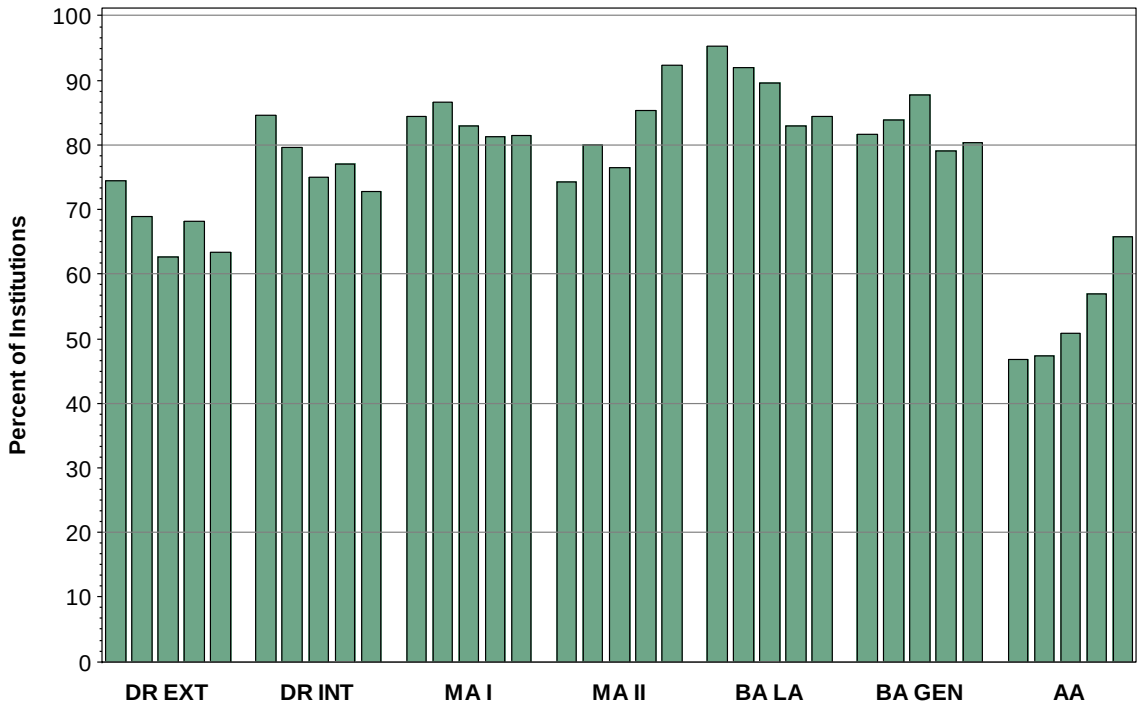

Figure 4-5 Shaping Bandwidth by Type of Traffic 2005–2009

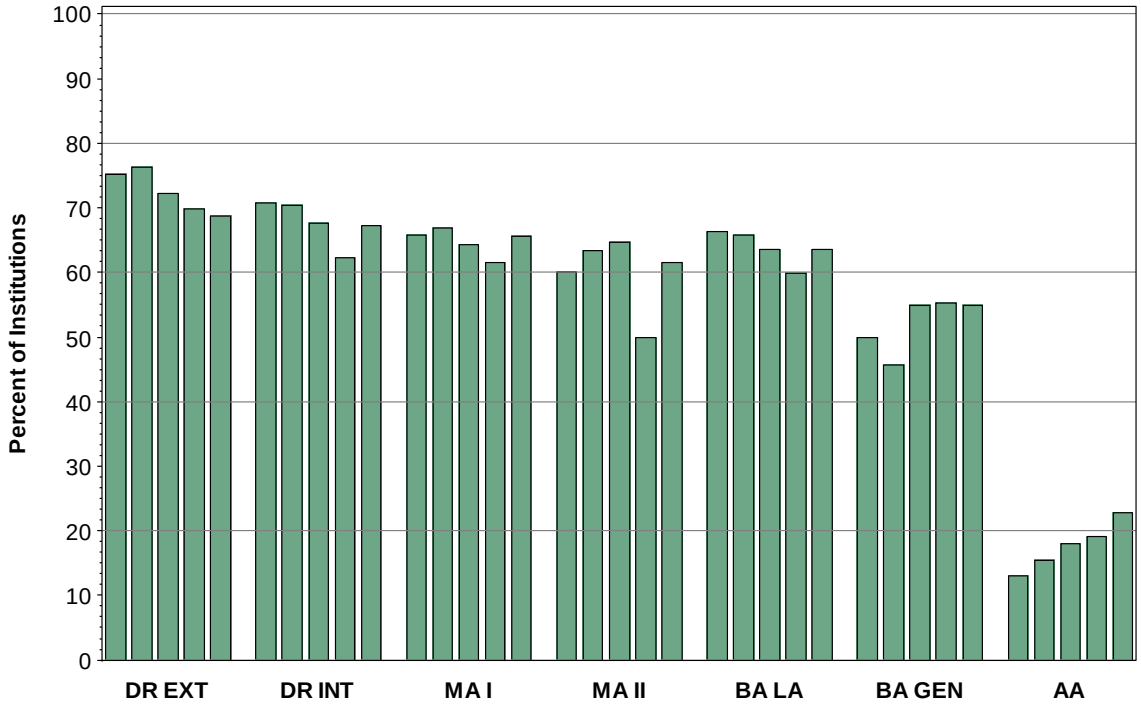

Figure 4-6 Shaping Bandwidth by Location 2005–2009

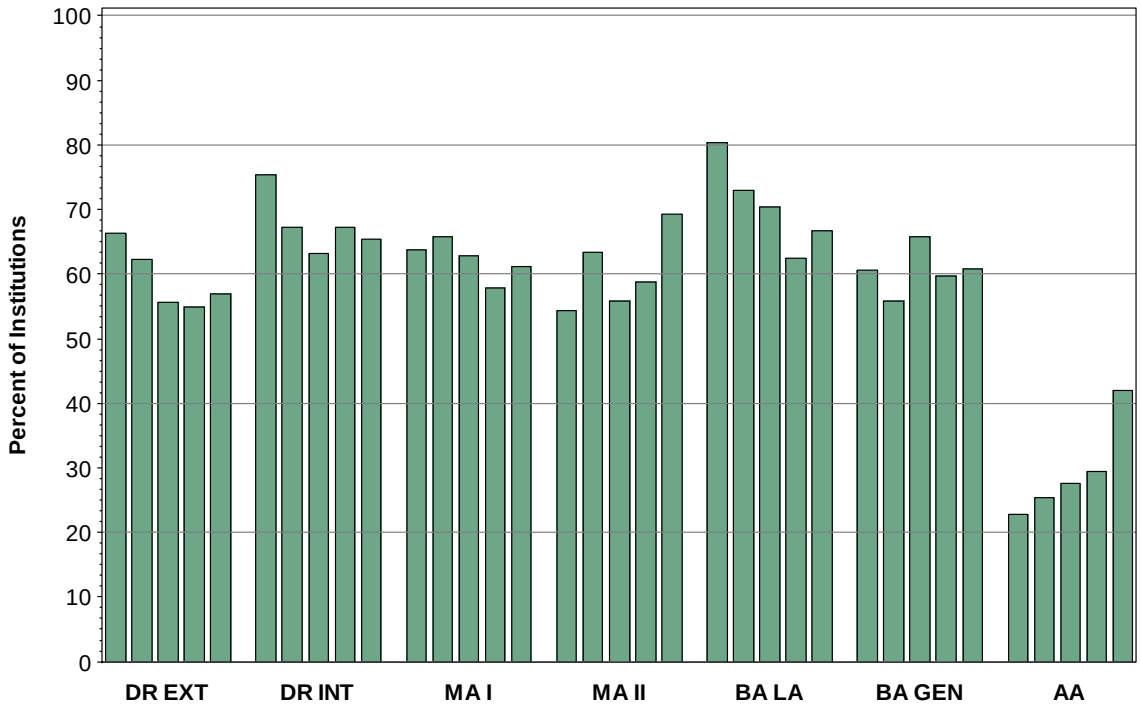

Figure 4-7 Shaping Bandwidth by Direction 2005–2009

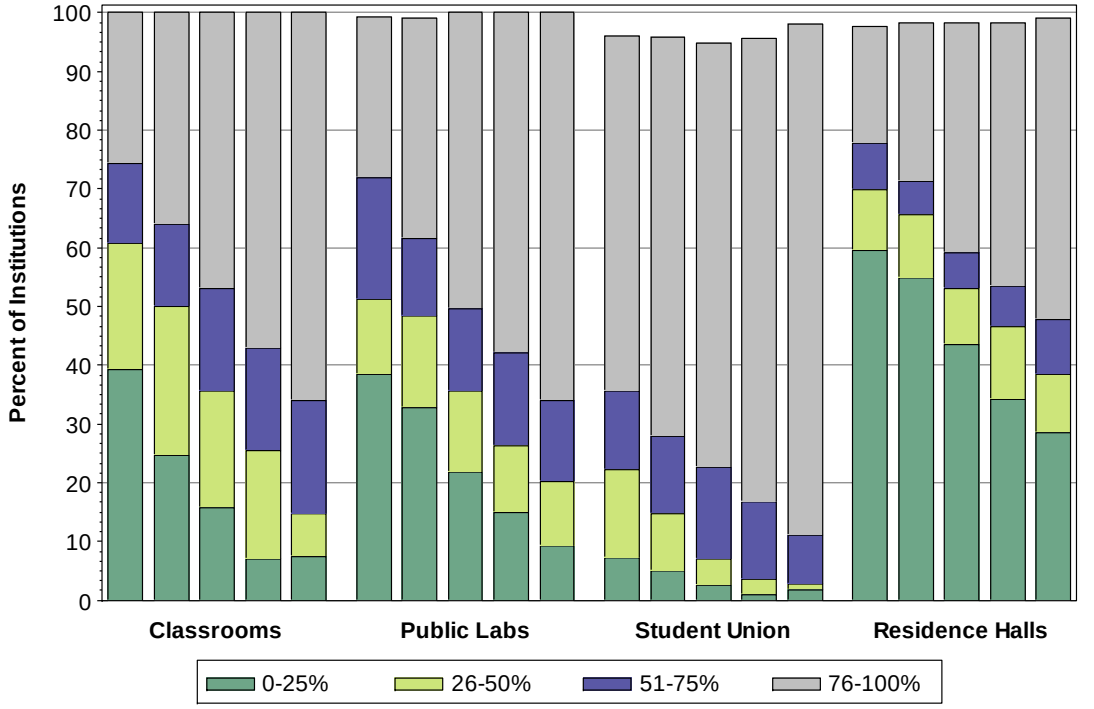

Figure 4-8 Availability of Wireless Access on Campus (1) (DR EXT) 2005–2009

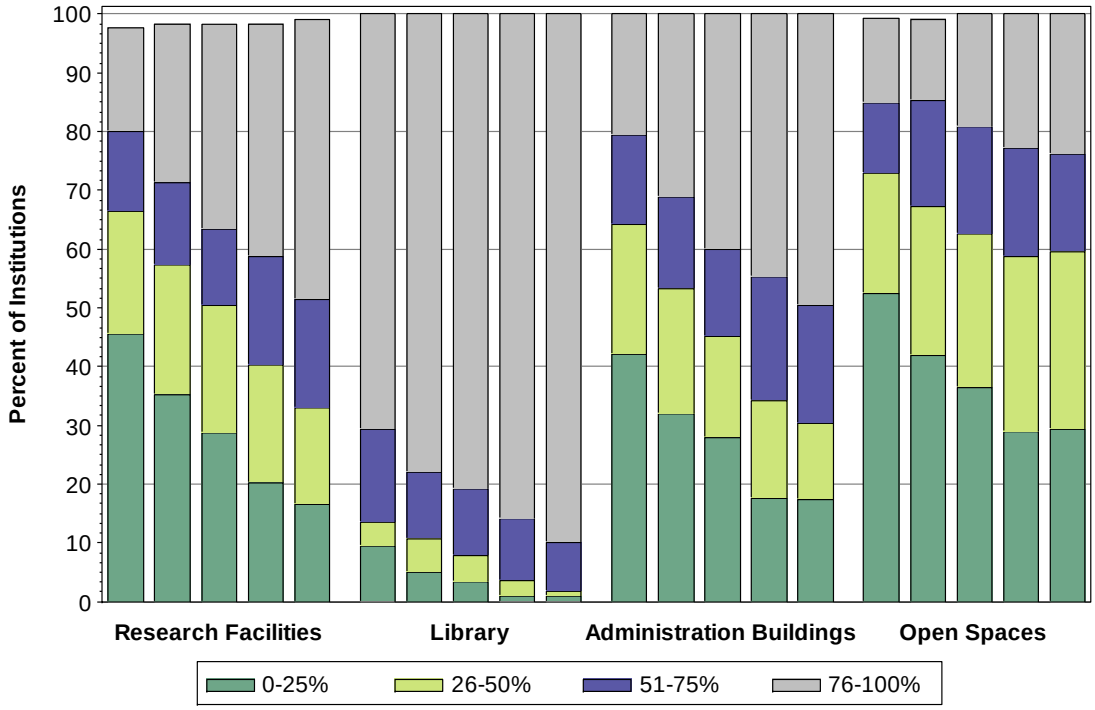

Figure 4-9 Availability of Wireless Access on Campus (2) (DR EXT) 2005–2009

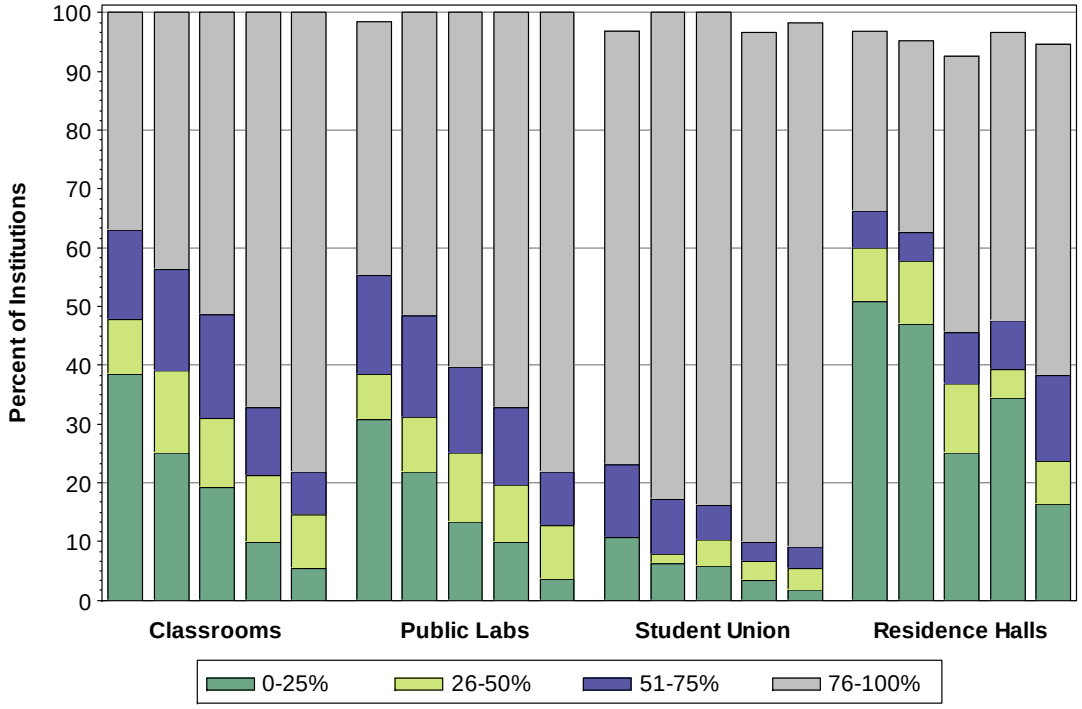

Figure 4-10 Availability of Wireless Access on Campus (1) (DR INT) 2005–2009

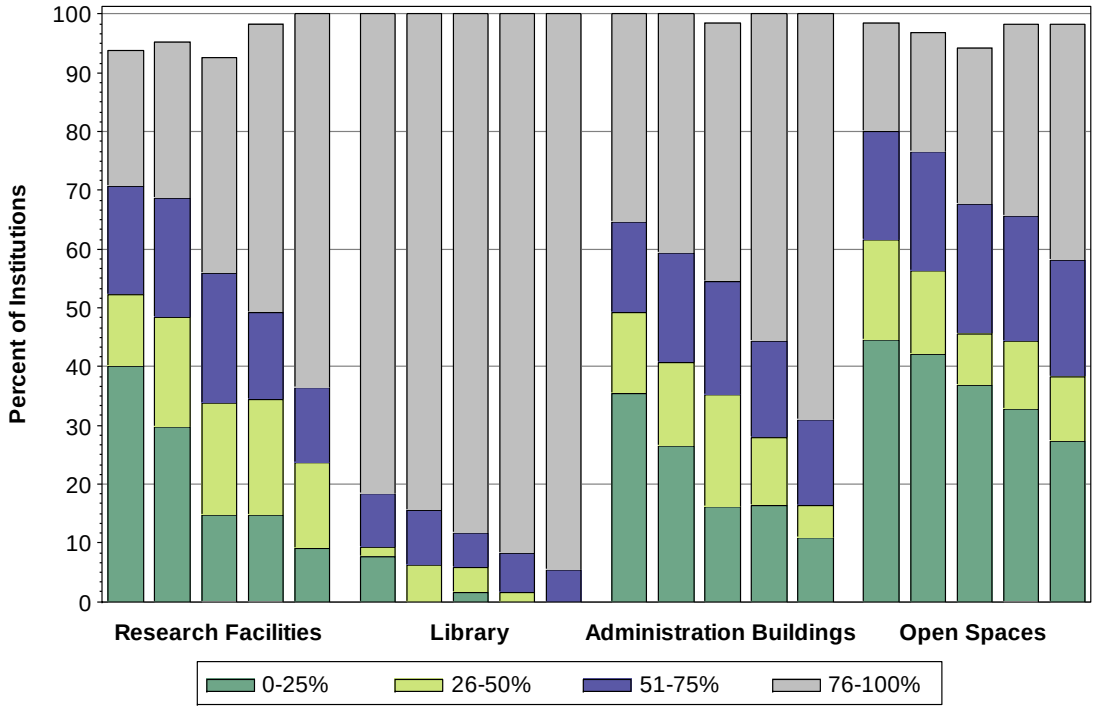

Figure 4-11 Availability of Wireless Access on Campus (2) (DR INT) 2005–2009

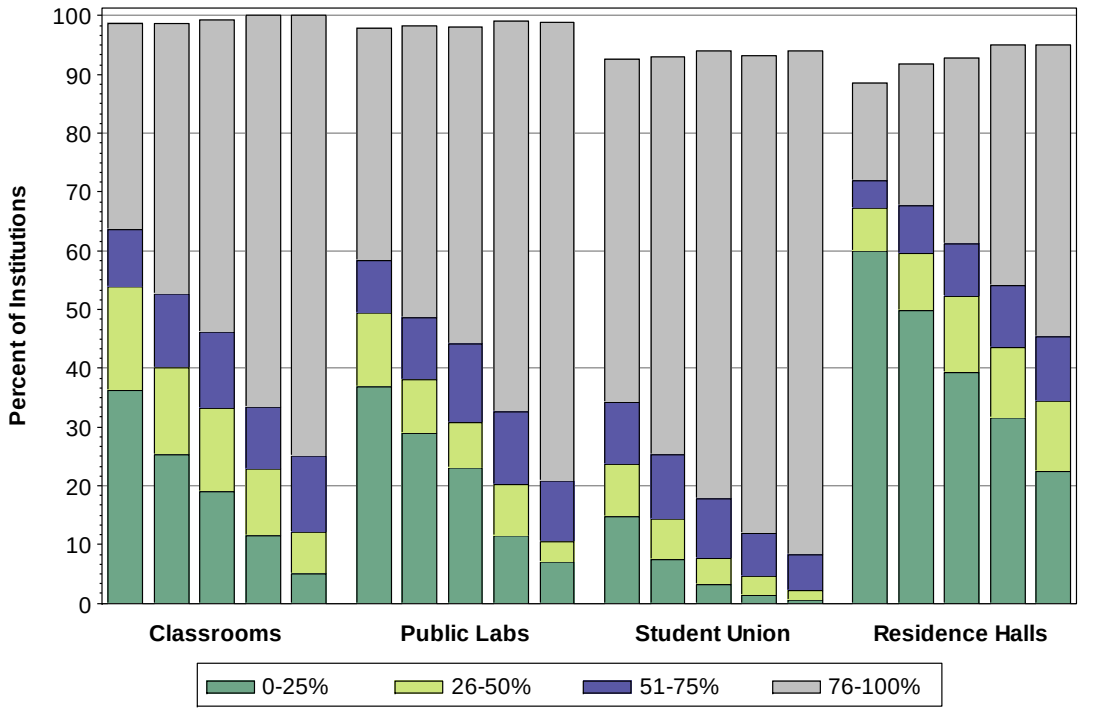

Figure 4-12 Availability of Wireless Access on Campus (1) (MA I) 2005–2009

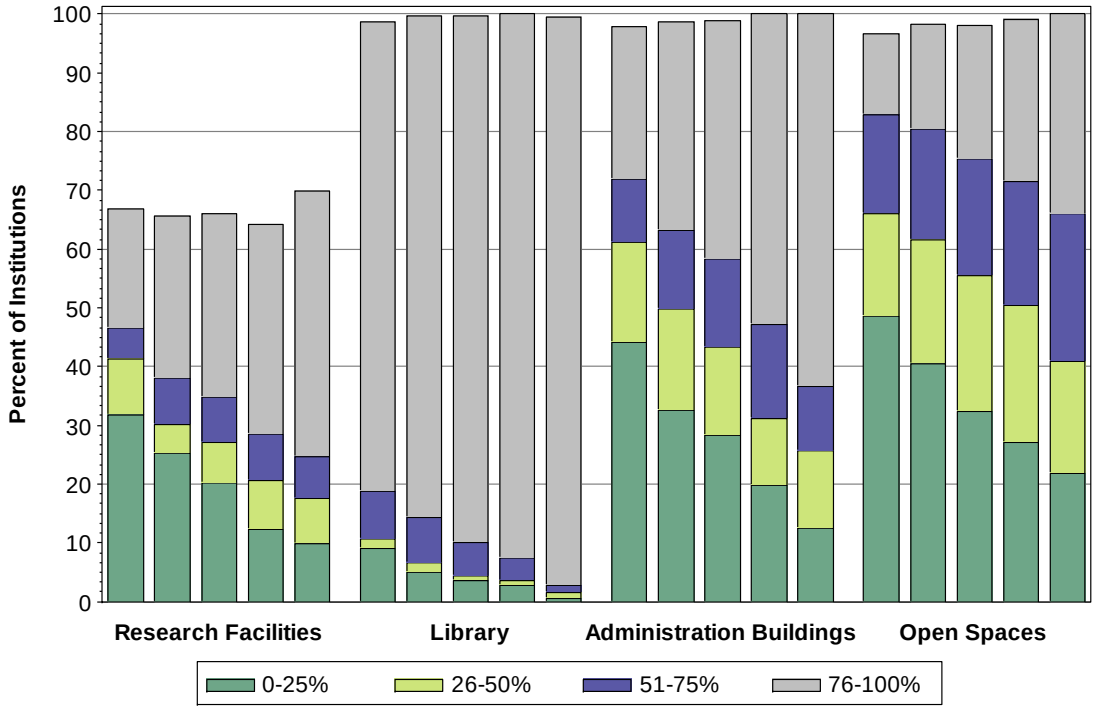

Figure 4-13 Availability of Wireless Access on Campus (2) (MA I) 2005–2009

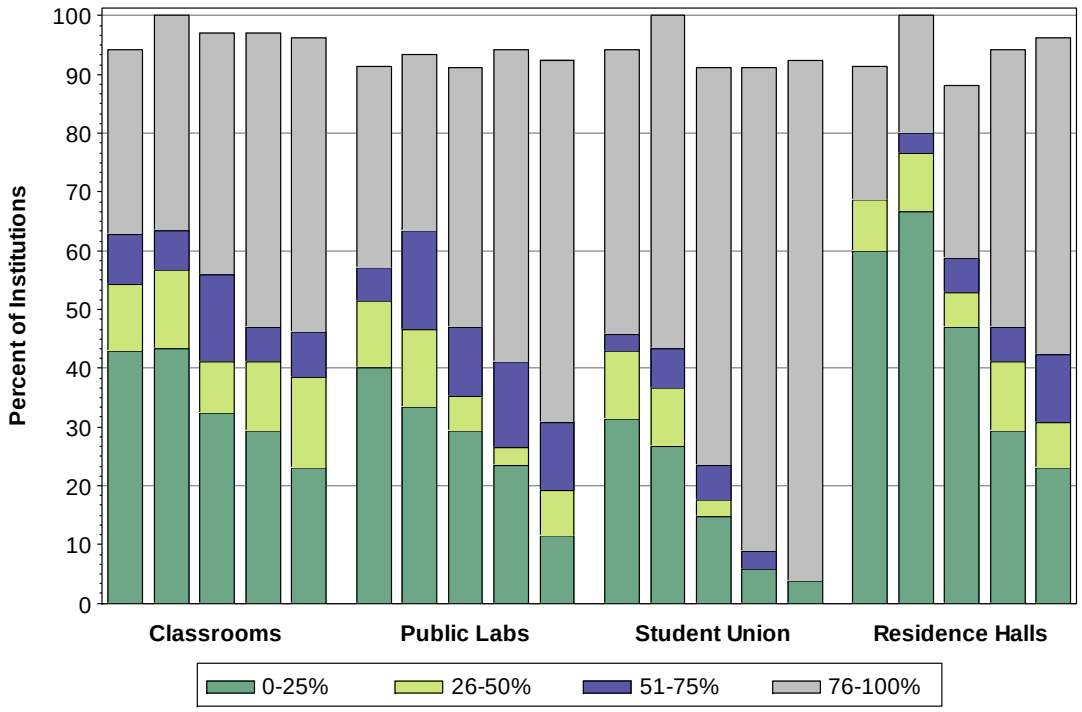

Figure 4-14 Availability of Wireless Access on Campus (1) (MA II) 2005–2009

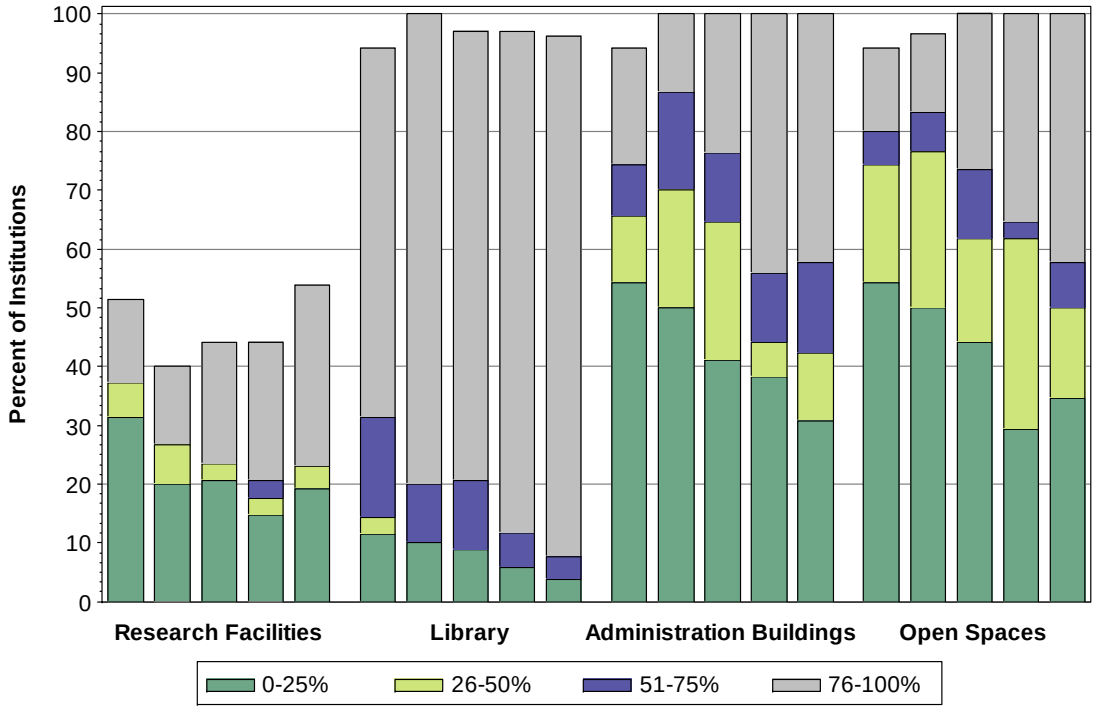

Figure 4-15 Availability of Wireless Access on Campus (2) (MA II) 2005–2009

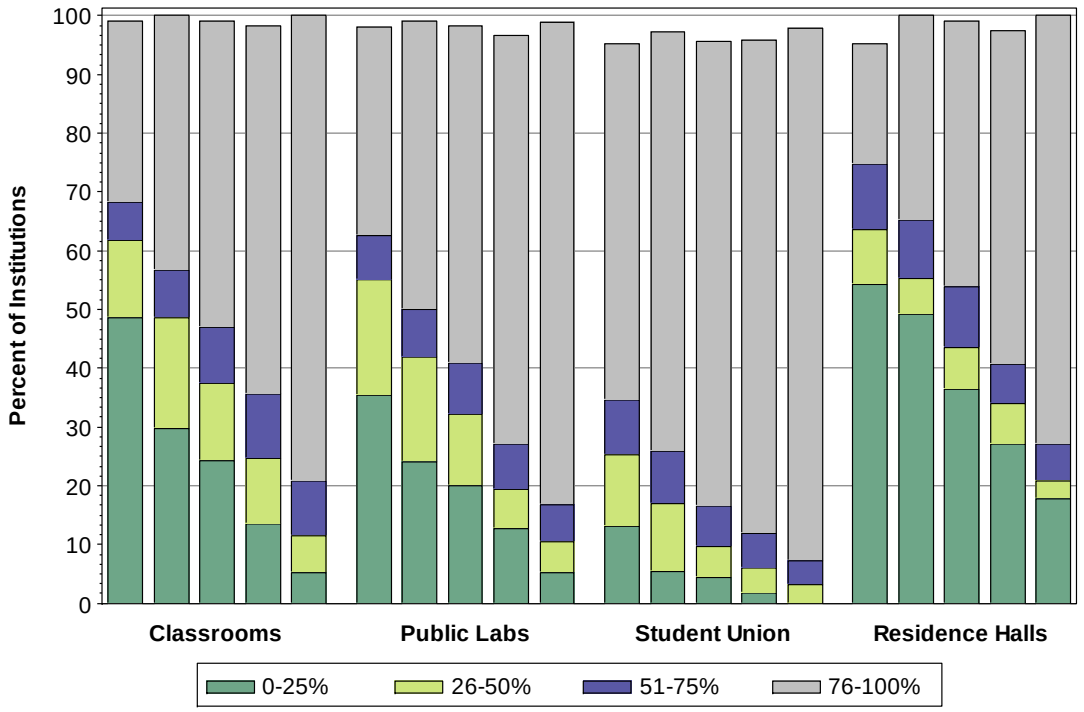

Figure 4-16 Availability of Wireless Access on Campus (1) (BA LA) 2005–2009

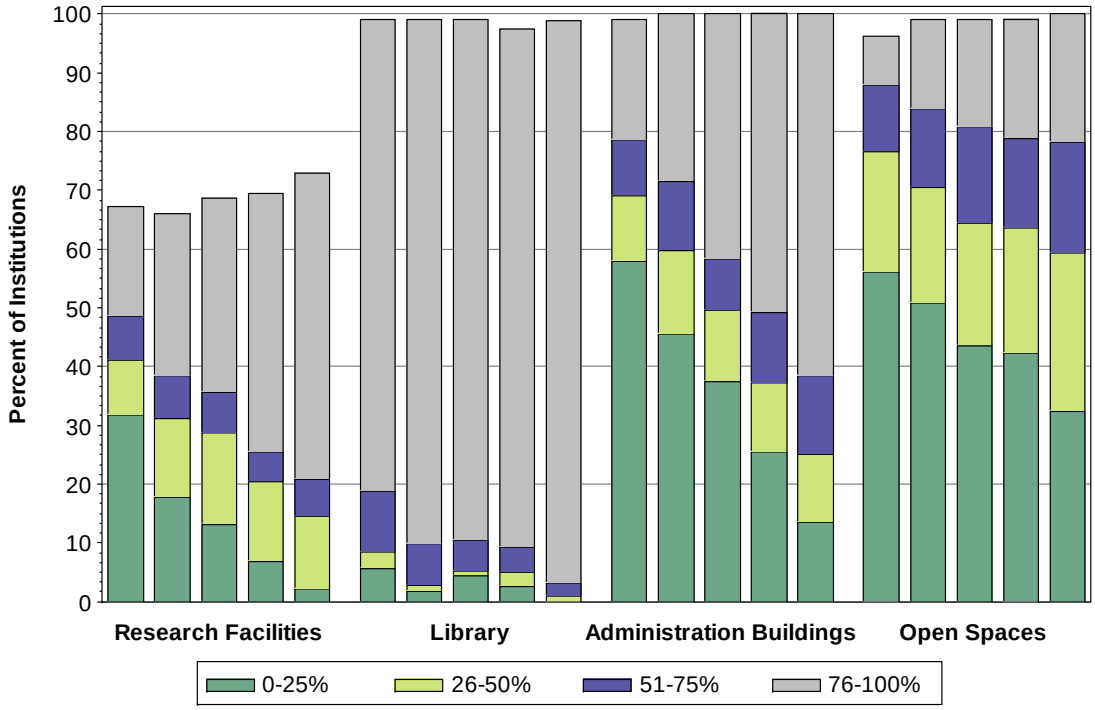

Figure 4-17 Availability of Wireless Access on Campus (2) (BA LA) 2005–2009

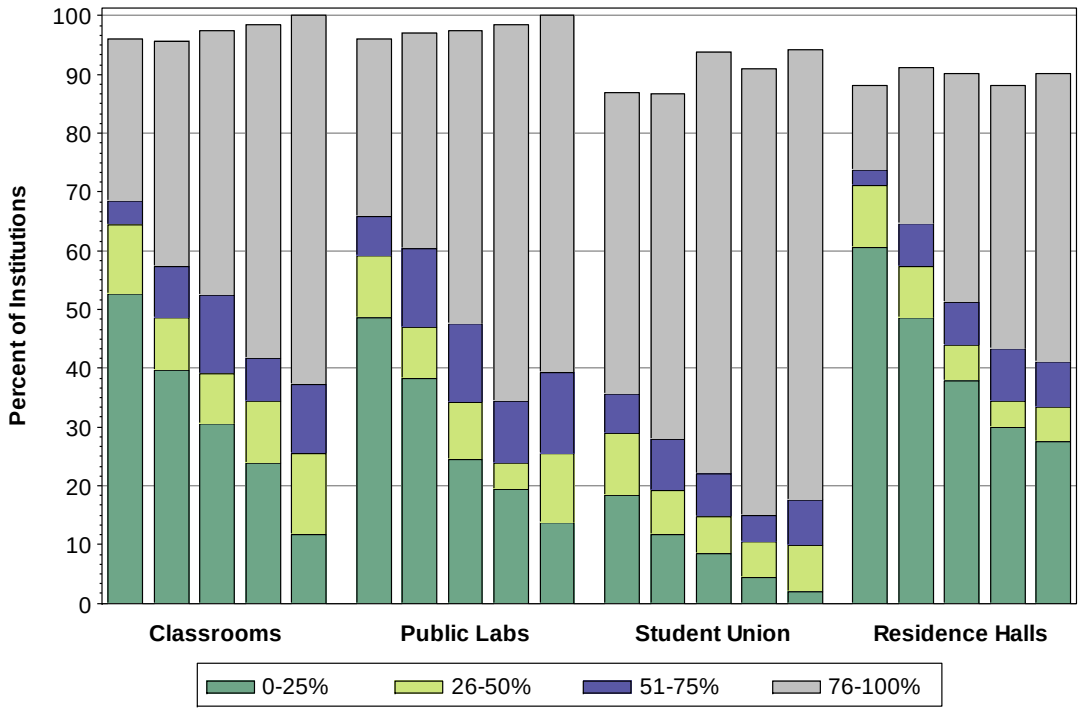

Figure 4-18 Availability of Wireless Access on Campus (1) (BA GEN) 2005–2009

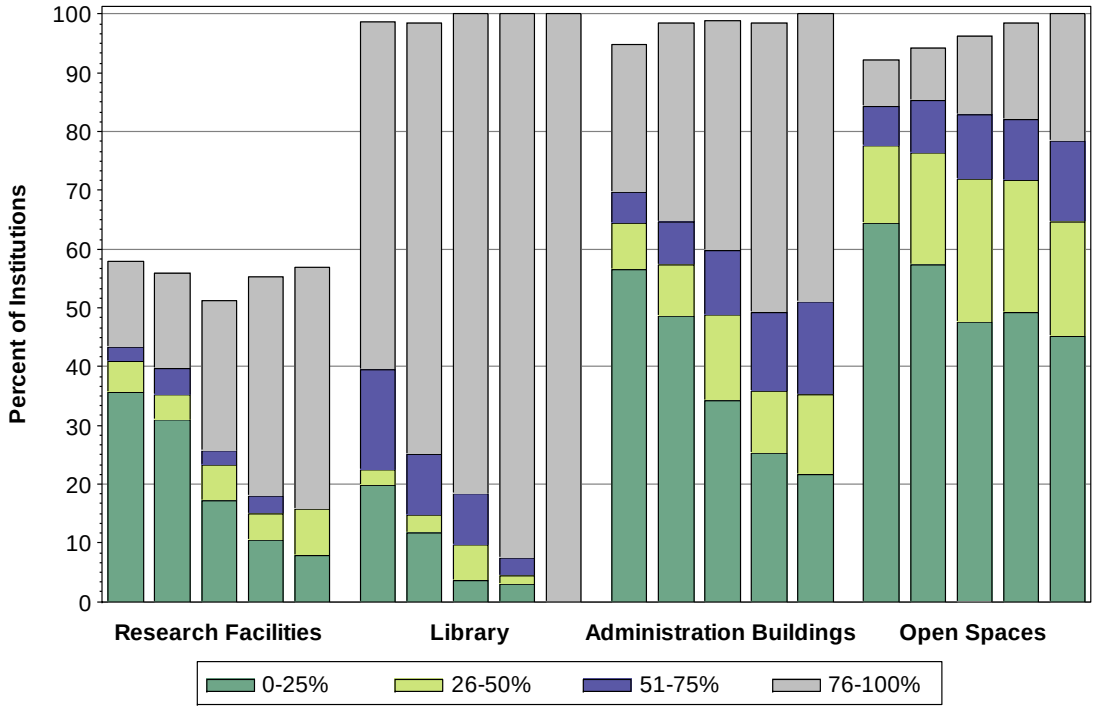

Figure 4-19 Availability of Wireless Access on Campus (2) (BA GEN) 2005–2009

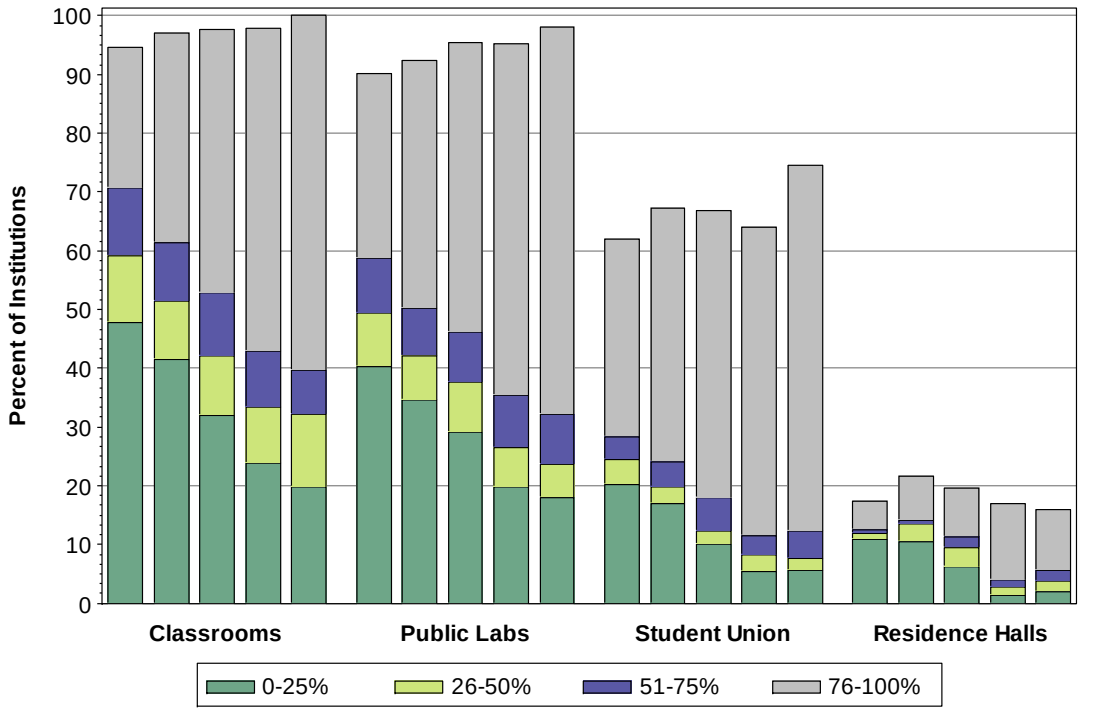

Figure 4-20 Availability of Wireless Access on Campus (1) (AA) 2005–2009

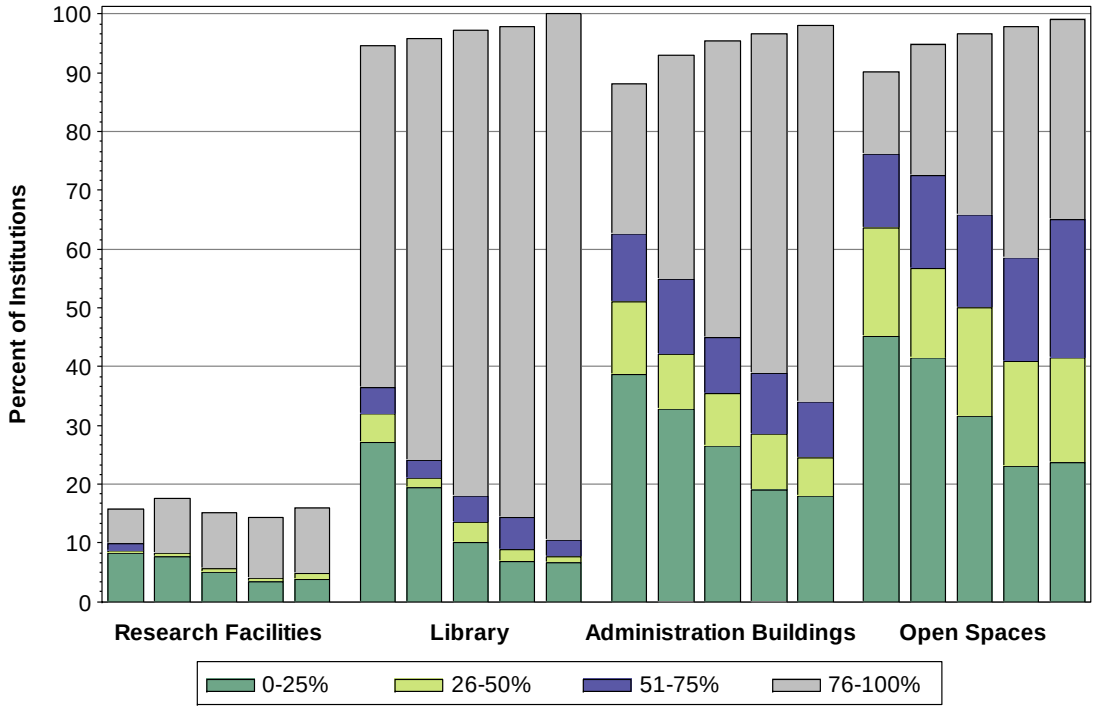

Figure 4-21 Availability of Wireless Access on Campus (2) (AA) 2005–2009

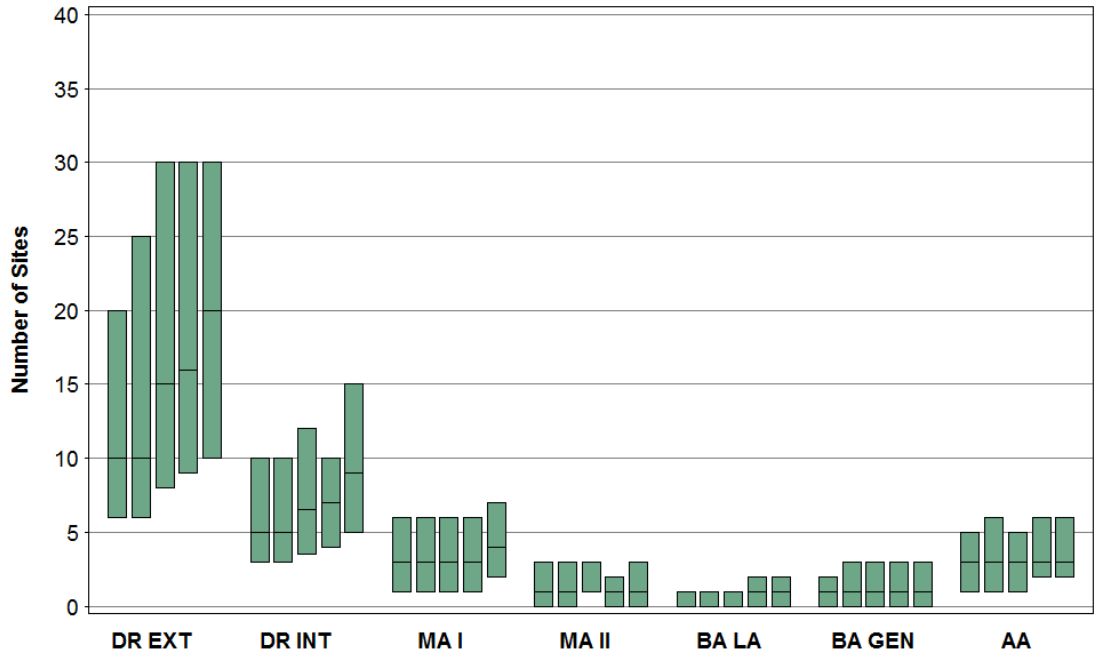

Figure 4-22 Videoconferencing Sites Available 2005–2009

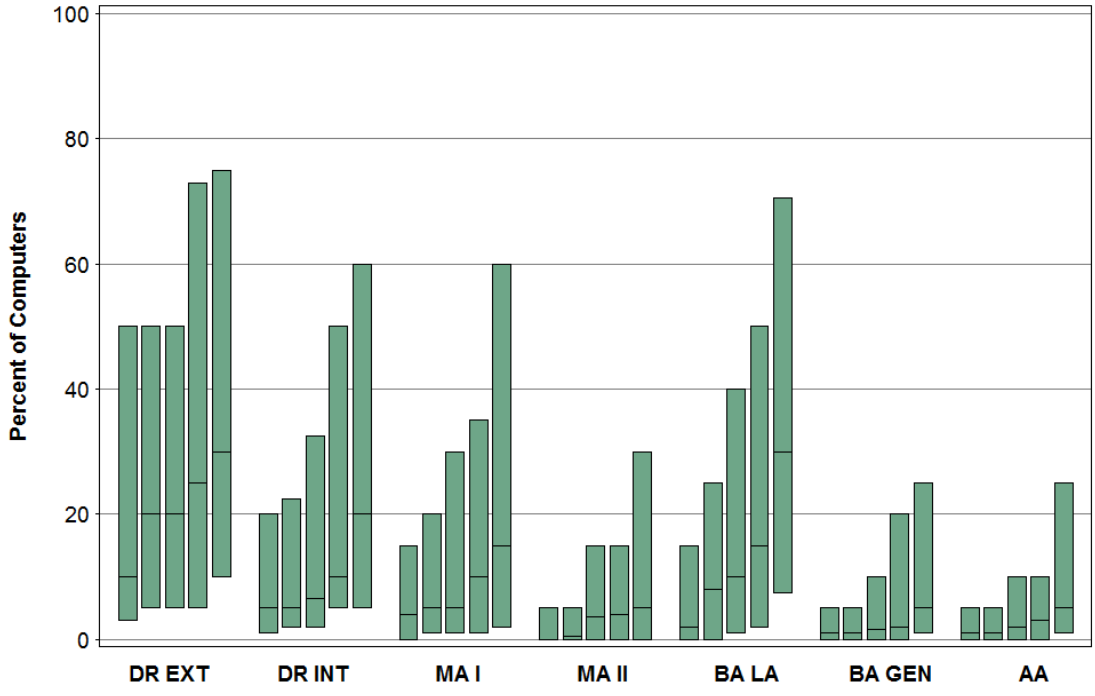

Figure 4-23 Computers with Videoconferencing Capabilities 2005–2009

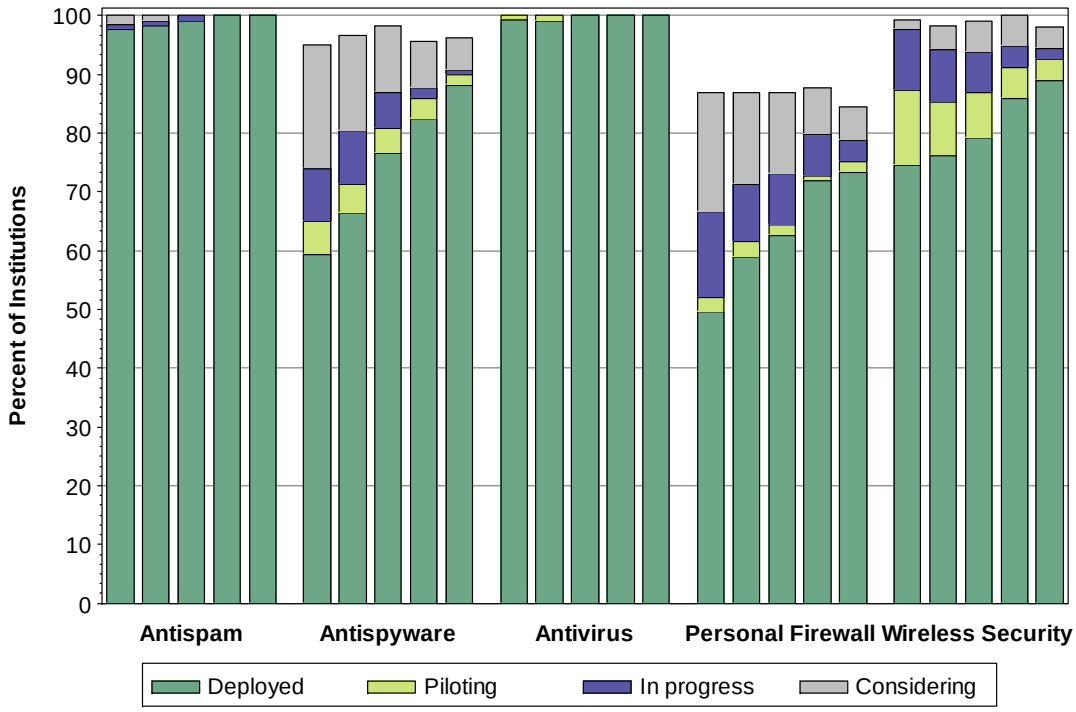

Figure 4-24 Status of Security Technologies (DR EXT) 2005–2009

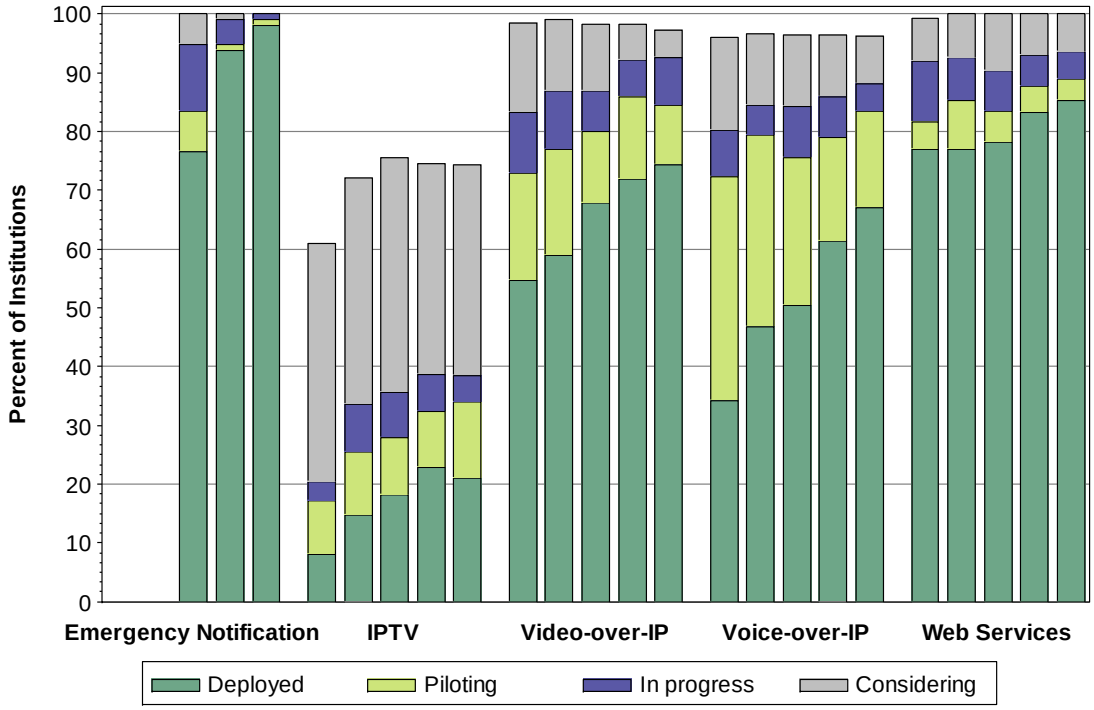

Figure 4-25 Status of Network Service Technologies (DR EXT) 2005–2009

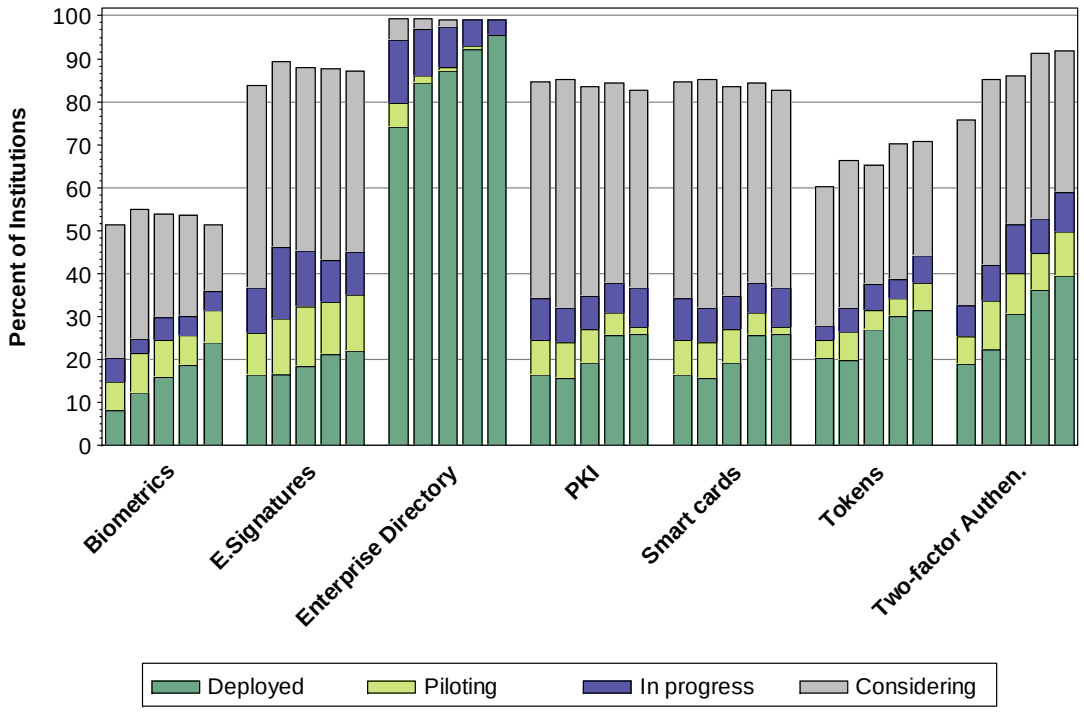

Figure 4-26 Status of Identity Management Technologies (DR EXT) 2005–2009

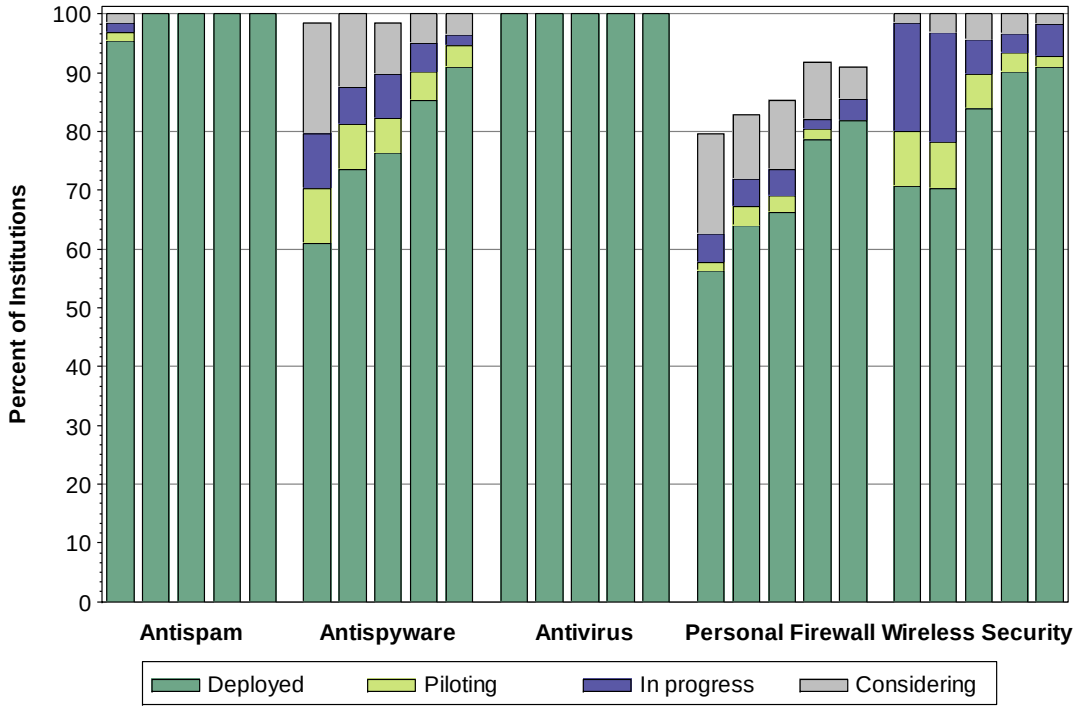

Figure 4-27 Status of Security Technologies (DR INT) 2005–2009

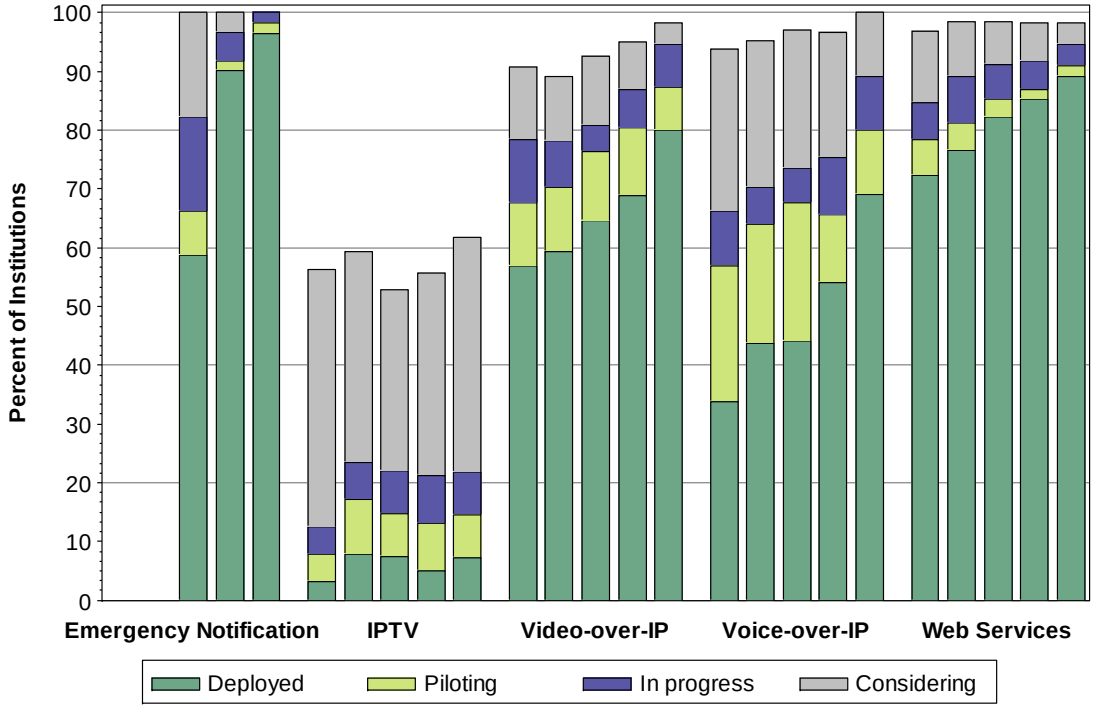

Figure 4-28 Status of Network Services Technologies (DR INT) 2005–2009

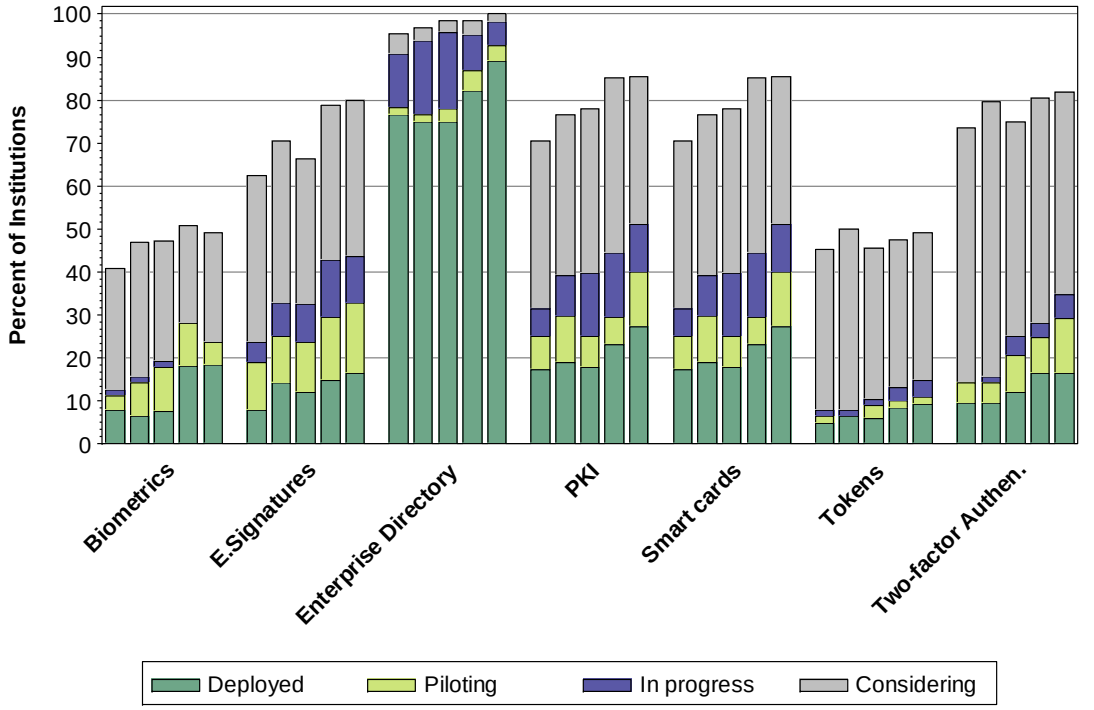

Figure 4-29 Status of Identity Management Technologies (DR INT) 2005–2009

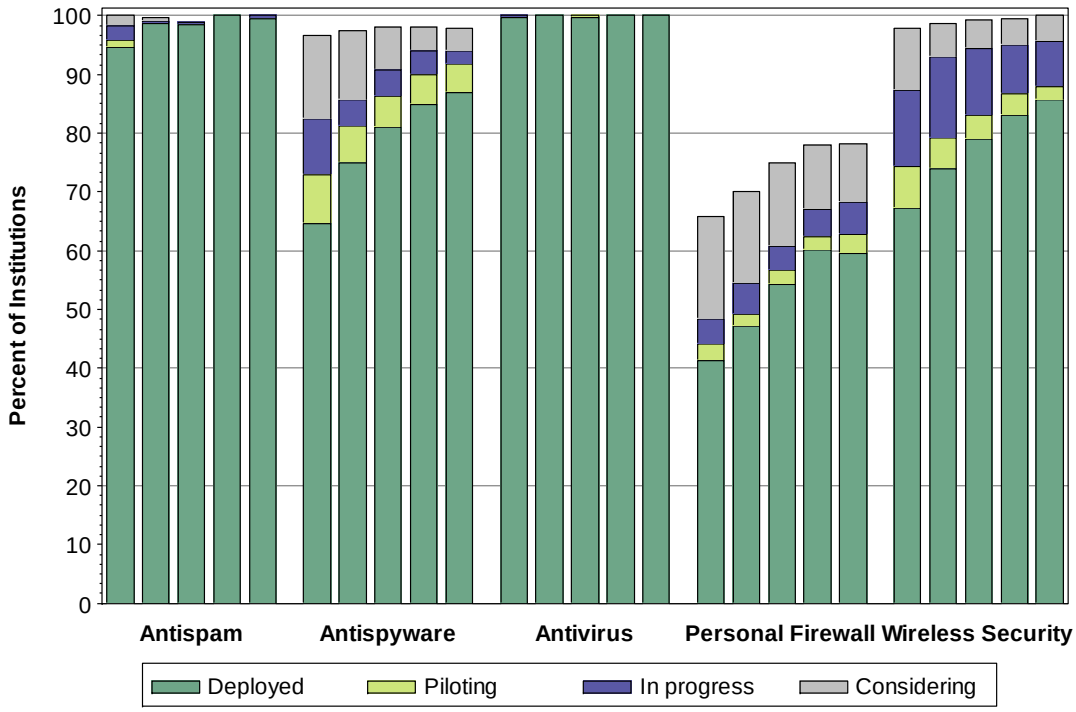

Figure 4-30 Status of Security Technologies (MA I) 2005–2009

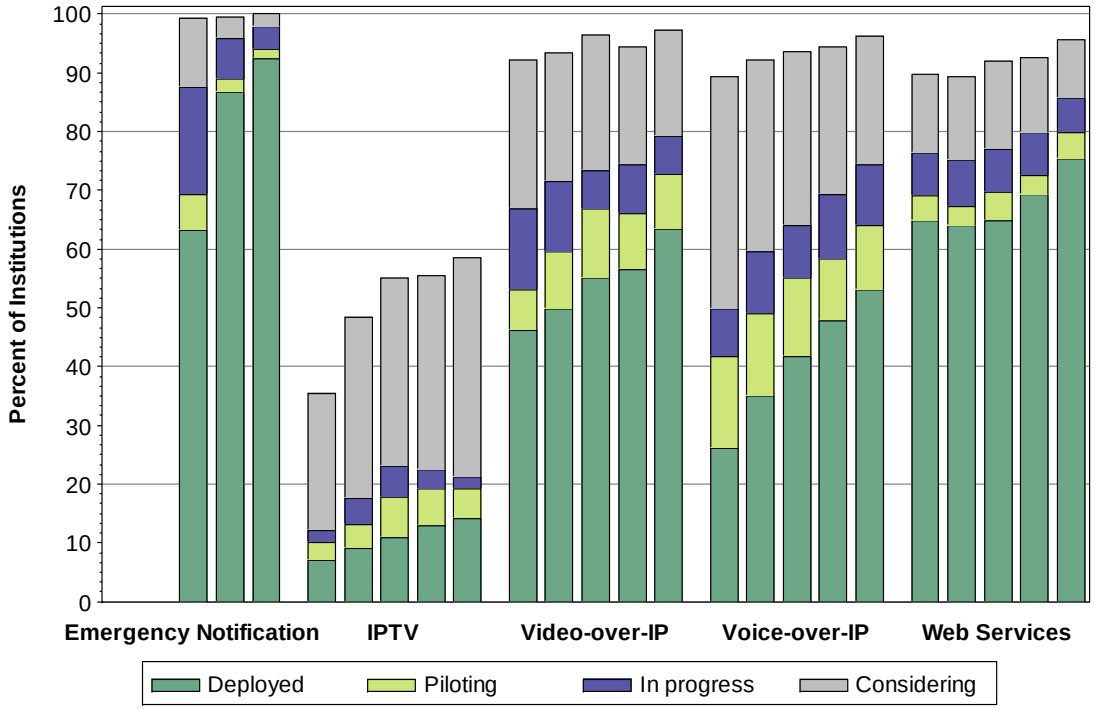

Figure 4-31 Status of Network Services Technologies (MA I) 2005–2009

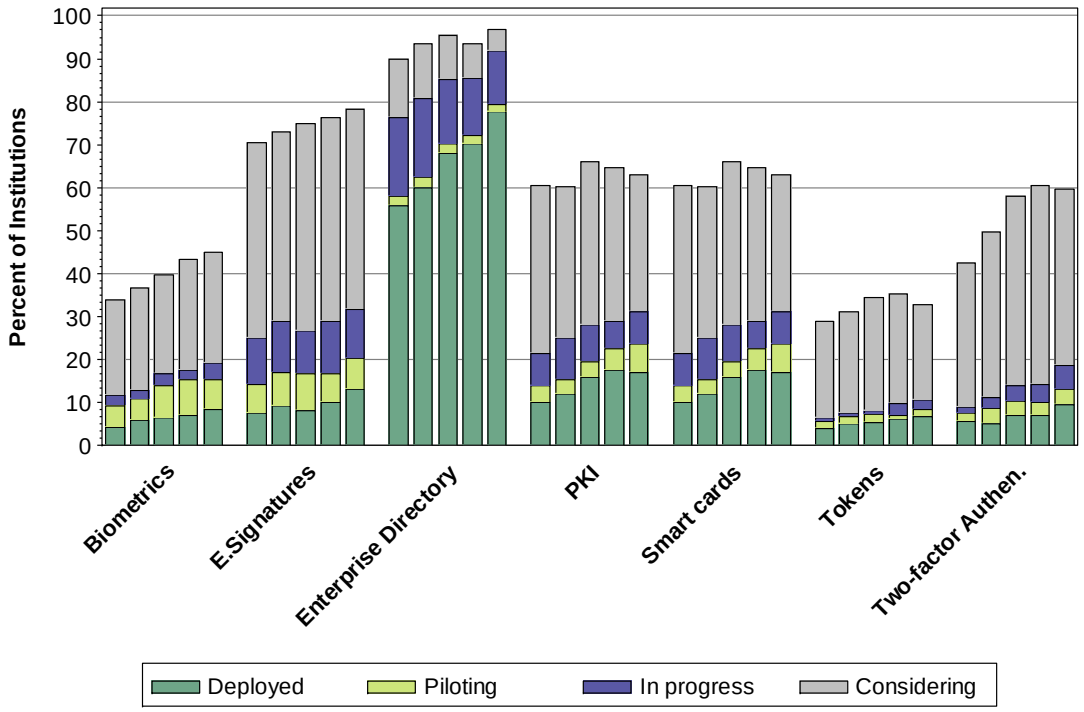

Figure 4-32 Status of Identity Management Technologies (MA I) 2005–2009

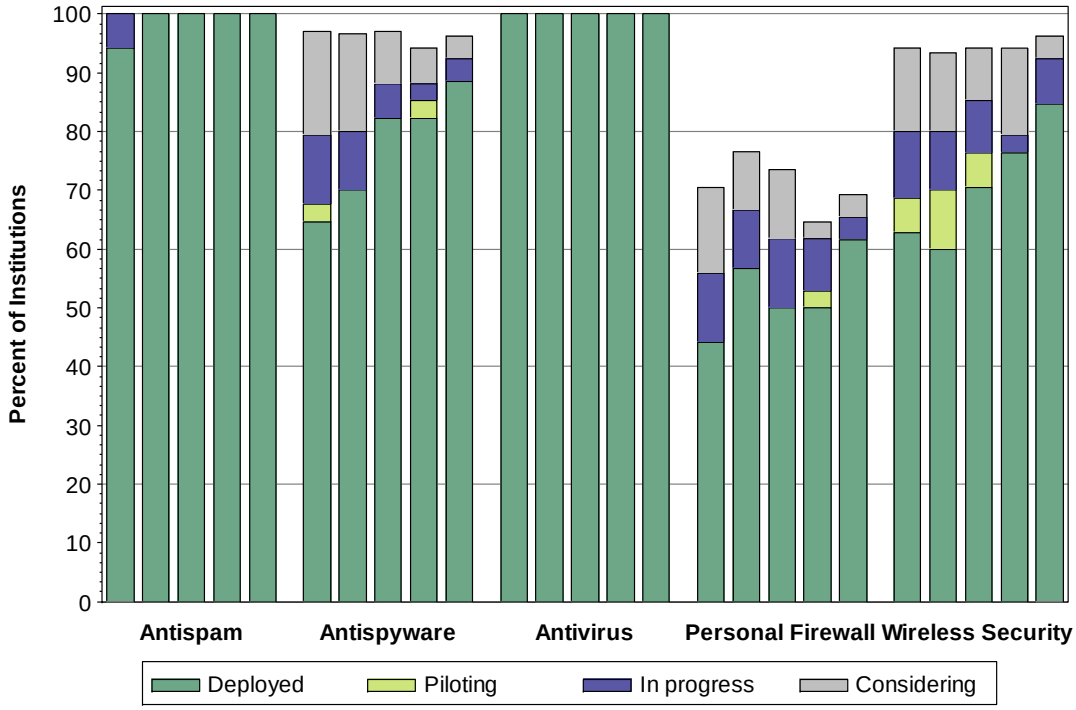

Figure 4-33 Status of Security Technologies (MA II) 2005–2009

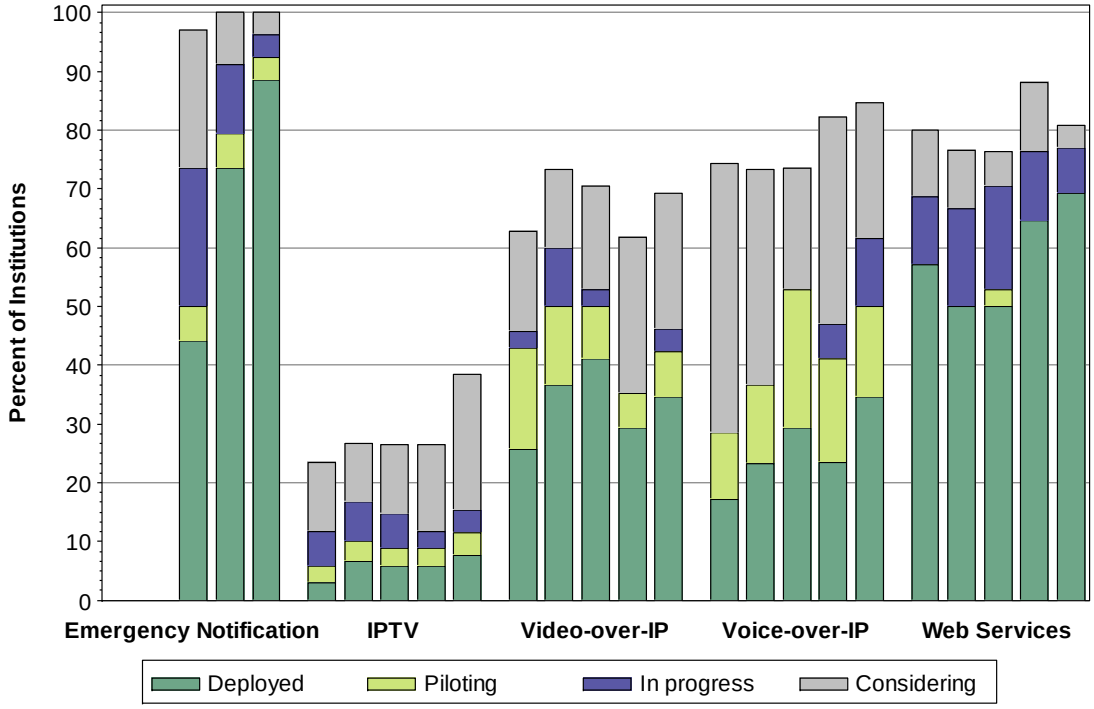

Figure 4-34 Status of Network Services Technologies (MA II) 2005–2009

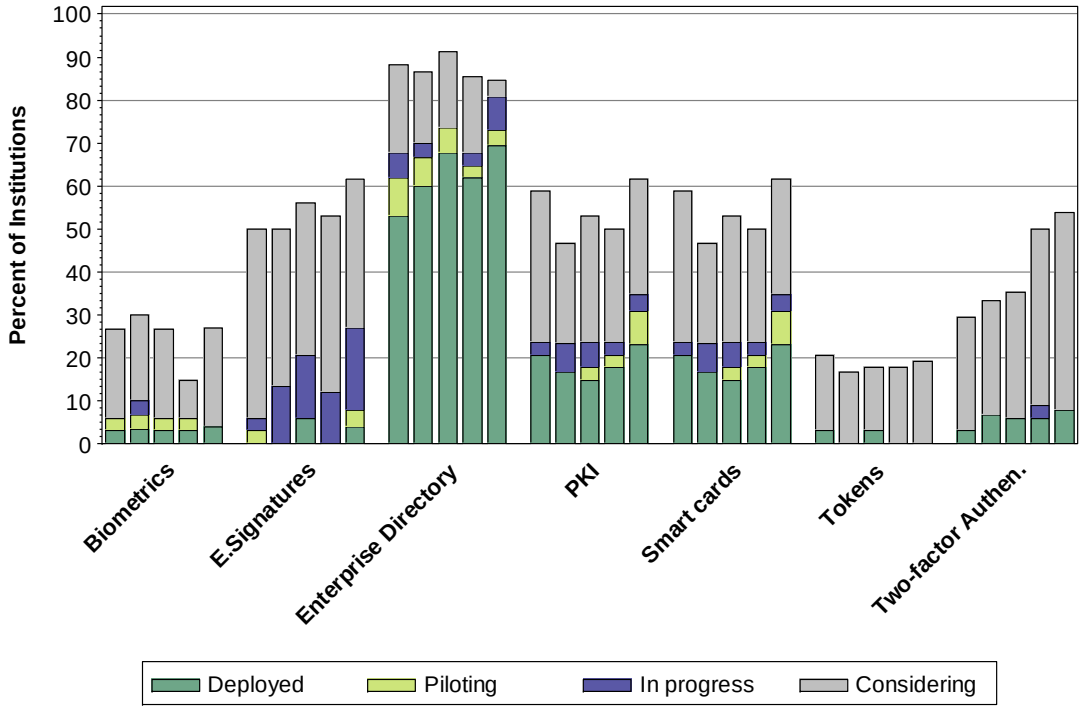

Figure 4-35 Status of Identity Management Technologies (MA II) 2005–2009

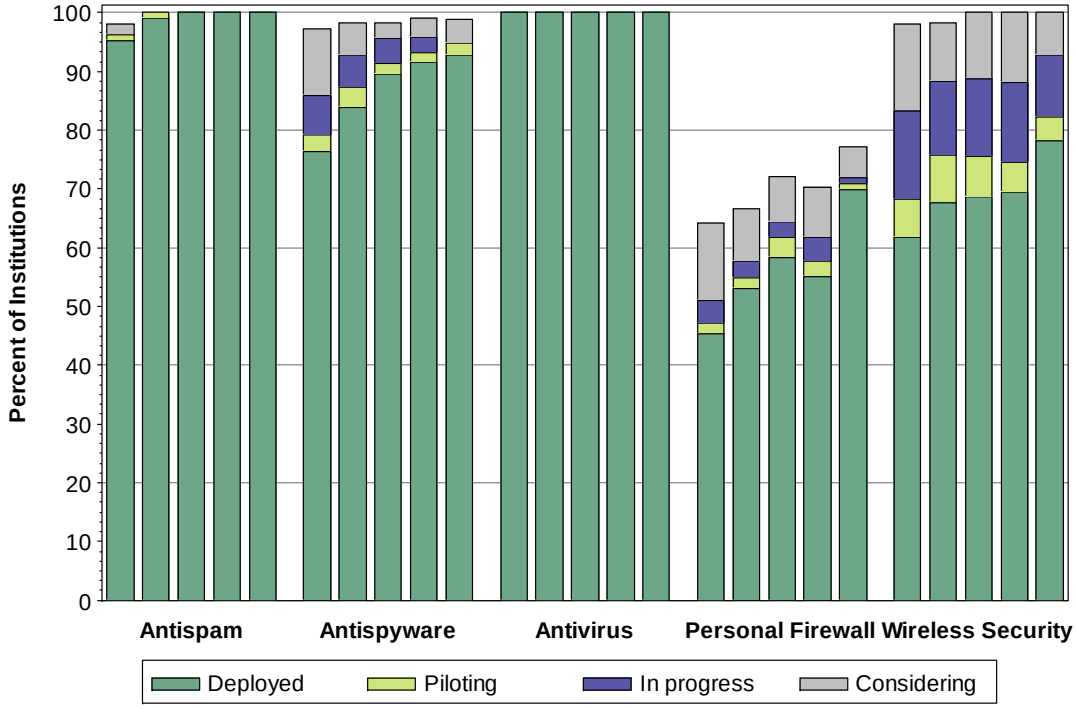

Figure 4-36 Status of Security Technologies (BA LA) 2005–2009

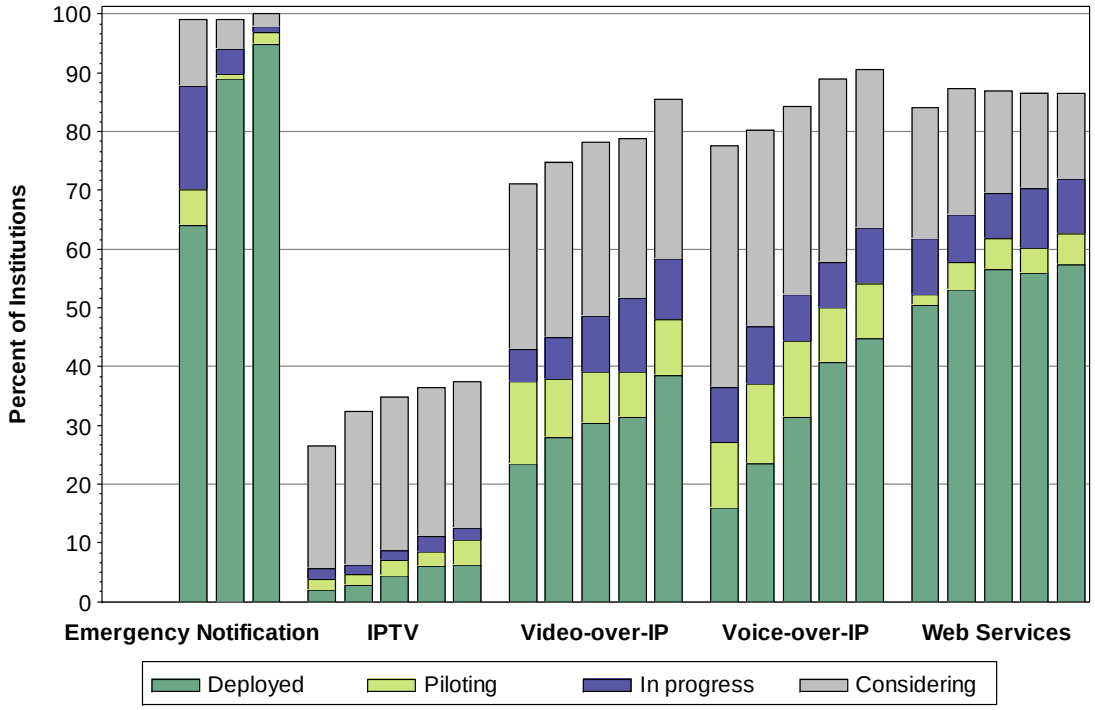

Figure 4-37 Status of Network Services Technologies (BA LA) 2005–2009

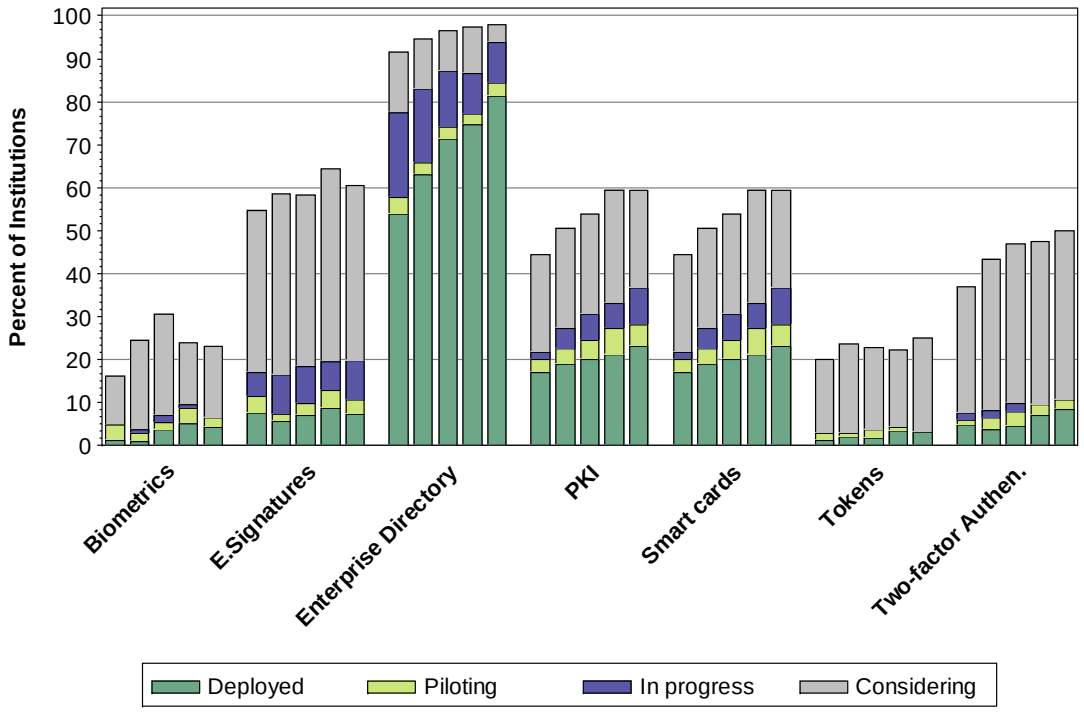

Figure 4-38 Status of Identity Management Technologies (BA LA) 2005–2009

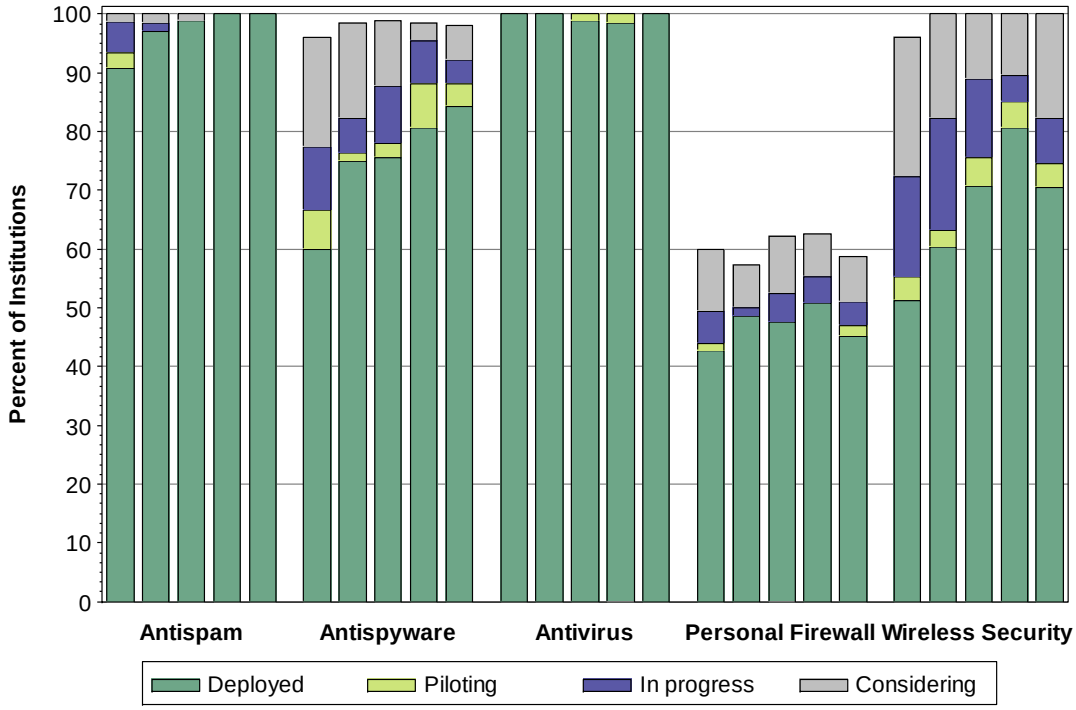

Figure 4-39 Status of Security Technologies (BA GEN) 2005–2009

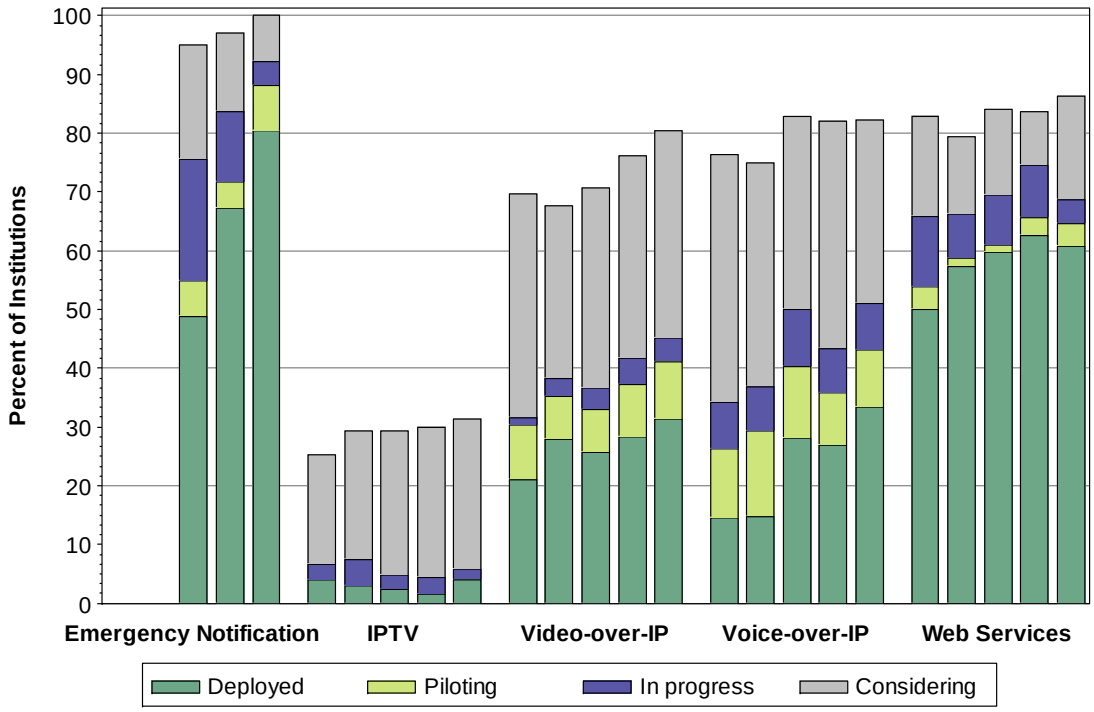

Figure 4-40 Status of Network Services Technologies (BA GEN) 2005–2009

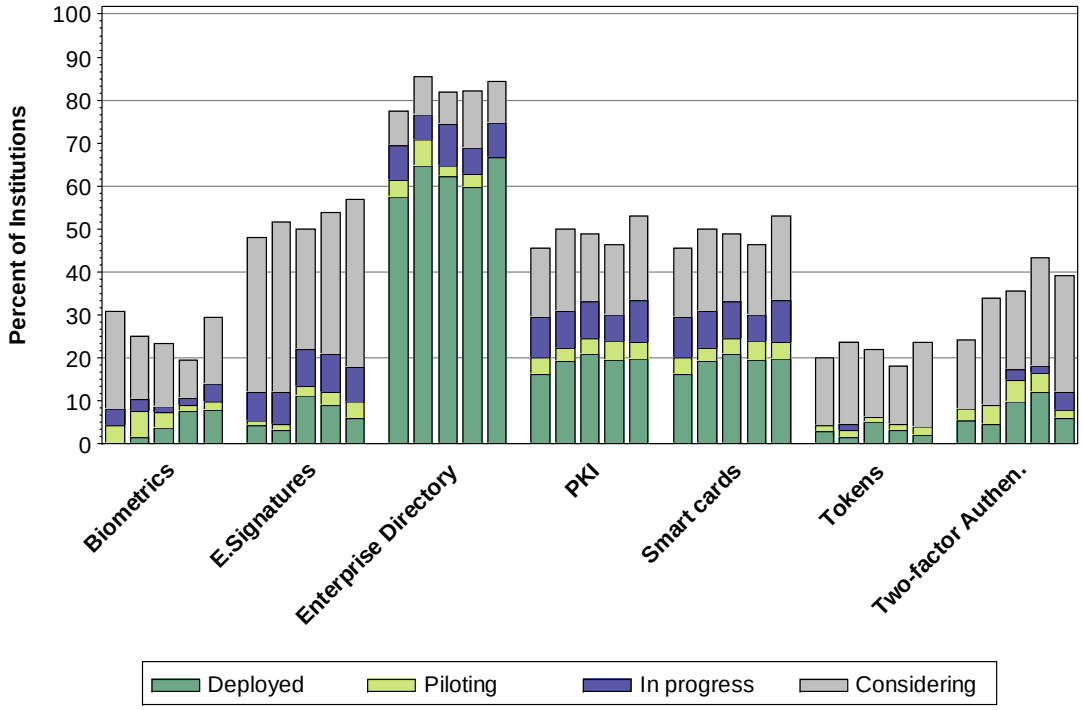

Figure 4-41 Status of Identity Management Technologies (BA GEN) 2005–2009

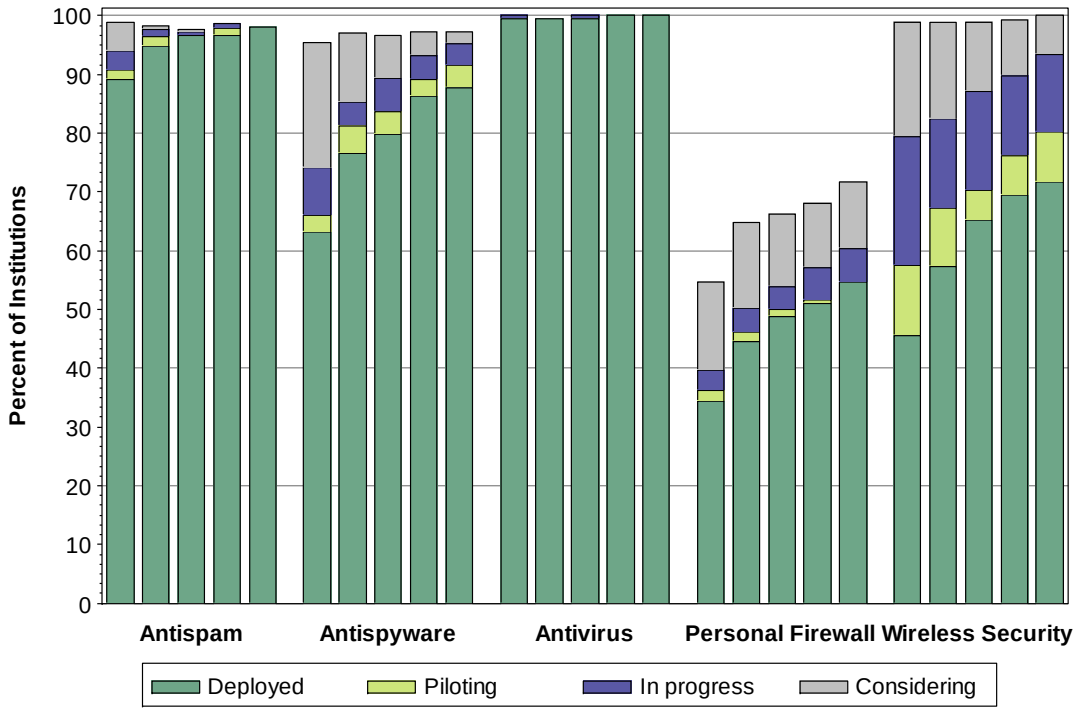

Figure 4-42 Status of Security Technologies (AA) 2005–2009

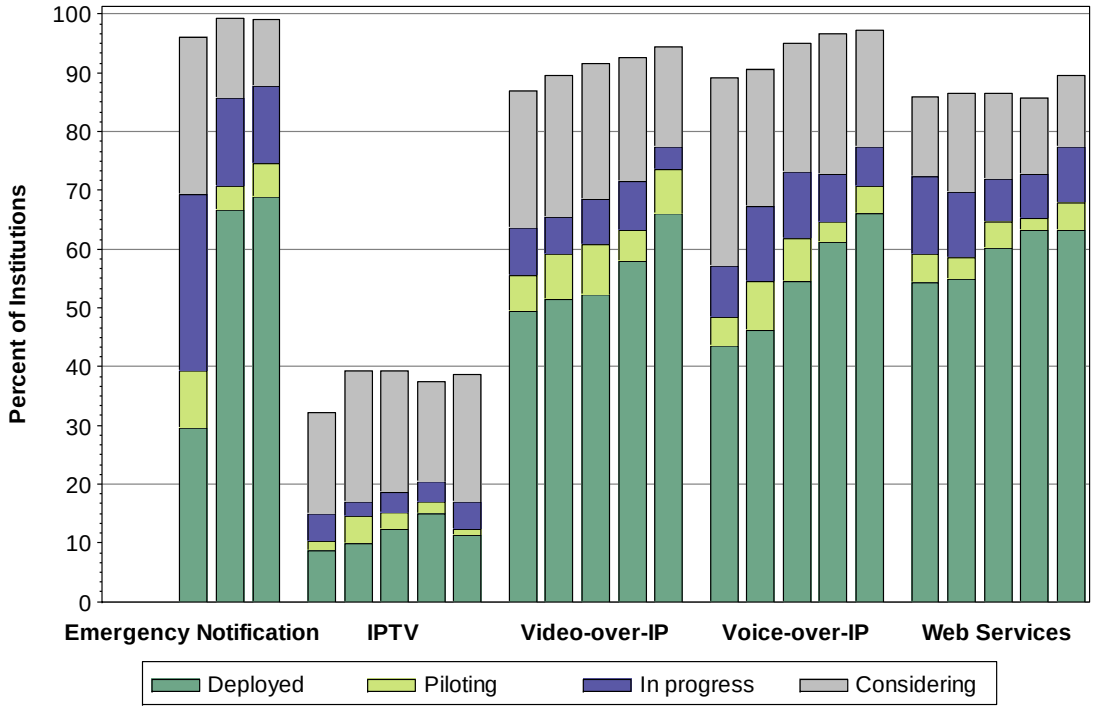

Figure 4-43 Status of Network Services Technologies (AA) 2005–2009

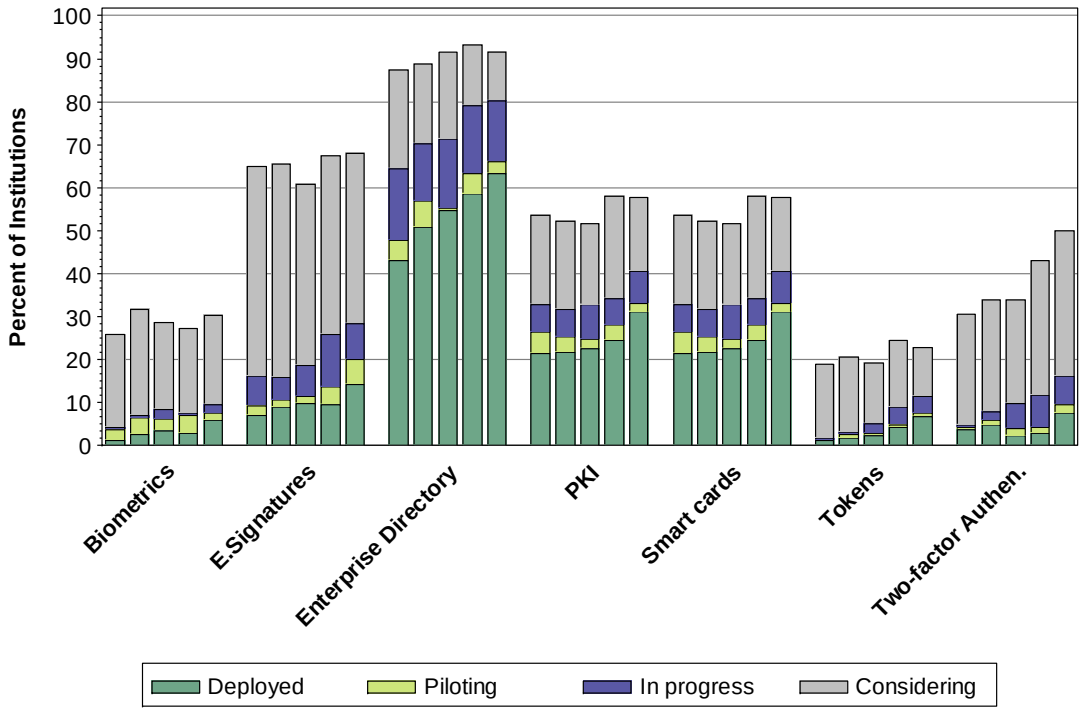

Figure 4-44 Status of Identity Management Technologies (AA) 2005–2009

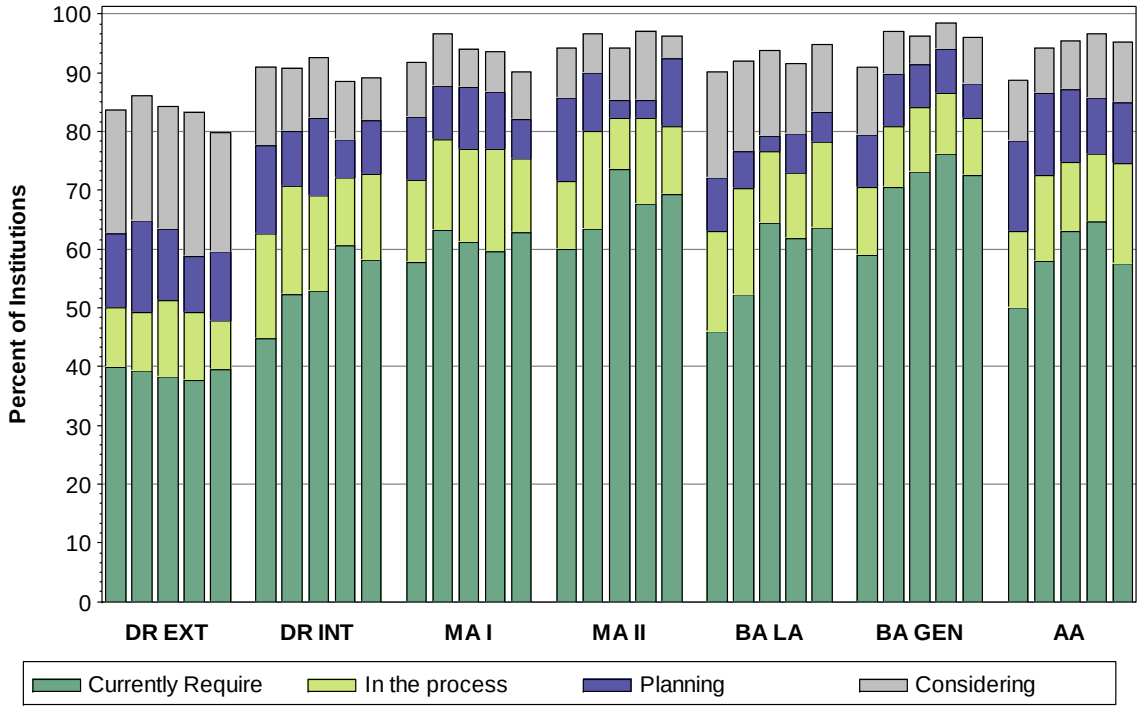

Figure 4-45 Status of End-User Authentication 2005–2009

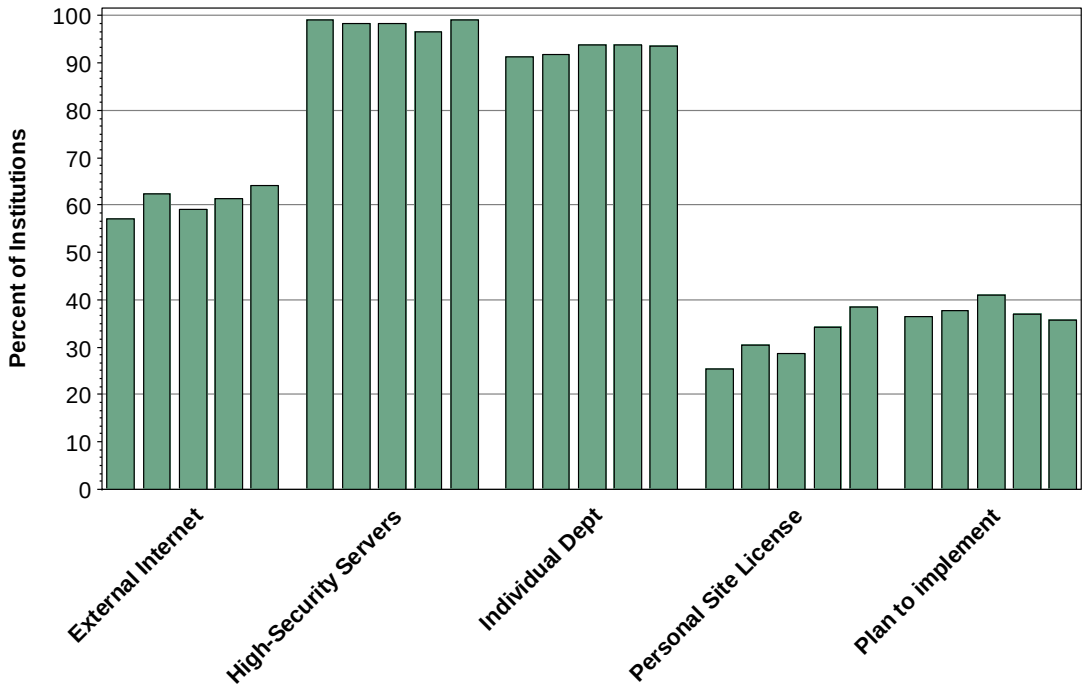

Figure 4-46 Use of Firewalls (DR EXT) 2005–2009

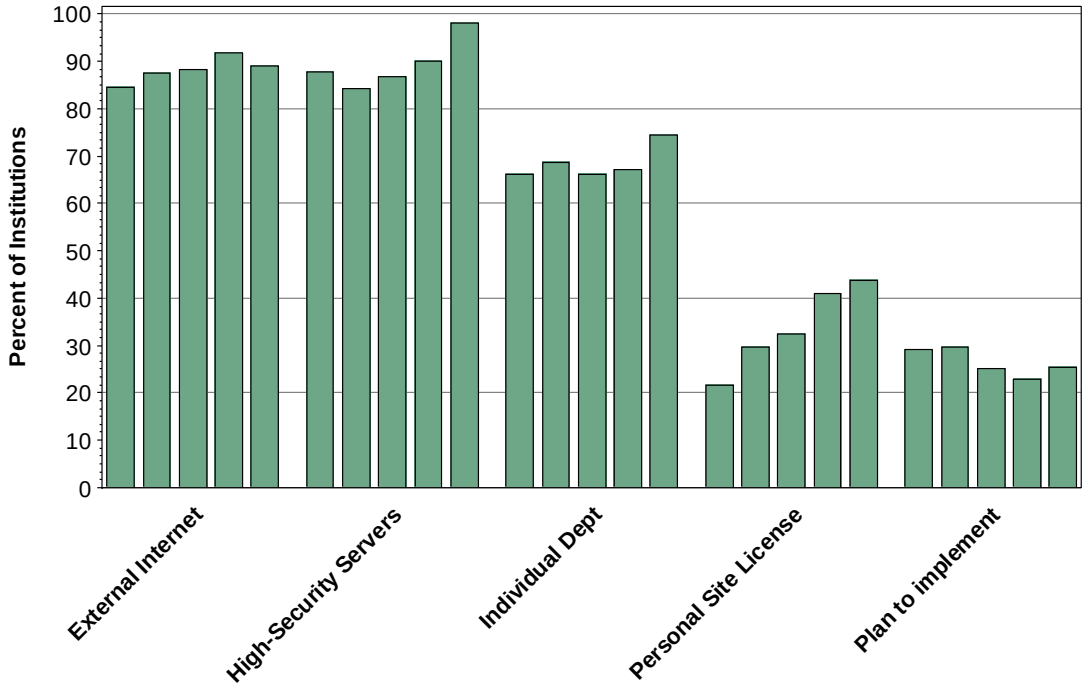

Figure 4-47 Use of Firewalls (DR INT) 2005–2009

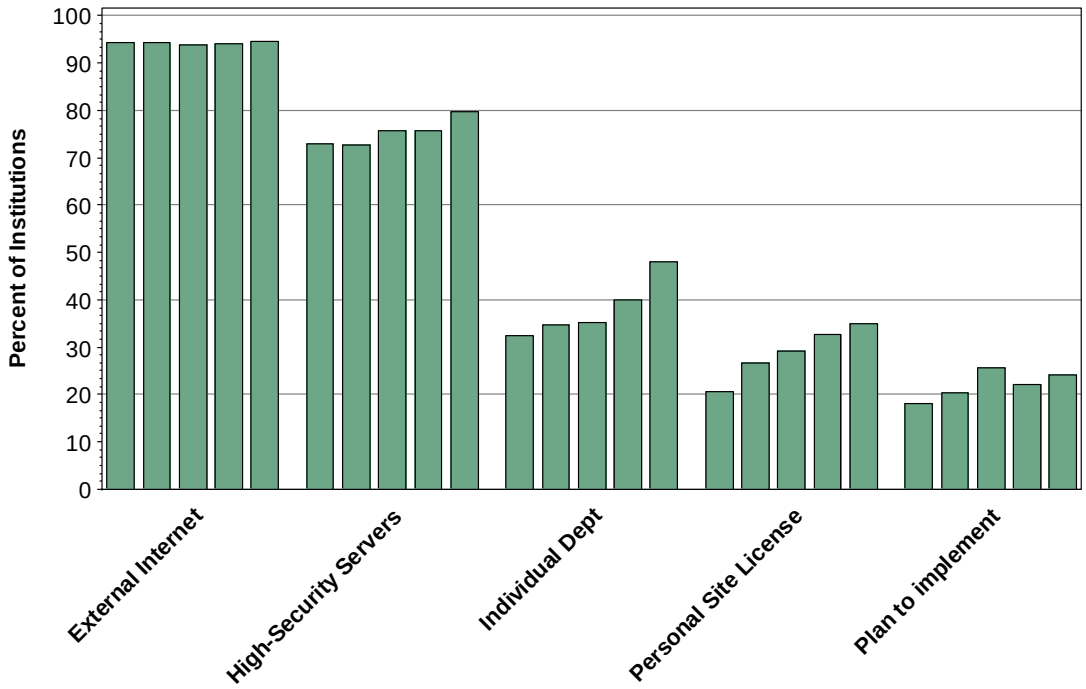

Figure 4-48 Use of Firewalls (MA I) 2005–2009

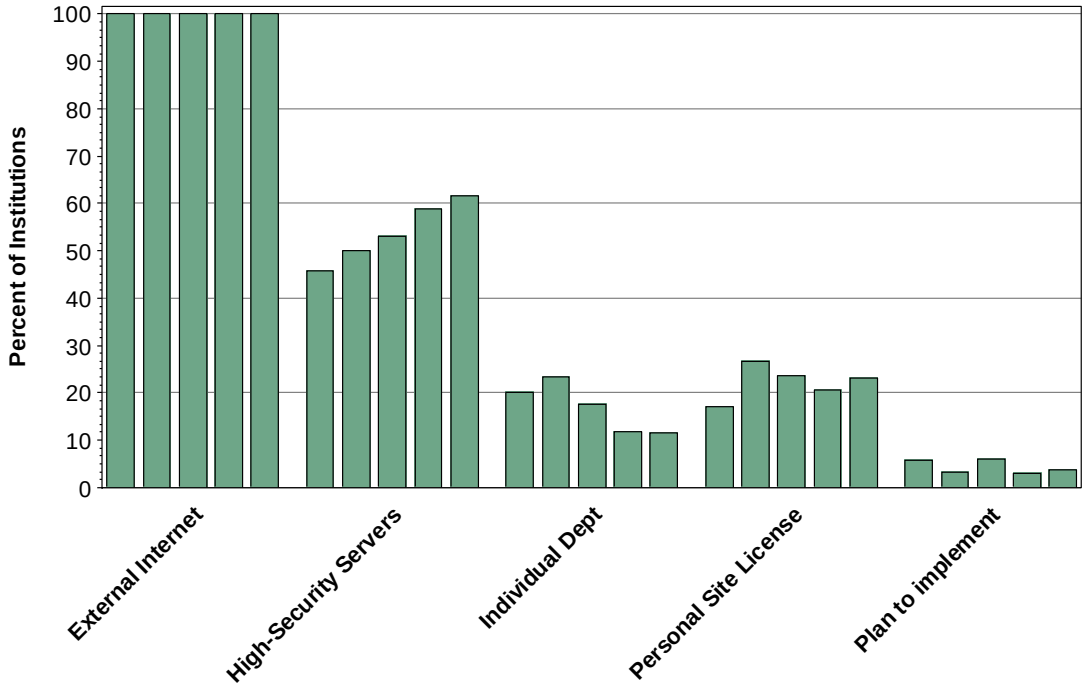

Figure 4-49 Use of Firewalls (MA II) 2005–2009

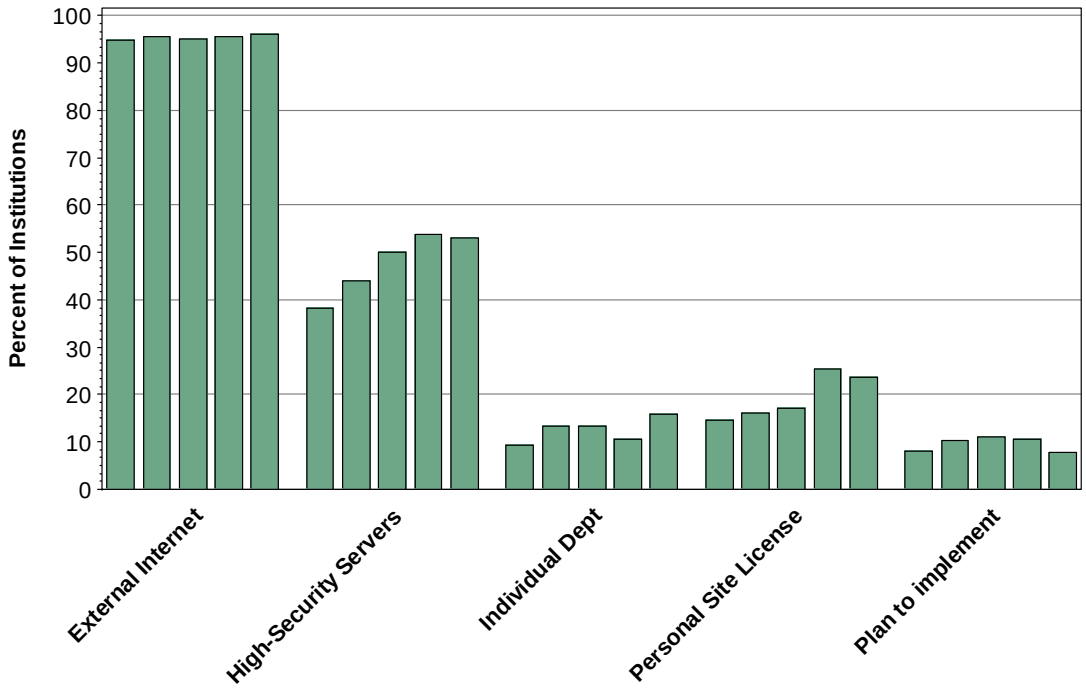

Figure 4-50 Use of Firewalls (BA LA) 2005–2009

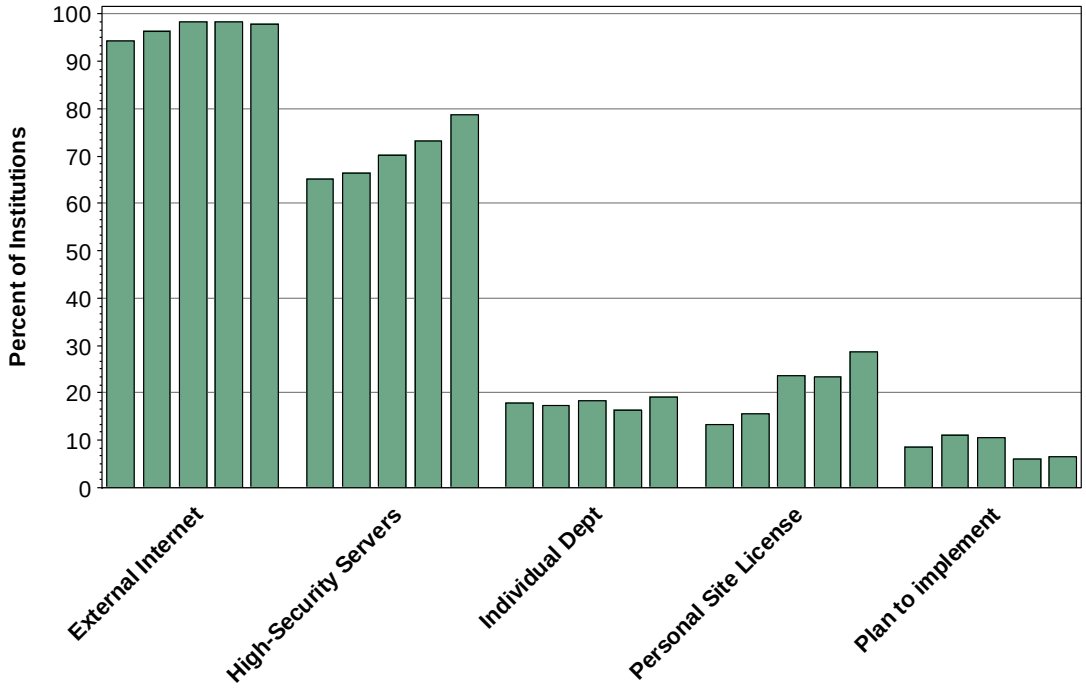

Figure 4-51 Use of Firewalls (BA GEN) 2005–2009

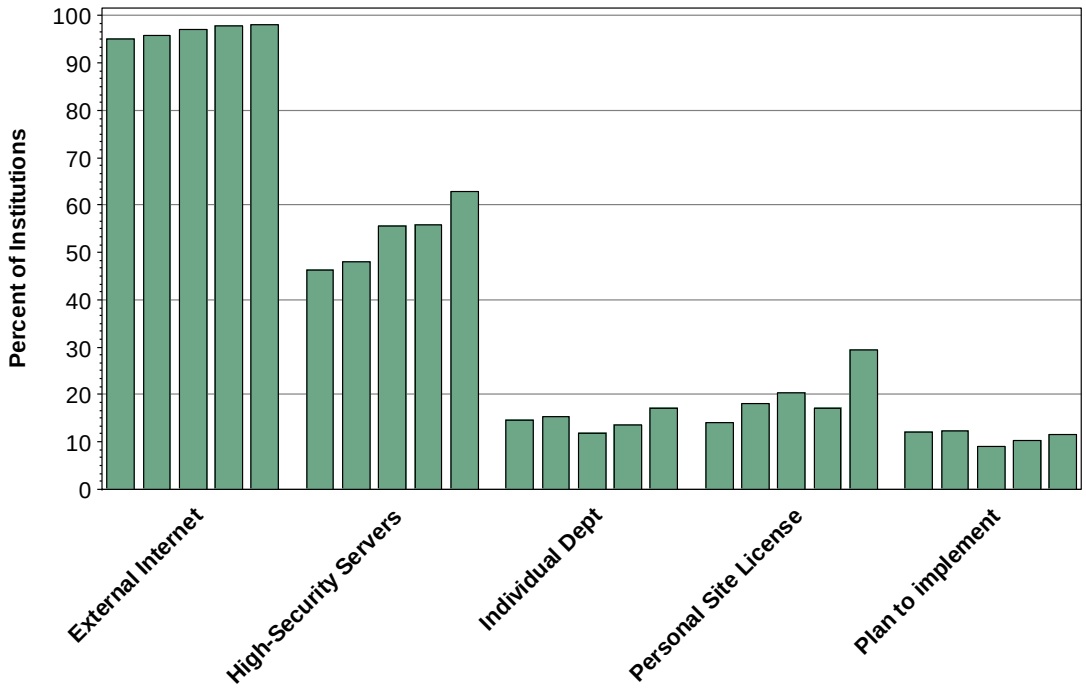

Figure 4-52 Use of Firewalls (AA) 2005–2009

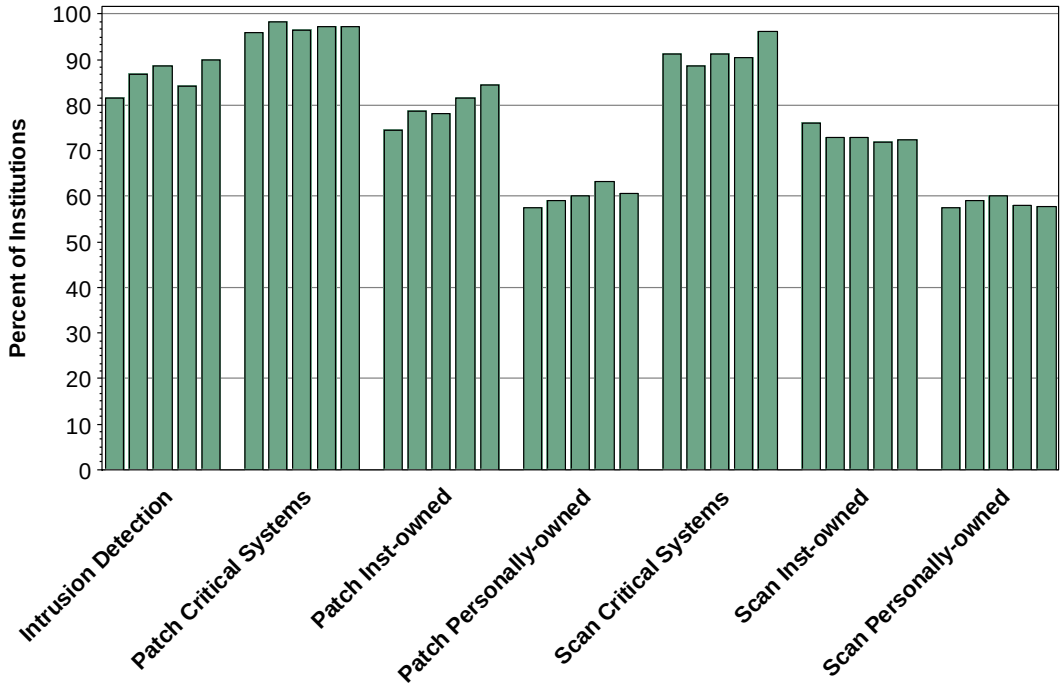

Figure 4-53 Policies and Practices on Security Patching and Scanning (DR EXT) 2005–2009

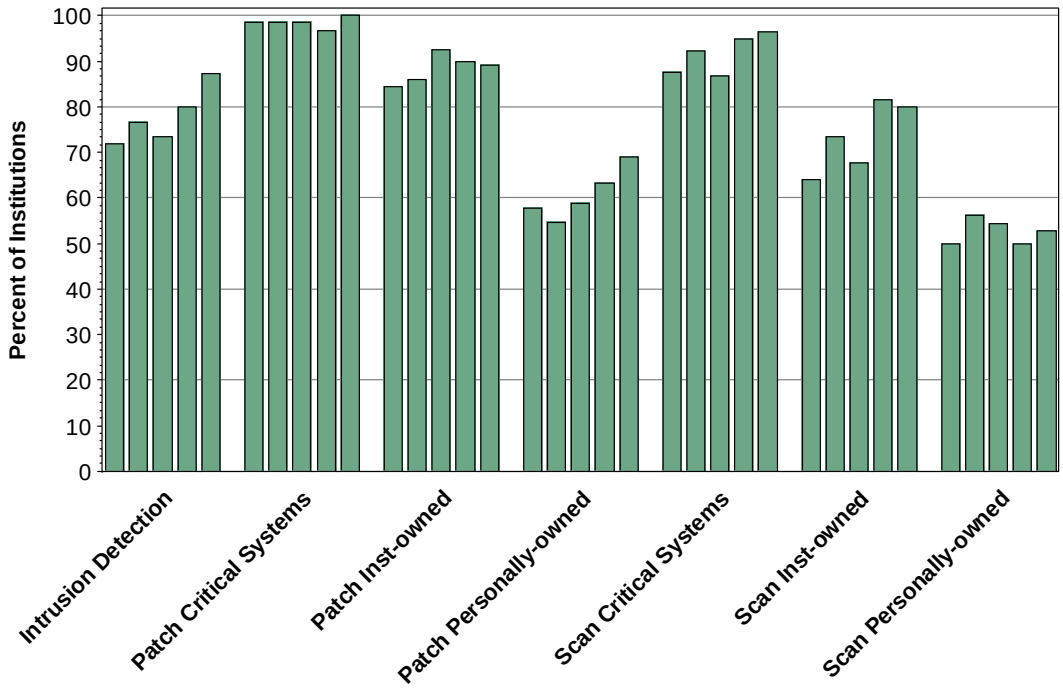

Figure 4-54 Policies and Practices on Security Patching and Scanning (DR INT) 2005–2009

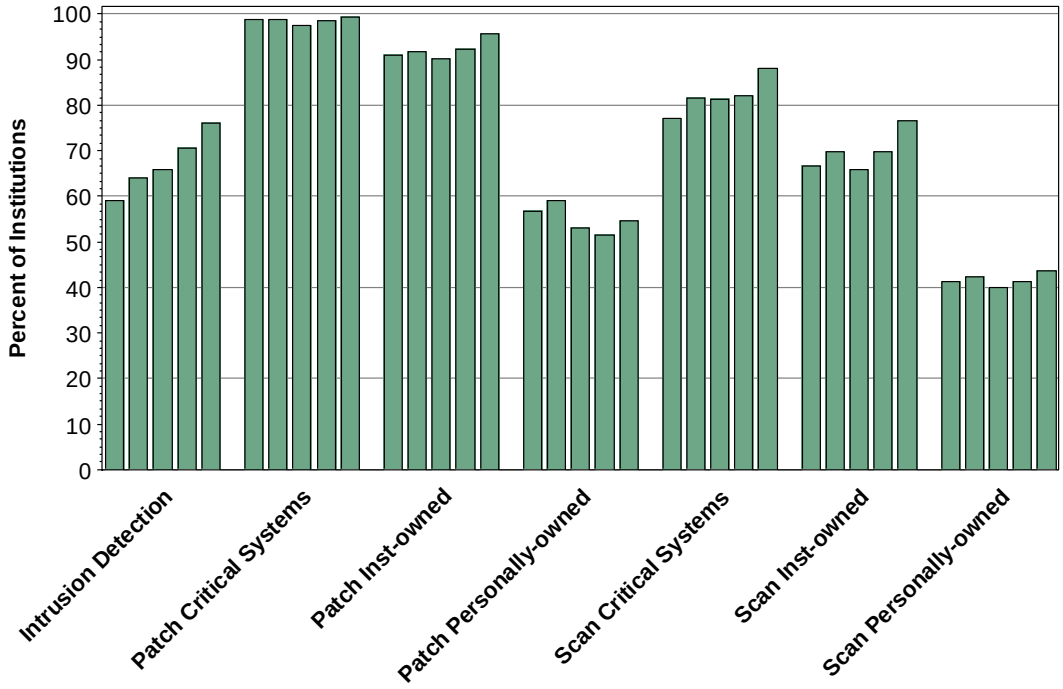

Figure 4-55 Policies and Practices on Security Patching and Scanning (MA I) 2005–2009

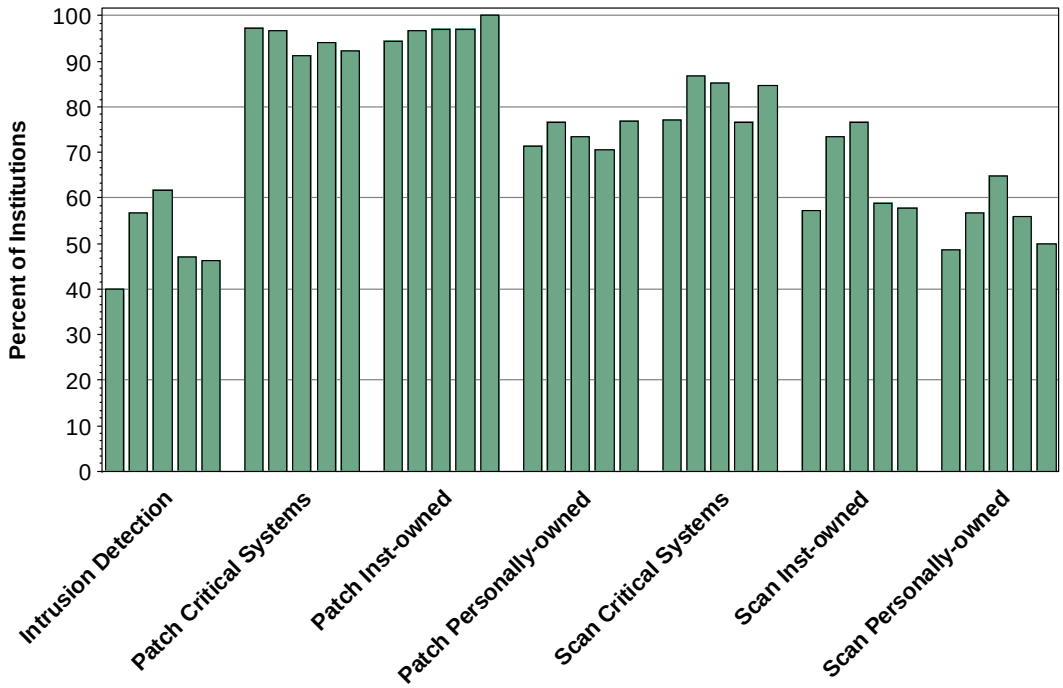

Figure 4-56 Policies and Practices on Security Patching and Scanning (MA II) 2005–2009

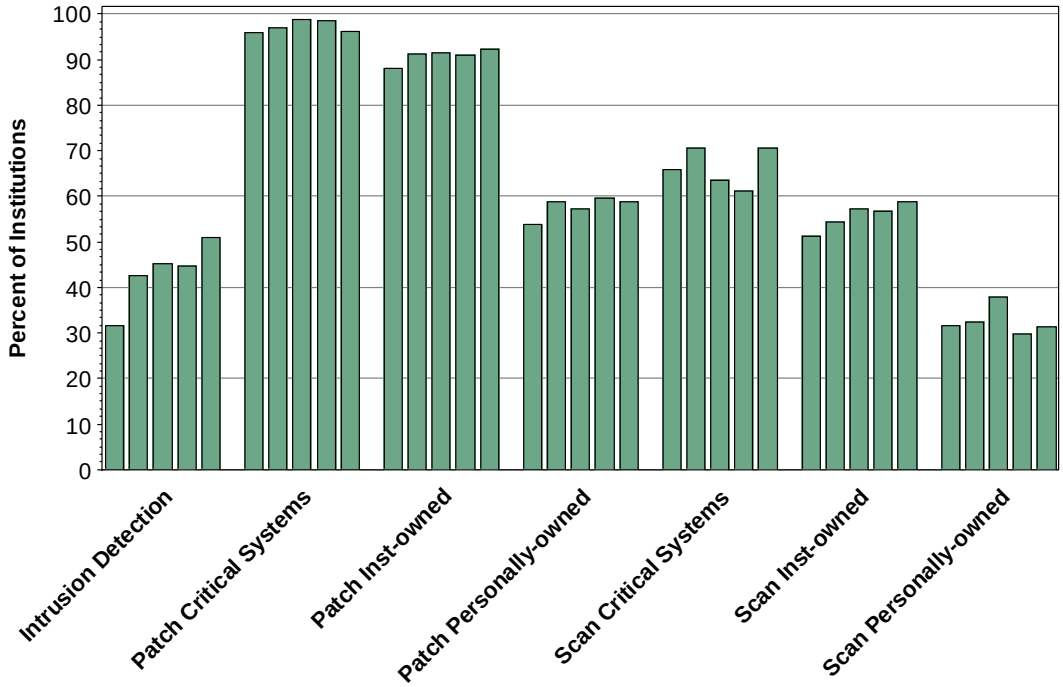

Figure 4-57 Policies and Practices on Security Patching and Scanning (BA LA) 2005–2009

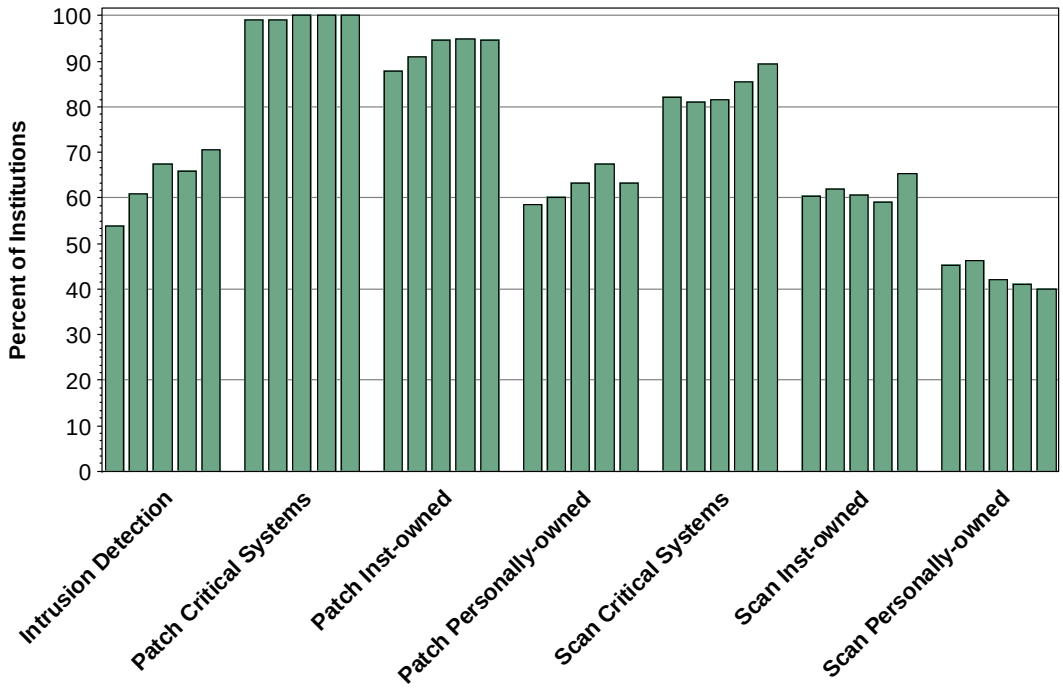

Figure 4-58 Policies and Practices on Security Patching and Scanning (BA GEN) 2005–2009

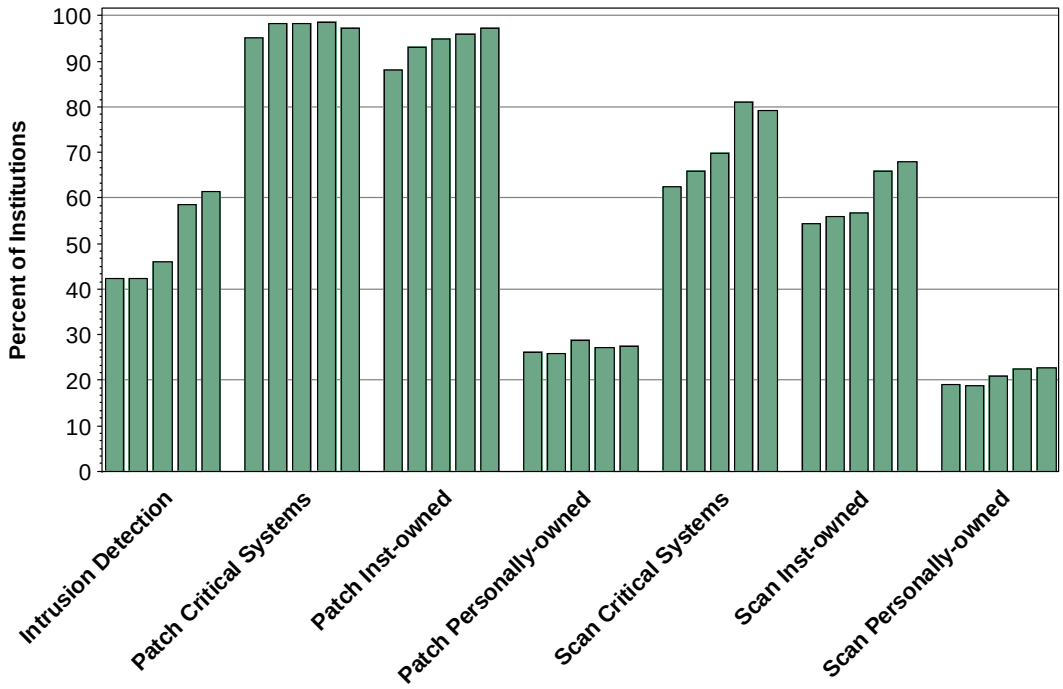

Figure 4-59 Policies and Practices on Security Patching and Scanning (AA) 2005–2009

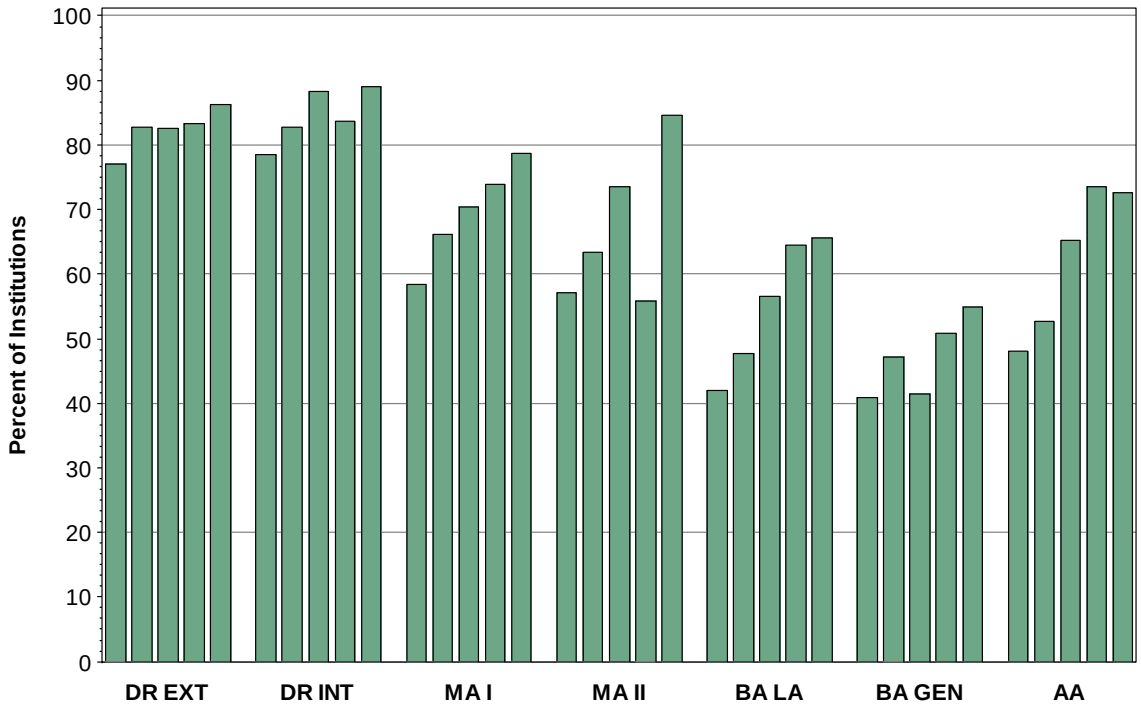

Figure 4-60 Campus Security Risk Assessment 2005–2009

5 Information Systems

Accurate transaction processing across a broad array of academic and administrative functions as well as effective decision-support systems are essential to institutional management and planning. Section five of the survey included five questions covering key information systems.

Respondents were surveyed about seven types of information systems commonly found on college campuses. Student information, financial information, and course management systems are present at over 95% of campuses, as shown in Figure 5-1 through Figure 5-7. Human resources (HR) and library information systems are also very common in all Carnegie classes.[1]

Development systems are common at BA, MA, and DR institutions, but only about 50% of AA institutions report having one in place. Finally, grants management systems are not common, except for DR institutions, with their large number of grant-funded research projects.

The survey requested information about methods of developing and implementing information systems in general, including the types of system modifications campuses make when purchasing systems. There have long been vigorous discussions about the appropriateness of building versus buying administrative systems, and, in the latter case, of installing the software with or without extensive modifications to accommodate local practices and preferences. A 2002 ECAR study[2] found that modification of the basic vendor code was the single most important factor related to budget overruns, and yet these modifications might be necessary to achieve the goals of a given campus.

Respondents were asked about strategies employed for implementing or converting information systems, in a "check all that apply" question. Table 5-1 shows that multiple strategies are pursued within individual institutions and across Carnegie classes. (A reasonable assumption is that respondents did not limit their responses based on the seven "primary" types of information systems listed above, but rather considered strategies across a broader array of systems.)

More specific information is provided in Figure 5-8 through Figure 5-14, which display, for each Carnegie class and each of the seven types of systems, the percentage of respondents using three different strategies: commercial software, open-source software, and "homegrown" software. A large majority of institutions are using commercial products, with a decline in use of homegrown systems for all institutions and for all system types surveyed except library information systems; there has not been a substantial presence of homegrown systems for library information at any point during the past five years. Homegrown systems can be found most frequently in grants management applications, which have not been included in some commercial offerings. Open-source software is not reported to be in use for the seven primary information systems, except in the case of course management systems, notably in BA LA colleges where open-source deployments have increased markedly over the past five years. (In larger institutions, open-source course management systems are sometimes deployed by individual schools and colleges, even when the offering of the centralized IT organization is based on a commercial product.)

Figure 5-15 through Figure 5-21 show the percentage of institutions using each of the top commercial providers for each of the seven information systems. Commercial providers are categorized by corporate name, not by individual product. Thus there may be several products combined under a single corporation, or in the case of acquisitions or mergers, several companies may now be included under the company that acquired or incorporated them.[3] The percentage for the providers reported in our survey is shown to help the reader understand the relative presence of these firms within a given segment of the higher education community. EDUCAUSE does not present these data as evidence of market share, per se.

Modifying commercial or open-source products continues to be common practice, as shown in Table 5-2, although, predictably, a much smaller percentage of respondents reported modifying underlying software code compared to modification of configuration and of external modules. (The survey question did not capture distinctions between minor and major modifications.)

The age of an information system will influence a campus's decision about maintaining or replacing it. Figure 5-22 through Figure 5-28 summarize the year of implementation for each type of system.

The survey also asked about the status of enterprise resource planning (ERP) systems, which often have replaced legacy, stand-alone information systems with an integrated suite of systems based on a common database and user interface. There is no standard in higher education for the suite of systems offered by all vendors, and, moreover, some institutions elect to implement only a subset of a vendor's offerings or choose subsets of several vendors' products in a "best of breed" strategy. And while the term "ERP" usually connotes a commercial or open-source product, some campuses have built and maintained their own, well-integrated information systems. Figure 5-29 summarizes the status of ERPs at responding institutions. Over the past five years, a growing number of institutions reported having completed their ERP implementations, with a large number of ERP implementations in process.

The components of the cost of ERP system projects are summarized in Table 5-3. Respondents did not specify whether the percentages applied to completed, in-process, or planned projects, however, and provided only the percentage of total cost, not raw dollar amounts. Accordingly, caution is warranted in interpreting this table. These percentages have not changed significantly in the past five years, so trend data are not included in this report.

While not exactly a traditional information system, a web portal offers access to a variety of campus resources, including, in many cases, major administrative systems. Figure 5-30 shows that use of web portals has been increasing in all Carnegie classes and will continue to increase, since many campuses are in the planning stages. Figure 5-31 summarizes strategies for procuring or developing web portals. In each class, using a commercial product is most common. BA and AA schools were most likely to respond that they have no plans for web portals (about 10%–15% of institutions).

Over 80% of campuses reported deployment of, or plans for, web portals that can be customized by users and for various audiences, as seen in Figure 5-32 and Figure 5-33. This customization, for six separate audiences, is broken out by Carnegie classes in Figure 5-34 through Figure 5-40.

Endnotes

1. This CDS summary report uses the basic classification system from the 2000 version of *The Carnegie Classification of Higher Education*. See Appendix D for more detail. The seven classes with the largest number of respondents are included in this report:

   DR EXT (Doctoral Institutions/Extensive): 50 or more doctoral degrees per year across at least 15 disciplines
   DR INT (Doctoral Institutions/Intensive): 10 or more doctoral degrees per year across three or more disciplines or at least 20 doctoral degrees per year overall
   MA I (Master's Institutions I): 40 or more Master's degrees per year across three or more disciplines
   MA II (Master's Institutions II): 20 or more Master's degrees per year
   BA LA (Baccalaureate Colleges–Liberal Arts): At least half of baccalaureate degrees in liberal arts fields
   BA GEN (Baccalaureate Colleges–General): Less than half of baccalaureate degrees in liberal arts fields
   AA (Associate's Colleges): Offer Associate's degrees, but typically no baccalaureate degrees

2. Robert B. Kvavik and Richard N. Katz et al., *The Promise and Performance of Enterprise Planning Systems for Higher Education* (Boulder, Colo.: EDUCAUSE Center for Applied Research, Research Study, Vol. 4, 2002). This publication is available at no charge through the EDUCAUSE website at http://www.educause.edu/LibraryDetailPage/666?ID=ERS0204.
3. An exception to this methodology was made for Oracle and Blackboard, which merged with PeopleSoft and WebCT, respectively, because of the two major project lines involved in each case. These are shown with the name of the merged corporation followed by a slash and the product line.

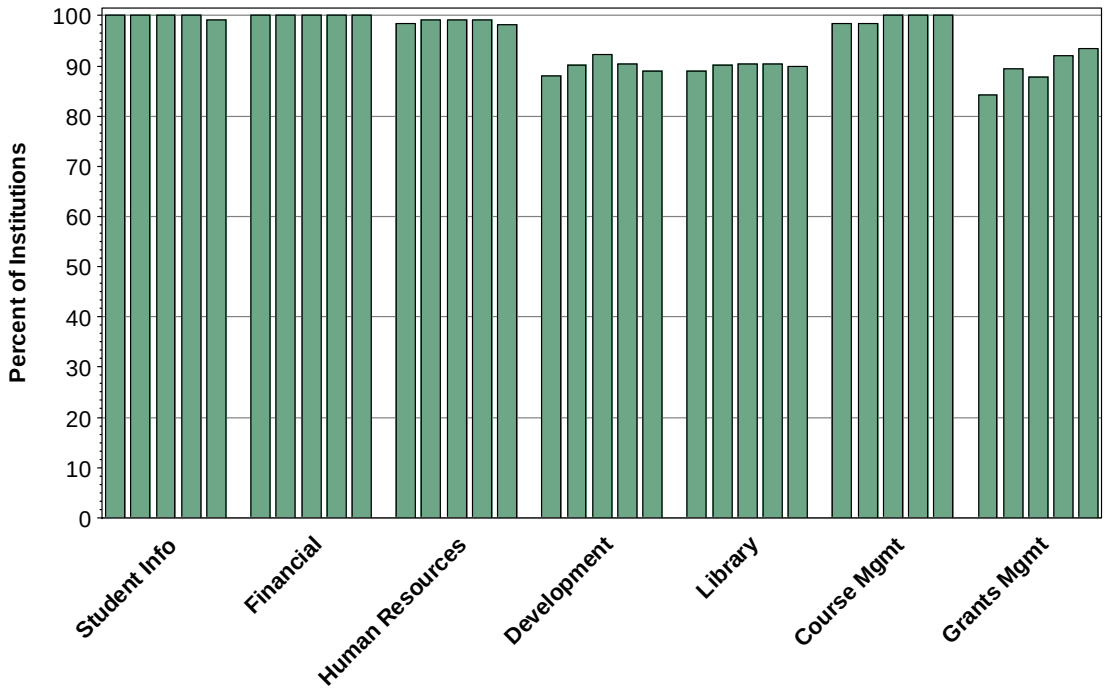

Figure 5-1 Presence of Information Systems (DR EXT) 2005–2009

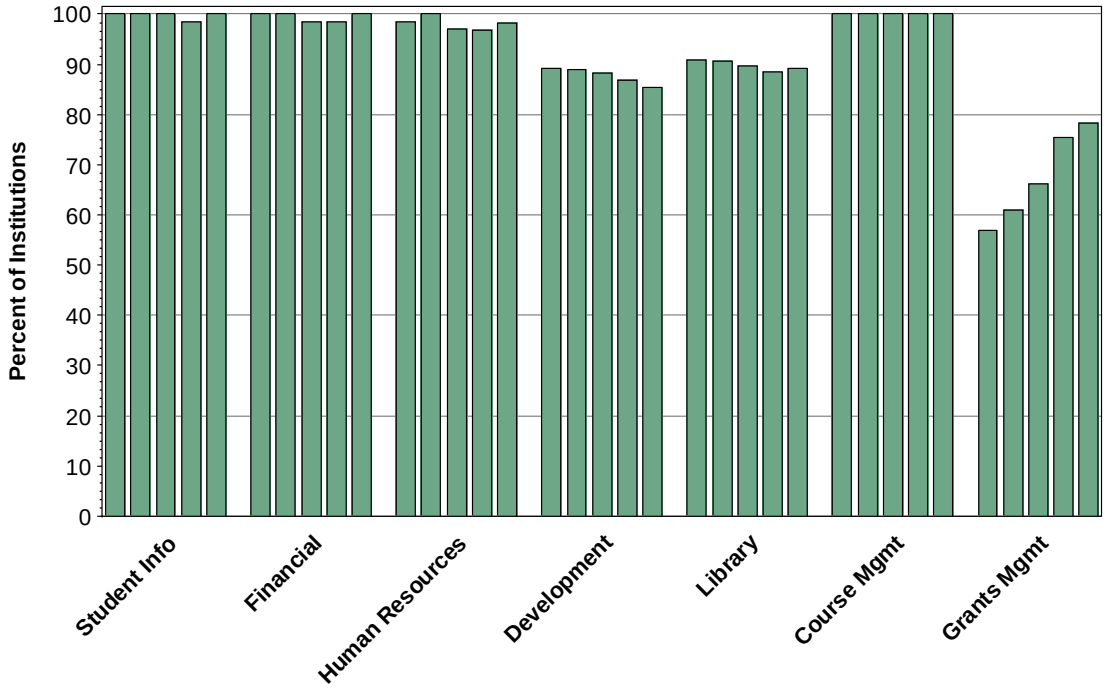

Figure 5-2 Presence of Information Systems (DR INT) 2005–2009

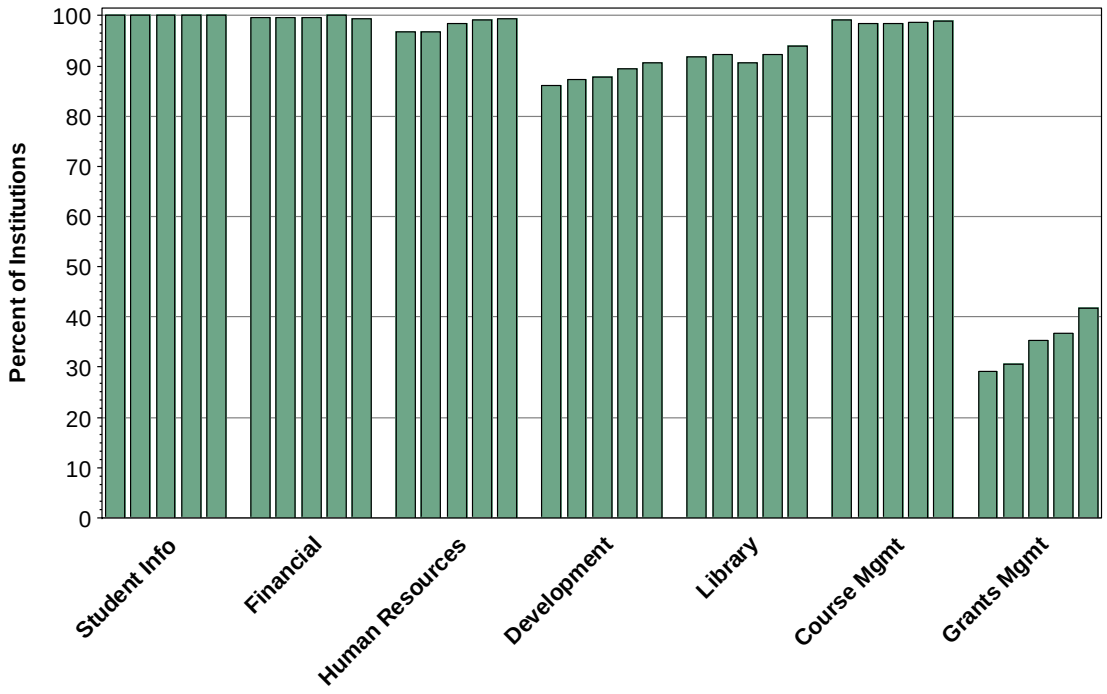

Figure 5-3 Presence of Information Systems (MA I) 2005–2009

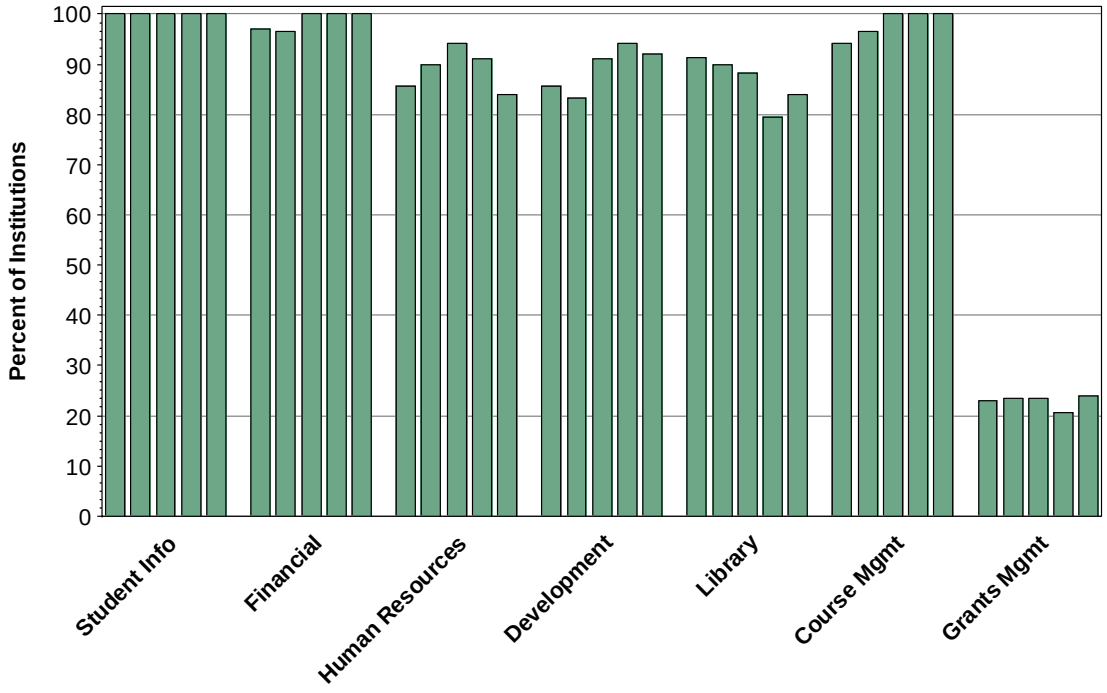

Figure 5-4 Presence of Information Systems (MA II) 2005–2009

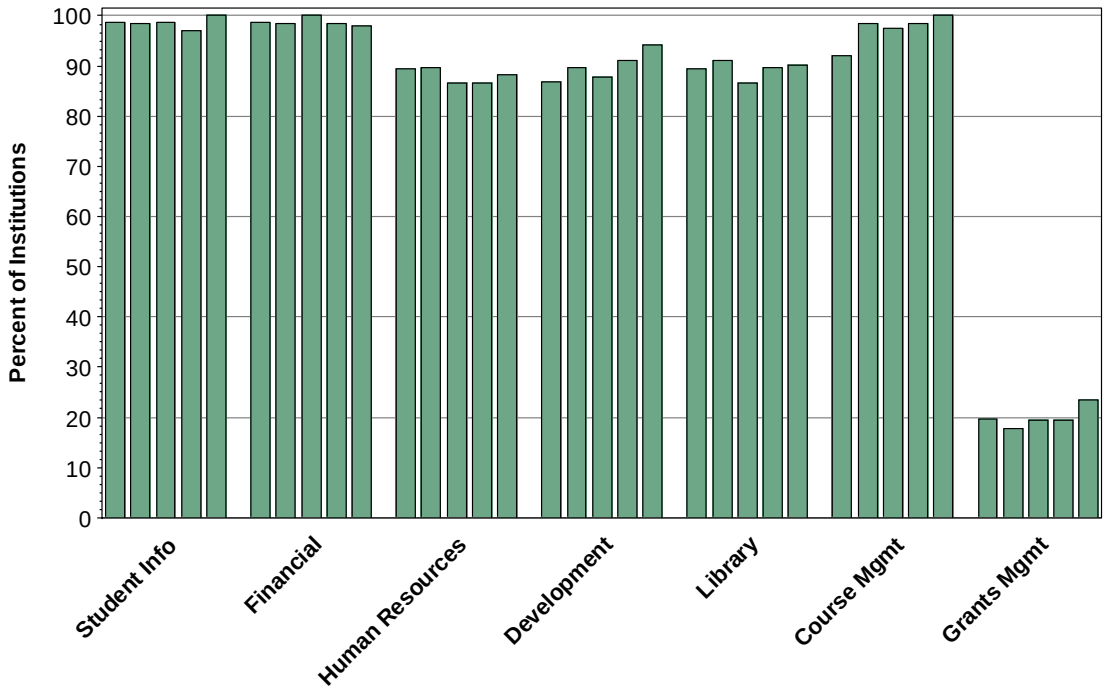

Figure 5-5 Presence of Information Systems (BA LA) 2005–2009

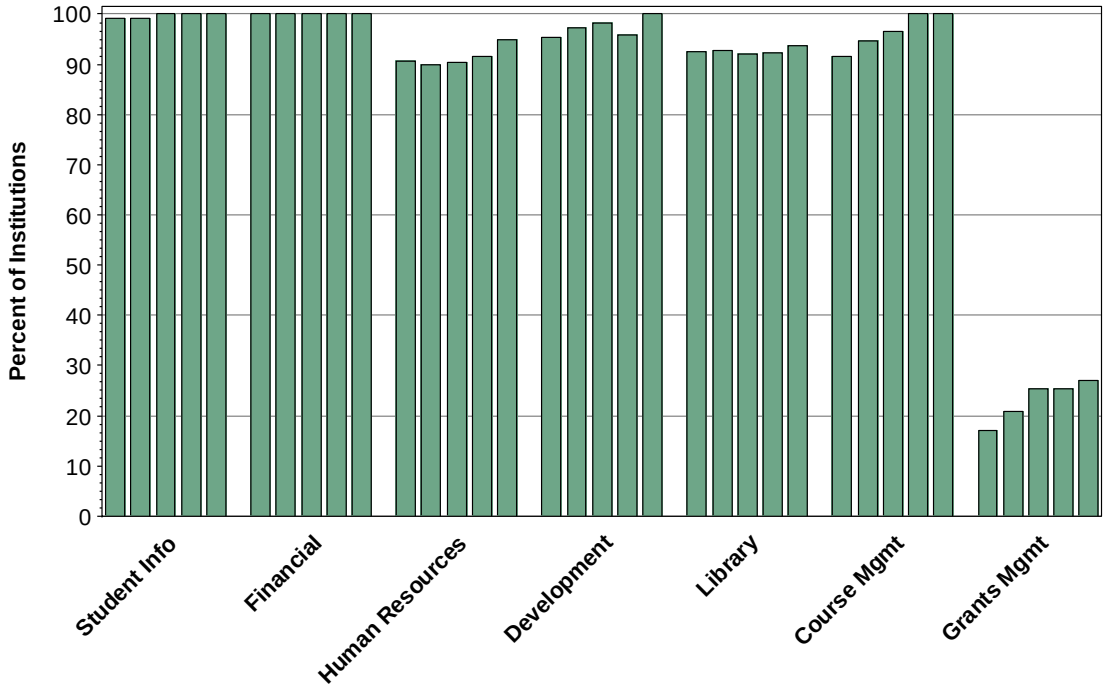

Figure 5-6 Presence of Information Systems (BA GEN) 2005–2009

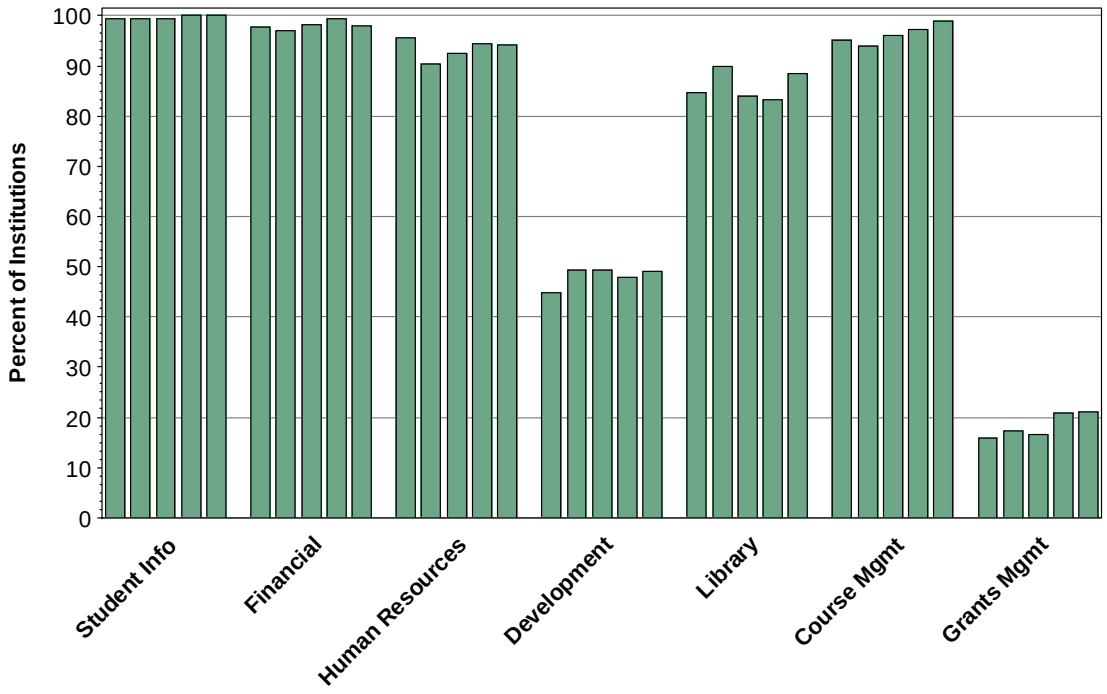

Figure 5-7 Presence of Information Systems (AA) 2005–2009

Table 5-1 Strategies Used for Any Information Systems 2009

	DR EXT	DR INT	MA I	MA II	BA LA	BA GEN	AA
Develop in house (homegrown)	74%	71%	63%	38%	64%	49%	55%
Develop in partnership with vendor	52%	53%	50%	38%	45%	29%	43%
Commercial product without customization	84%	91%	80%	81%	88%	73%	75%
Commercial product with customization	94%	85%	79%	77%	71%	69%	77%
Open source, with or without customization	81%	69%	66%	54%	83%	59%	47%
Buy best-of-breed applications	76%	67%	63%	54%	59%	49%	44%
Buy a package of integrated systems	74%	78%	69%	62%	70%	69%	62%
Enhance legacy systems	61%	47%	44%	35%	49%	33%	38%
Outsource administrative systems	25%	33%	21%	12%	23%	16%	16%
Other	7%	4%	3%	0%	1%	0%	1%

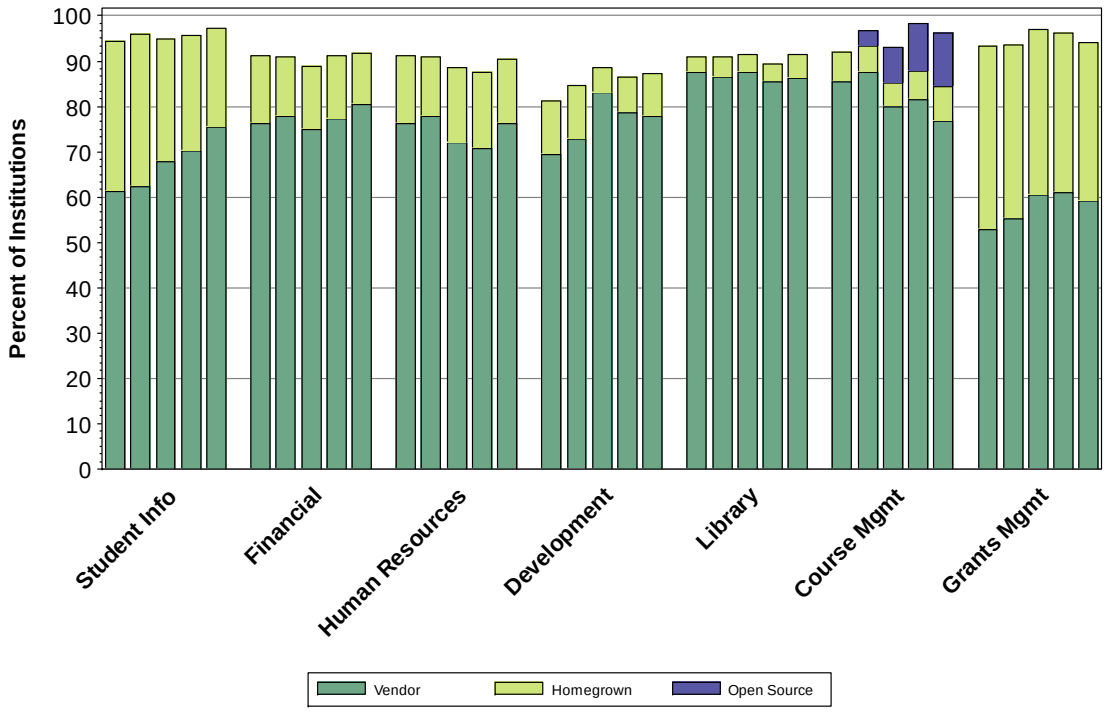

Figure 5-8 Solutions for Various Information Systems (DR EXT) 2005–2009

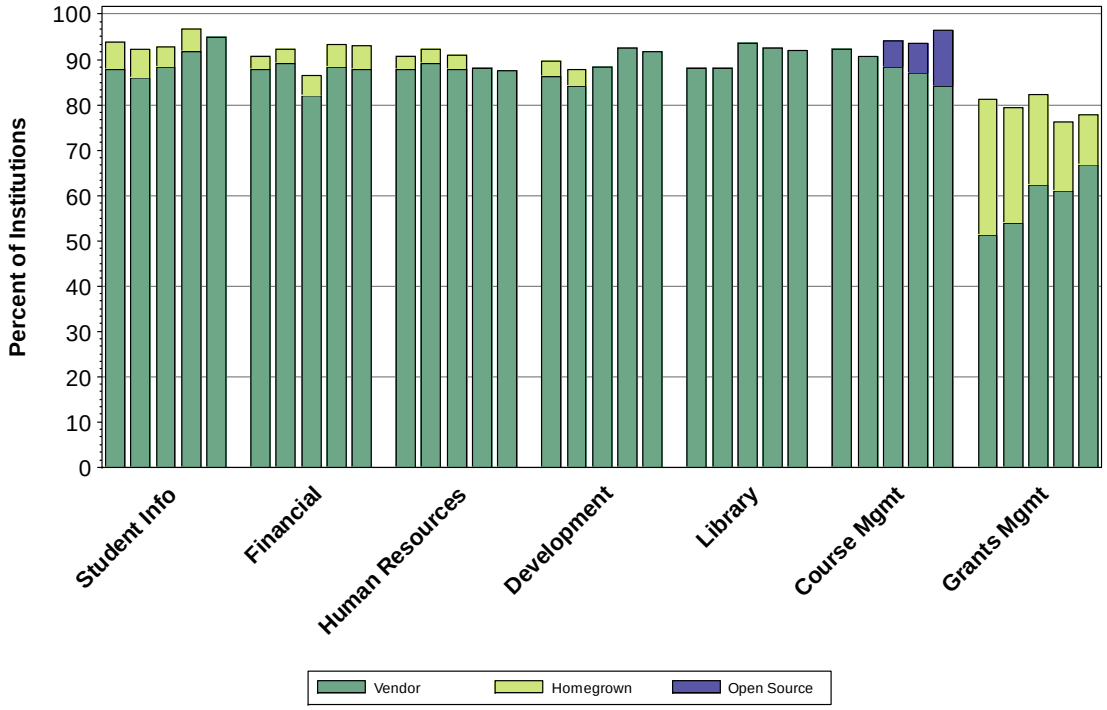

Figure 5-9 Solutions for Various Information Systems (DR INT) 2005–2009

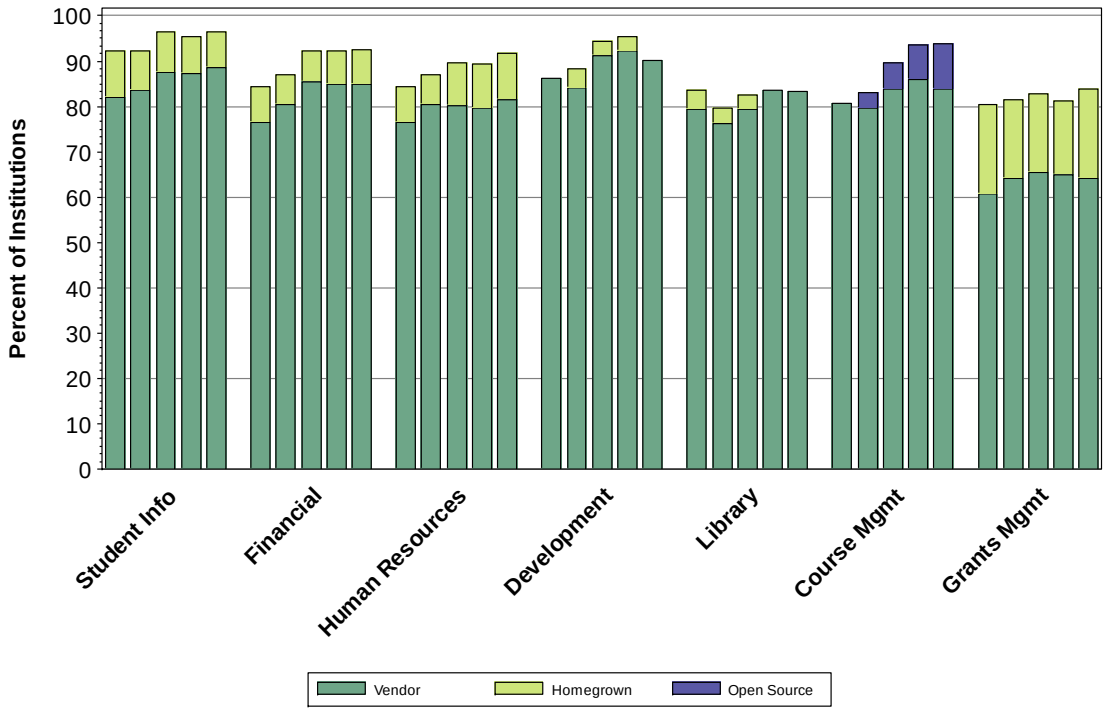

Figure 5-10 Solutions for Various Information Systems (MA I) 2005–2009

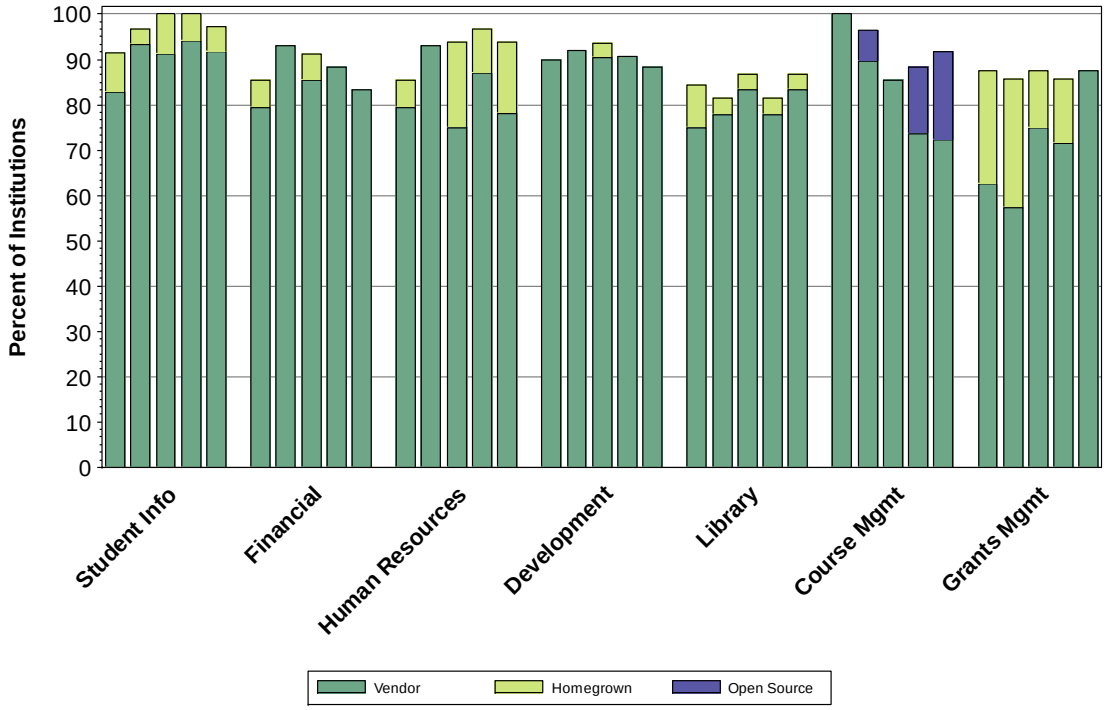

Figure 5-11 Solutions for Various Information Systems (MA II) 2005–2009

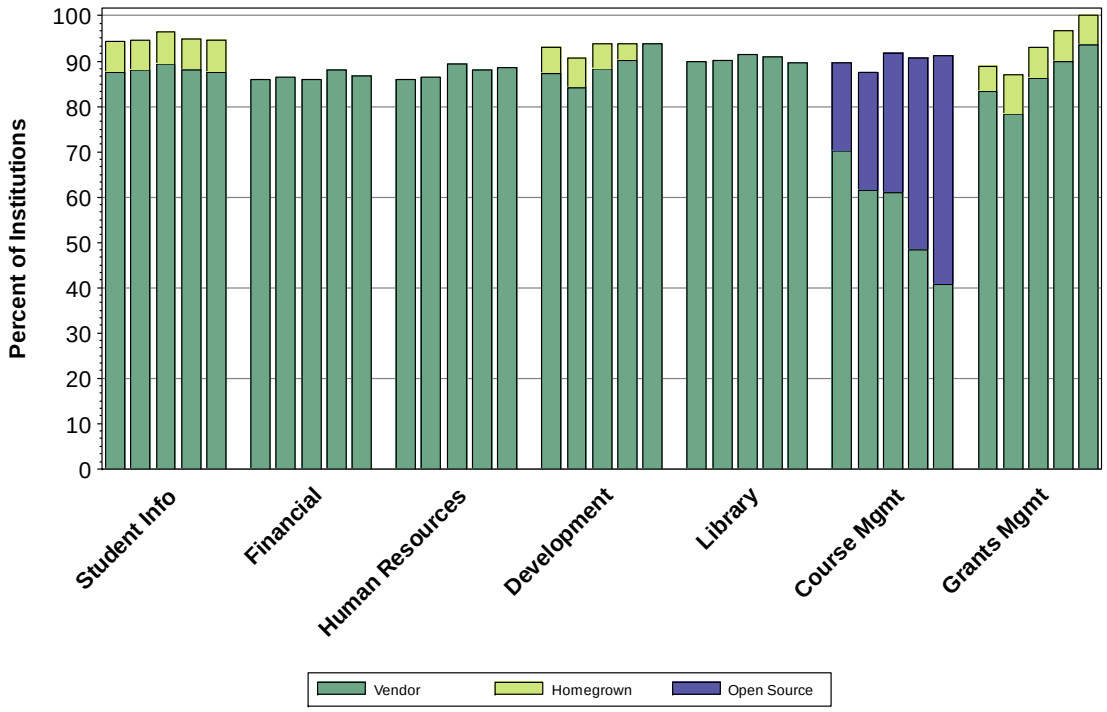

Figure 5-12 Solutions for Various Information Systems (BA LA) 2005–2009

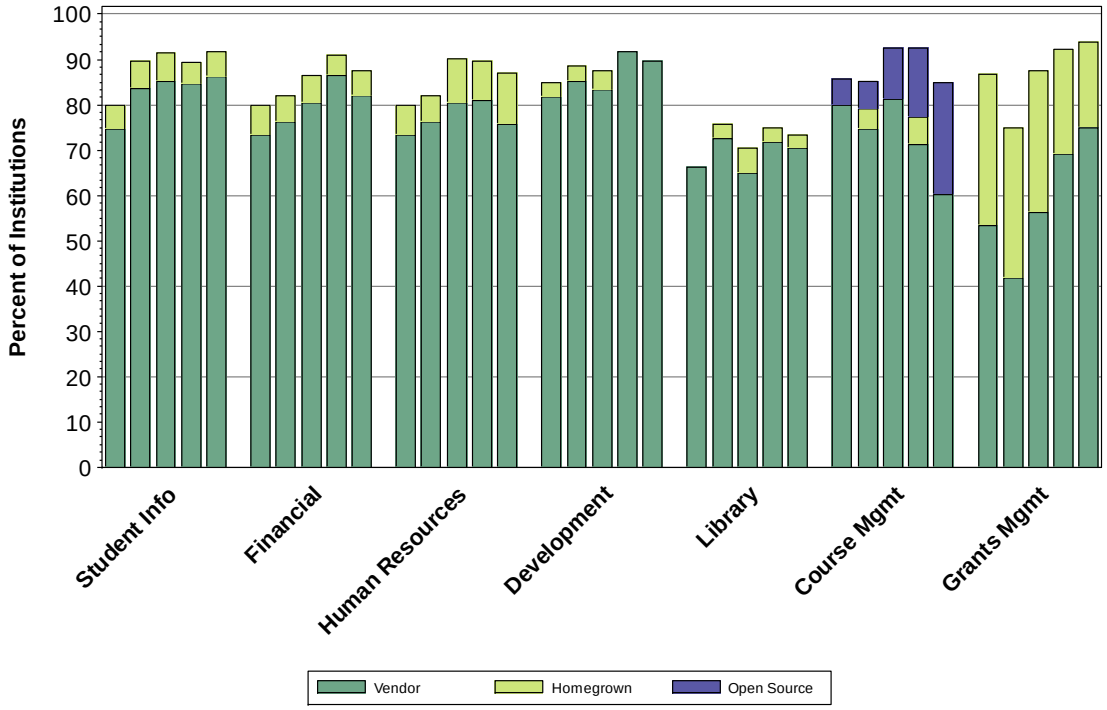

Figure 5-13 Solutions for Various Information Systems (BA GEN) 2005–2009

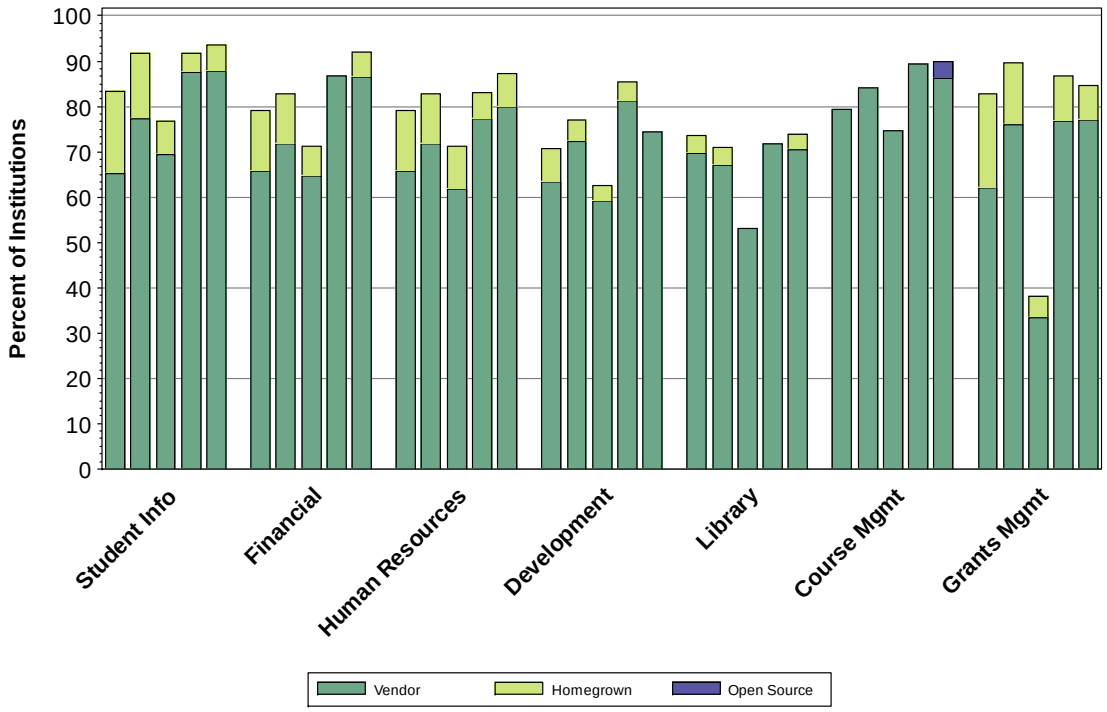

Figure 5-14 Solutions for Various Information Systems (AA) 2005–2009

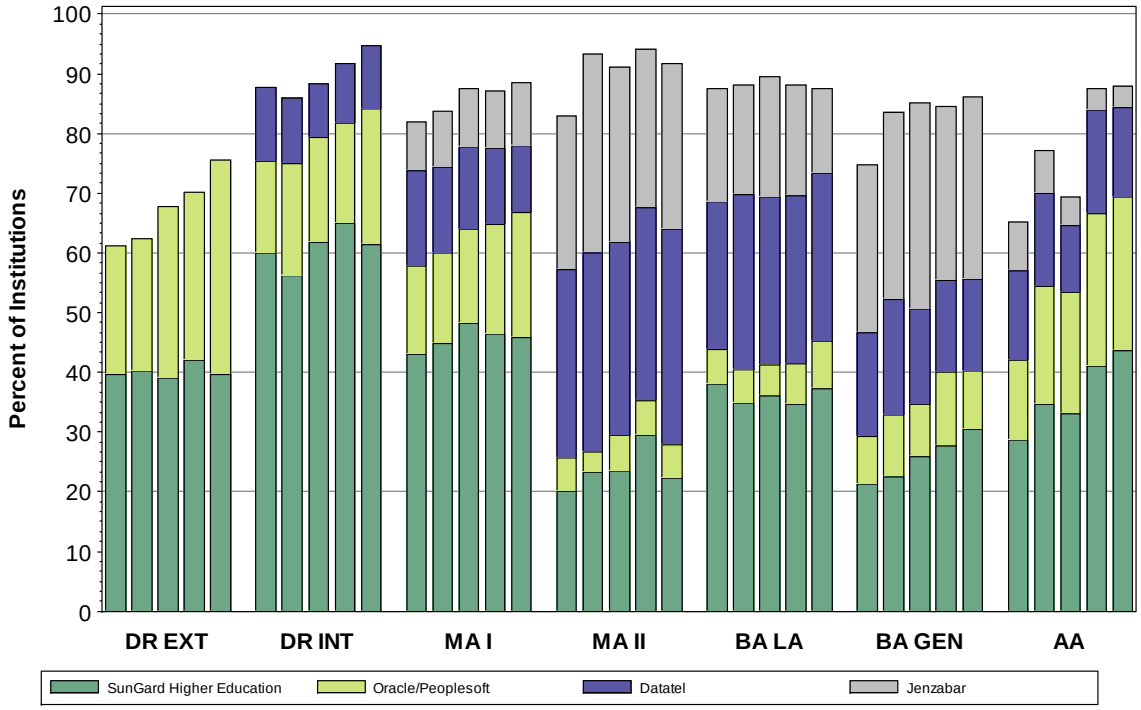

Figure 5-15 Top Vendors for Student Information Systems 2005–2009

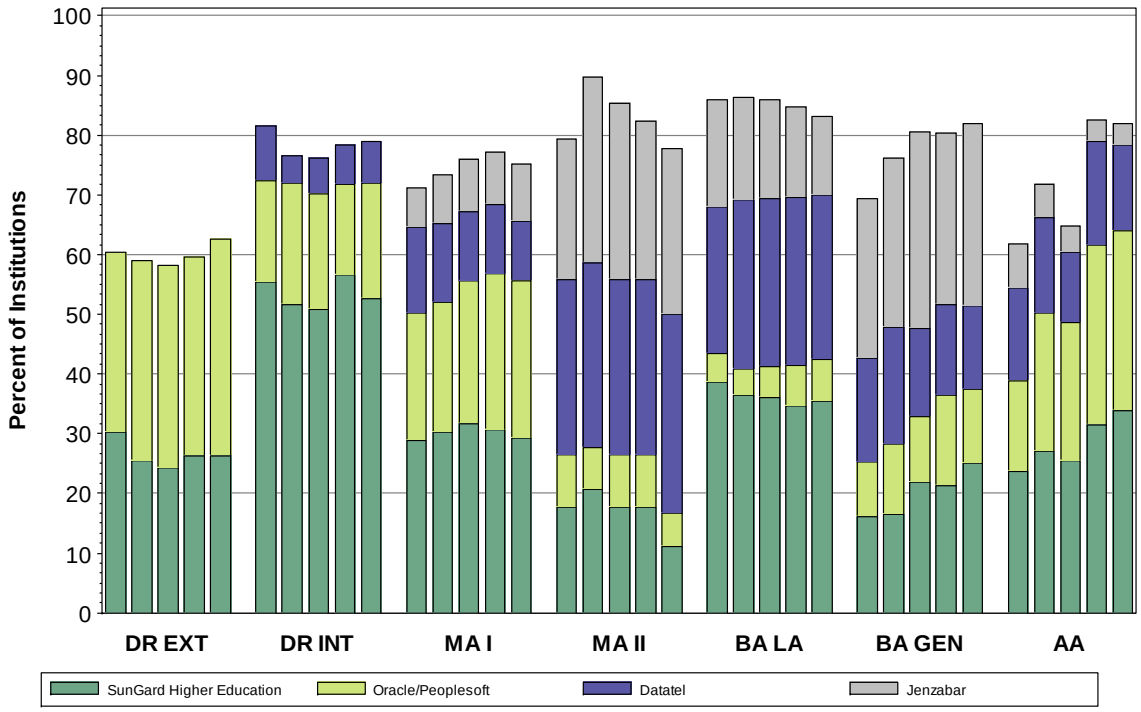

Figure 5-16 Top Vendors for Financial Information Systems 2005–2009

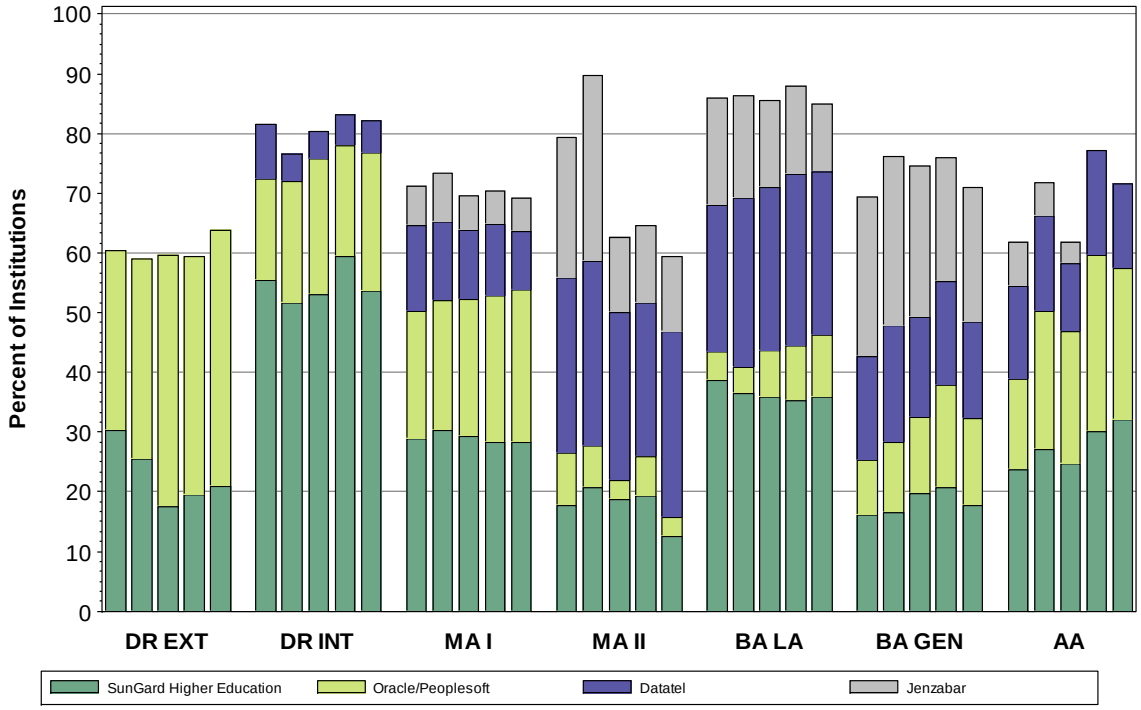

Figure 5-17 Top Vendors for HR Systems 2005–2009

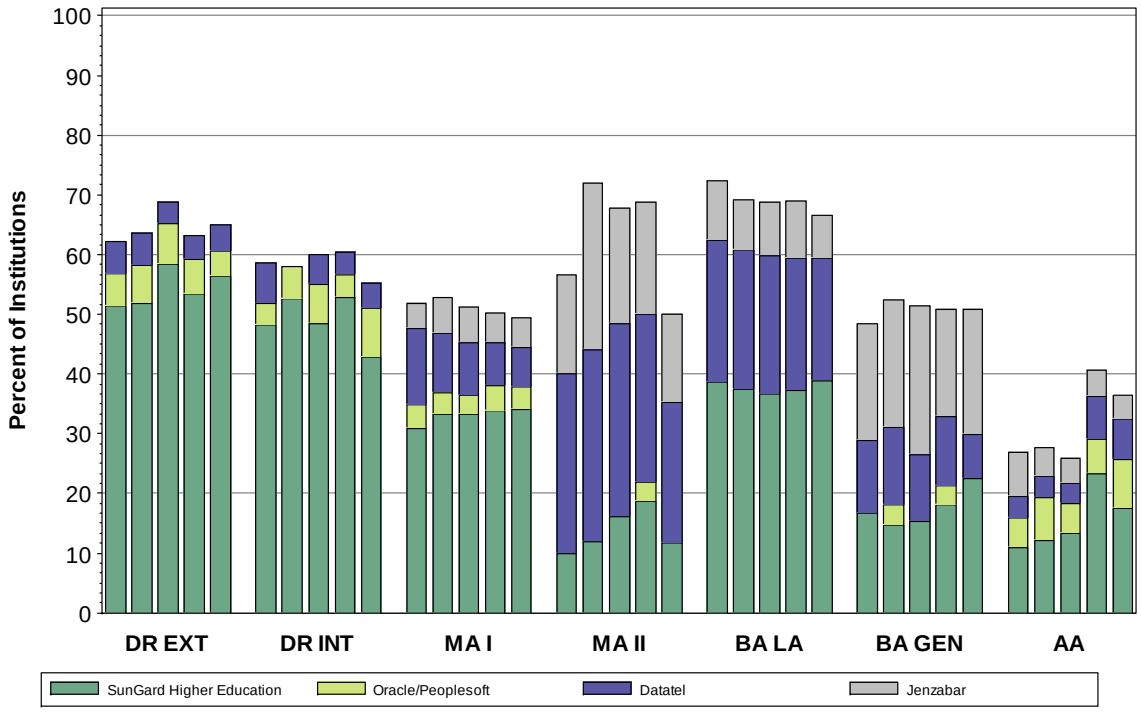

Figure 5-18 Top Vendors for Development Systems 2005–2009

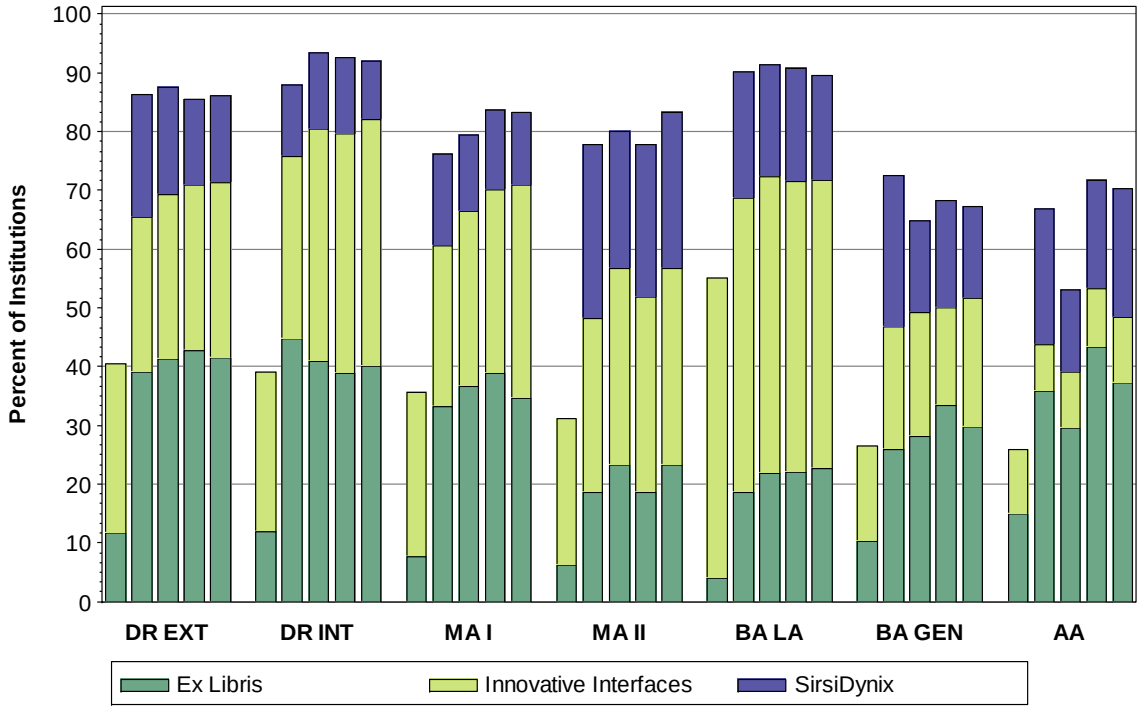

Figure 5-19 Top Vendors for Library Systems 2005–2009

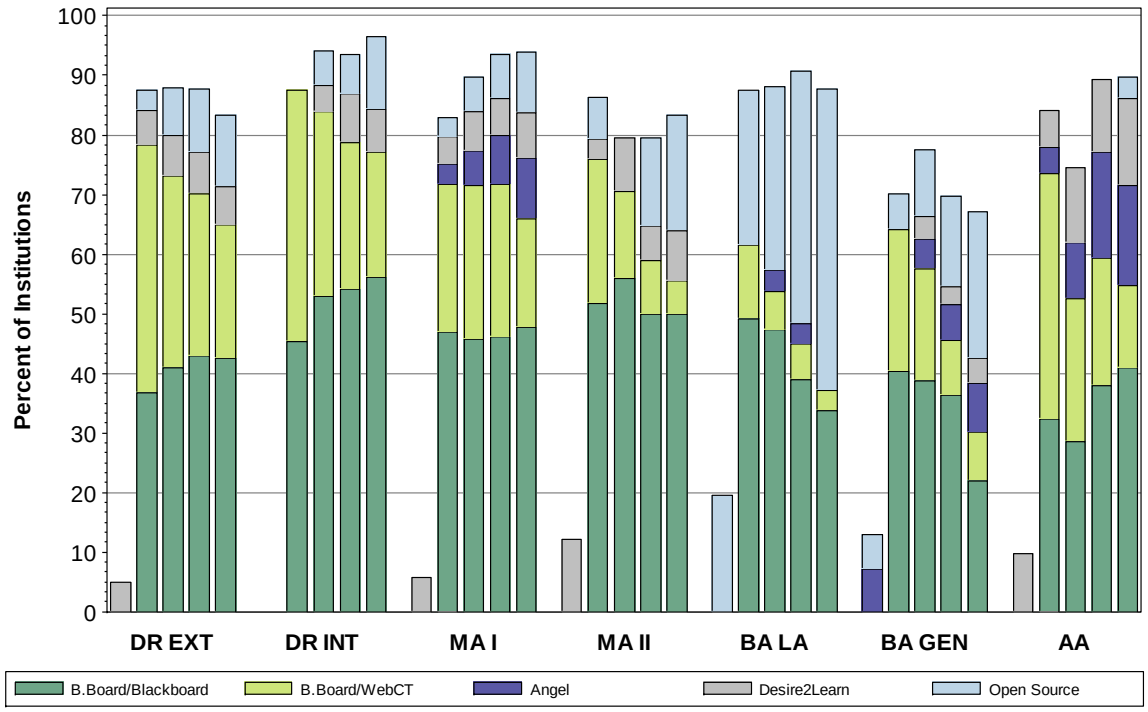

Figure 5-20 Top Vendors for Course Management Systems 2005–2009

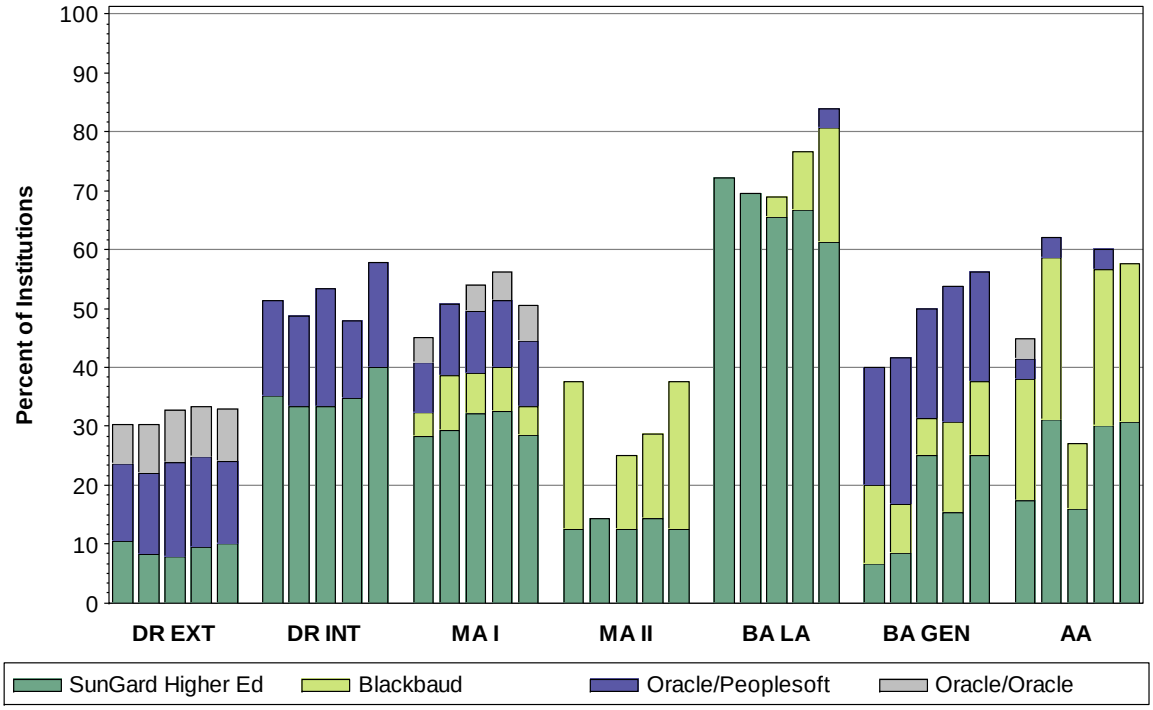

Figure 5-21 Top Vendors for Grants Management Systems 2005–2009

Table 5-2 Modification of Commercial or Open-Source Products 2009

	DR EXT	DR INT	MA I	MA II	BA LA	BA GEN	AA
Configuration	94%	90%	85%	86%	95%	92%	90%
External modules	87%	86%	87%	86%	81%	76%	70%
Underlying code	58%	63%	42%	29%	47%	26%	45%
Other	6%	2%	4%	0%	2%	5%	11%

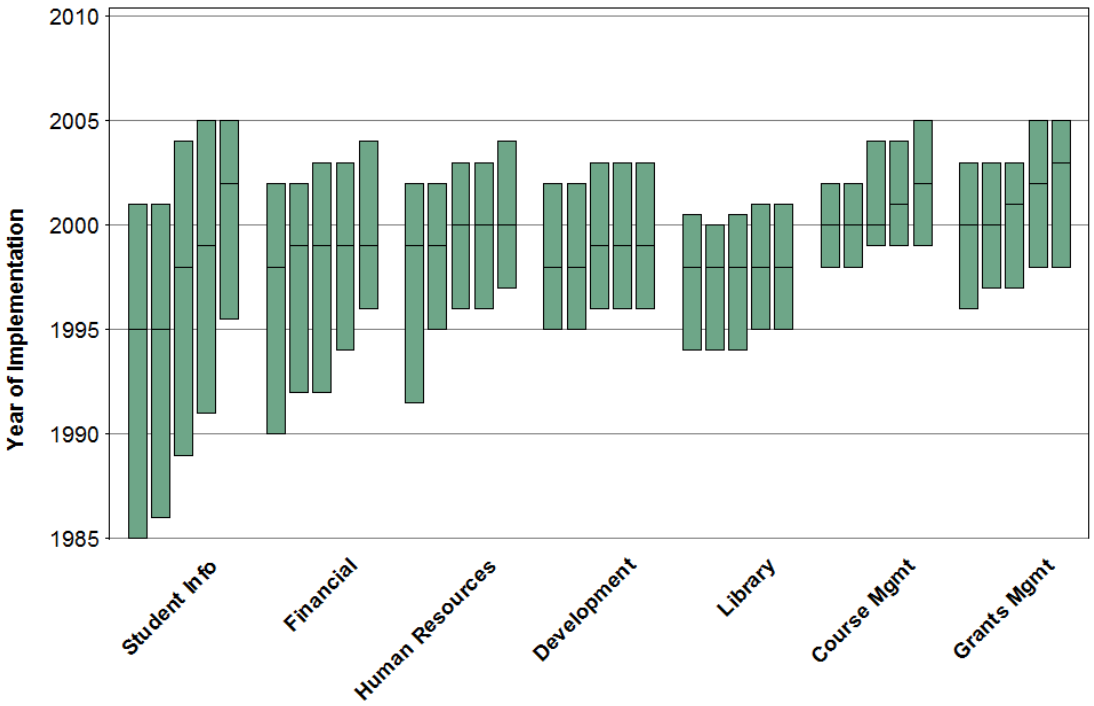

Figure 5-22 Year of Implementation for Information Systems (DR EXT) 2005–2009

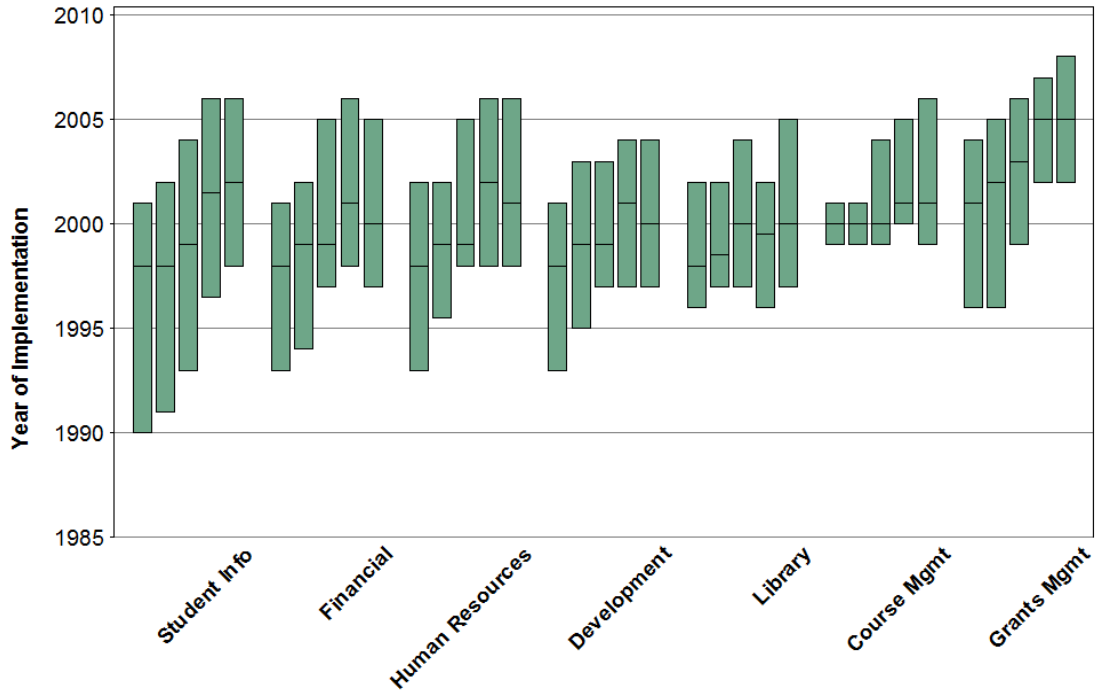

Figure 5-23 Year of Implementation for Information Systems (DR INT) 2005–2009

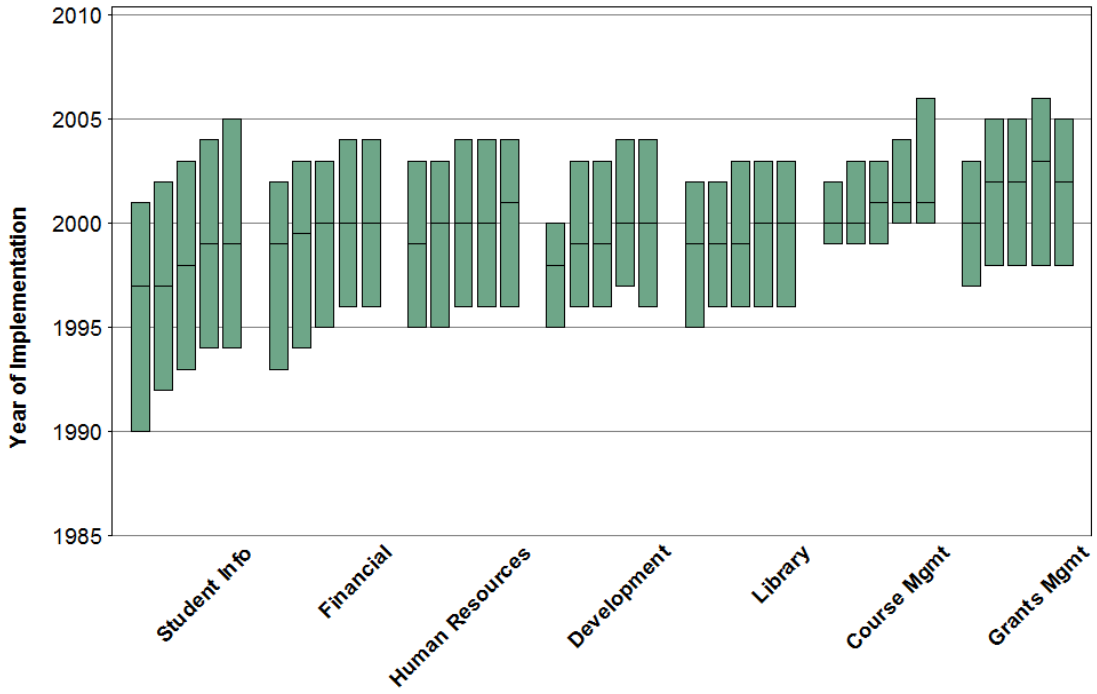

Figure 5-24 Year of Implementation for Information Systems (MA I) 2005–2009

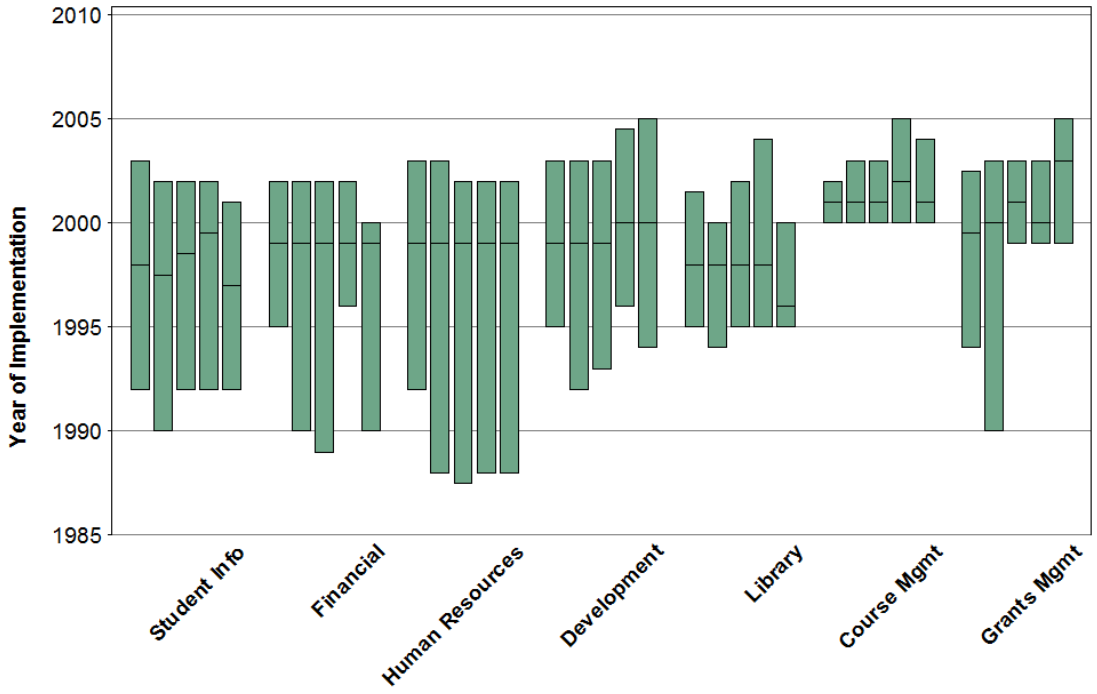

Figure 5-25 Year of Implementation for Information Systems (MA II) 2005–2009

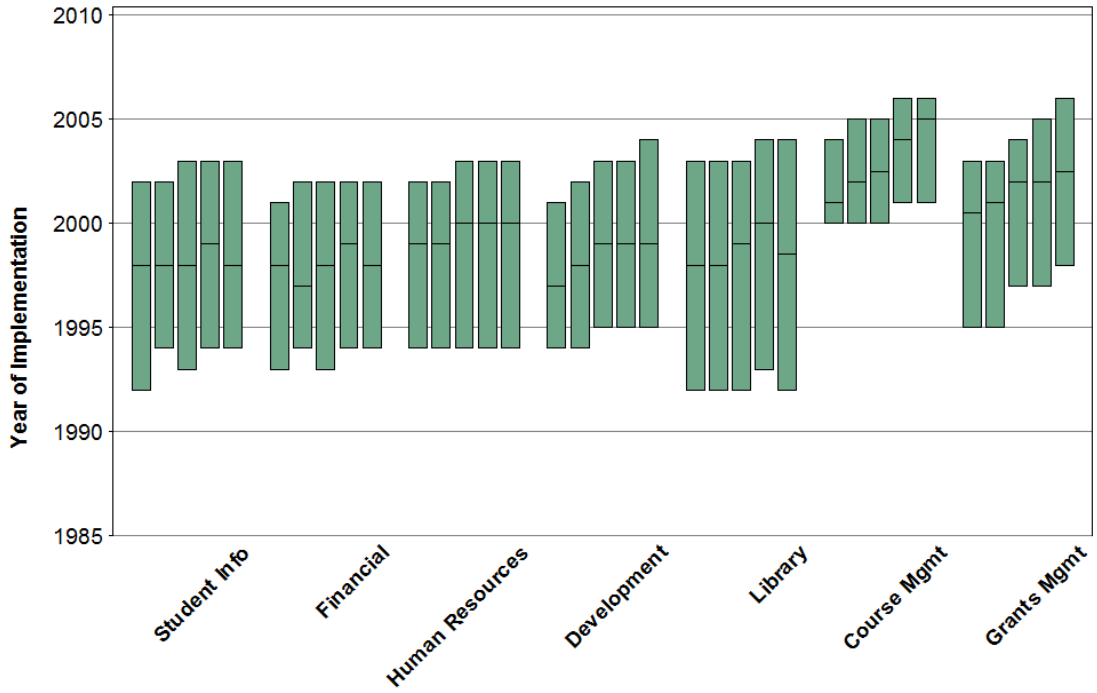

Figure 5-26 Year of Implementation for Information Systems (BA LA) 2005–2009

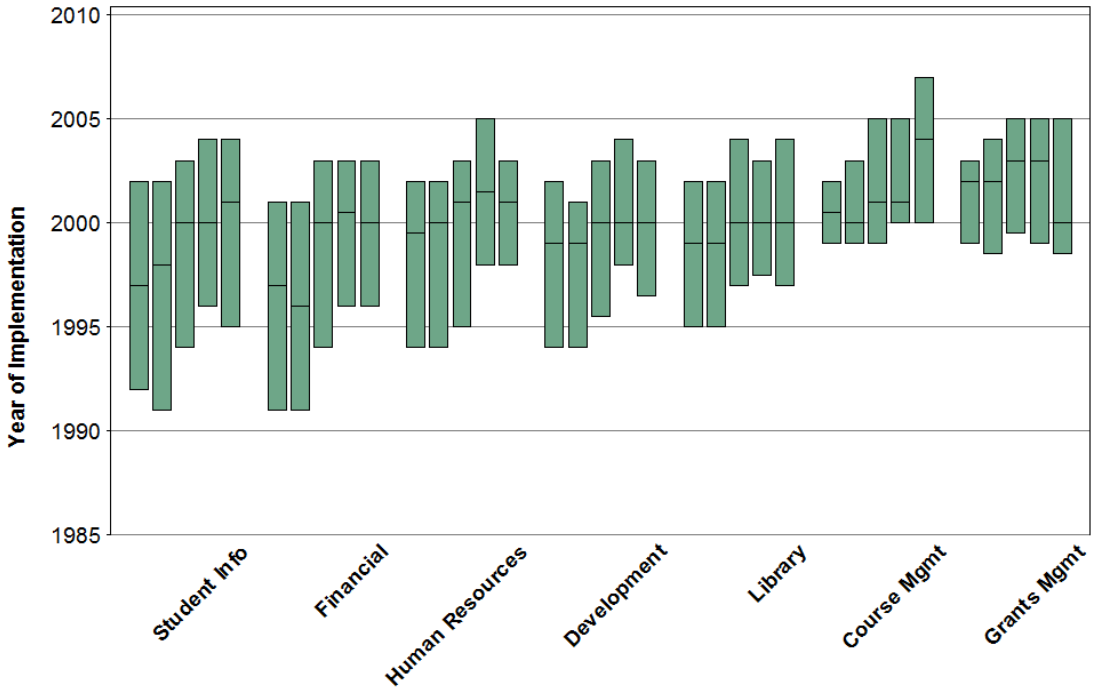

Figure 5-27 Year of Implementation for Information Systems (BA GEN) 2005–2009

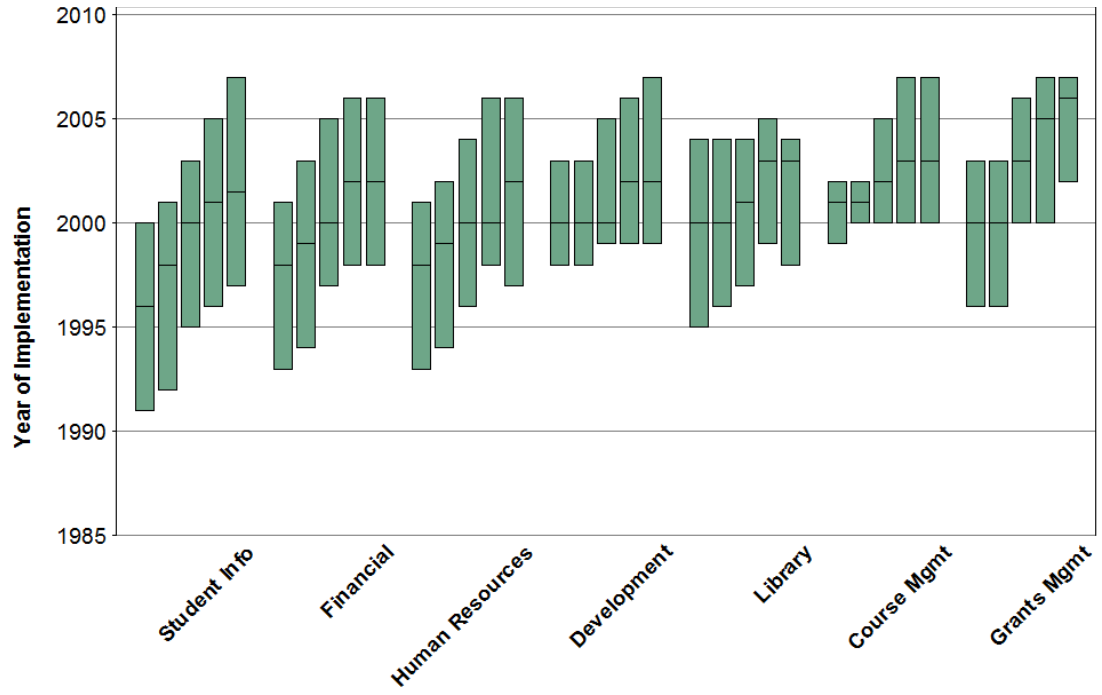

Figure 5-28 Year of Implementation for Information Systems (AA) 2005–2009

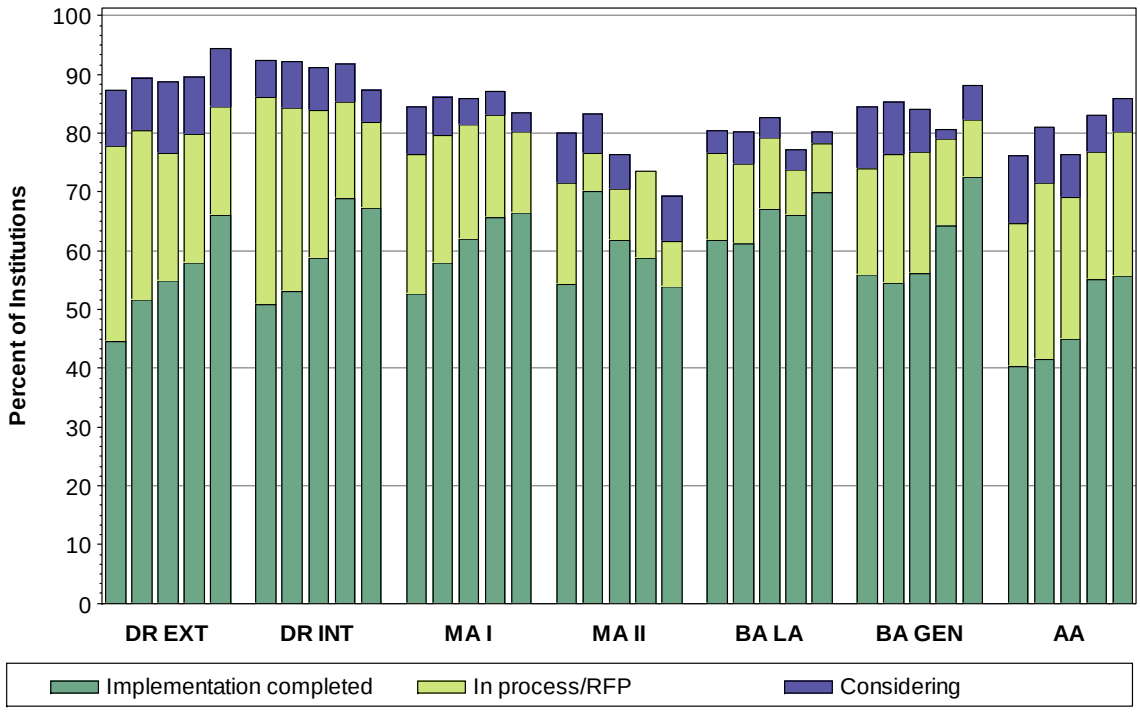

Figure 5-29 Enterprise Resource Planning System (ERP) Status 2005–2009

Table 5-3 Percent of ERP Costs for Various Components 2009

	DR EXT	DR INT	MA I	MA II	BA LA	BA GEN	AA
Consulting fees	29%	21%	21%	9%	15%	15%	25%
Hardware	10%	13%	11%	14%	9%	10%	11%
Software/software licenses	14%	18%	22%	39%	29%	28%	19%
Software maintenance	8%	9%	12%	12%	11%	14%	11%
Training	4%	7%	9%	8%	10%	9%	9%
In-house staff costs	27%	19%	20%	18%	18%	21%	18%
Other	8%	13%	5%	0%	8%	2%	6%

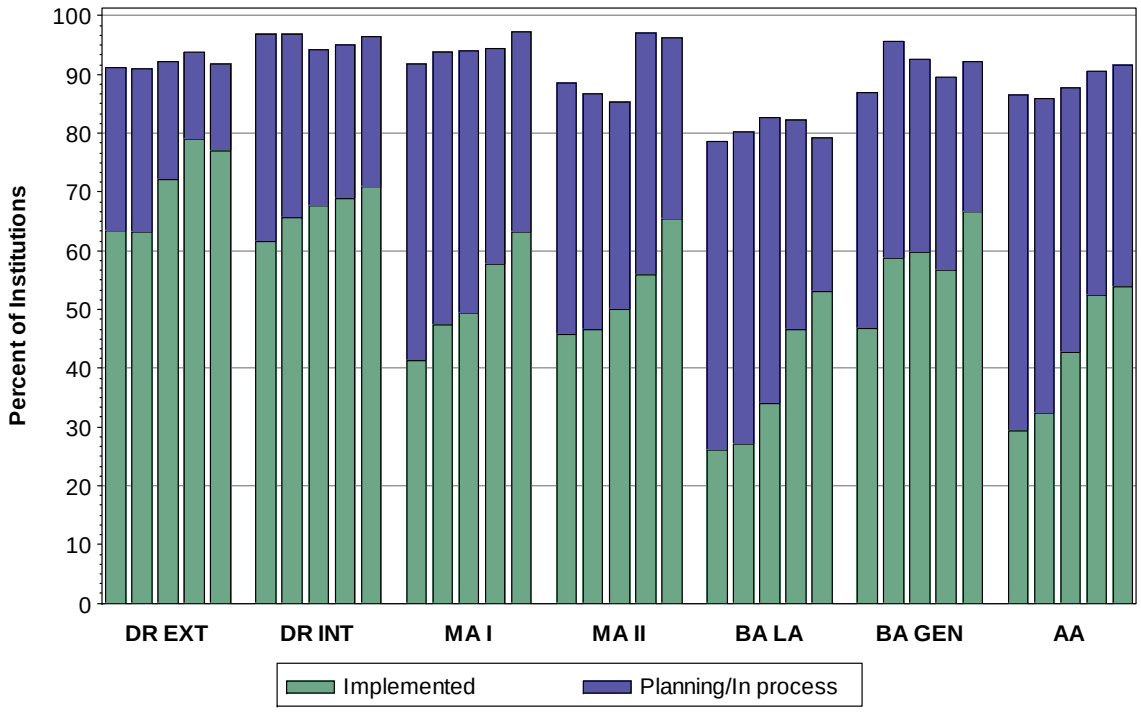

Figure 5-30 Status of Web Portals 2005–2009

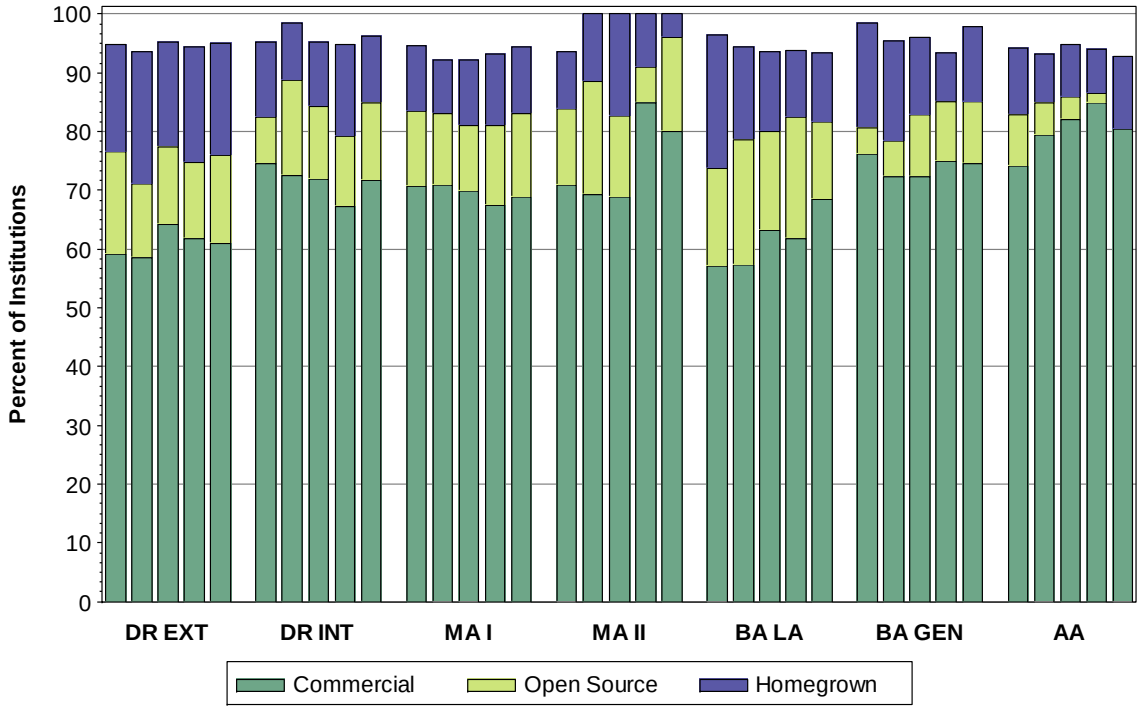

Figure 5-31 Web Portal Strategies 2005–2009

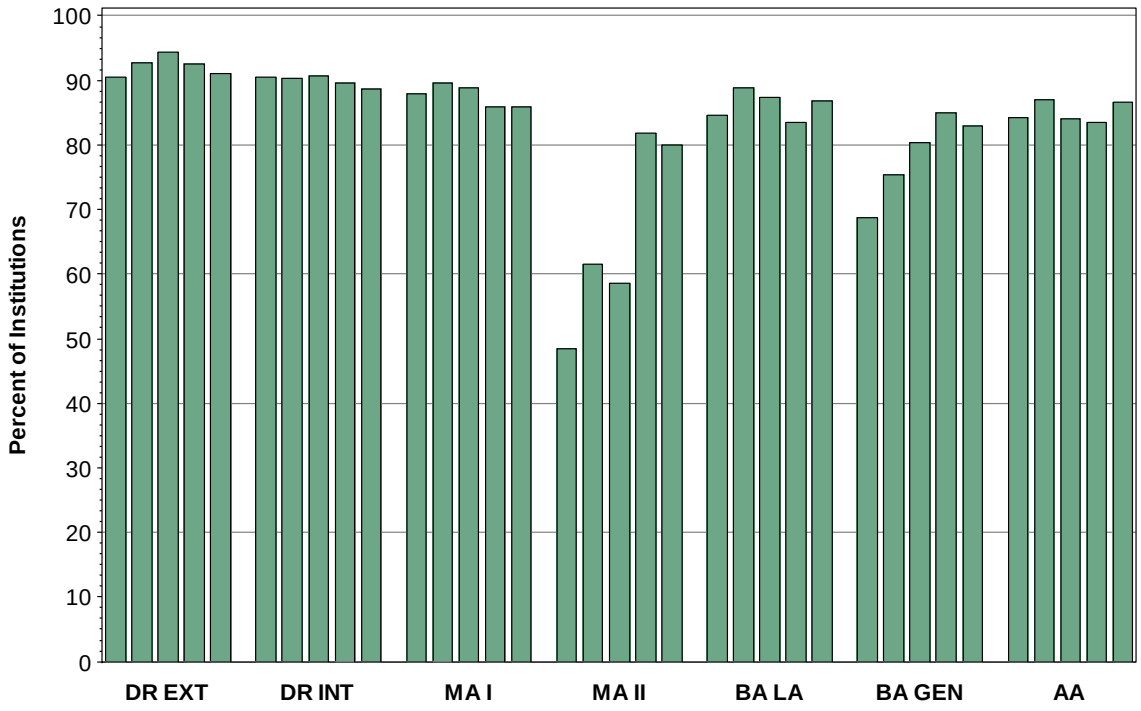

Figure 5-32 Web Portals Customizable by User 2005–2009

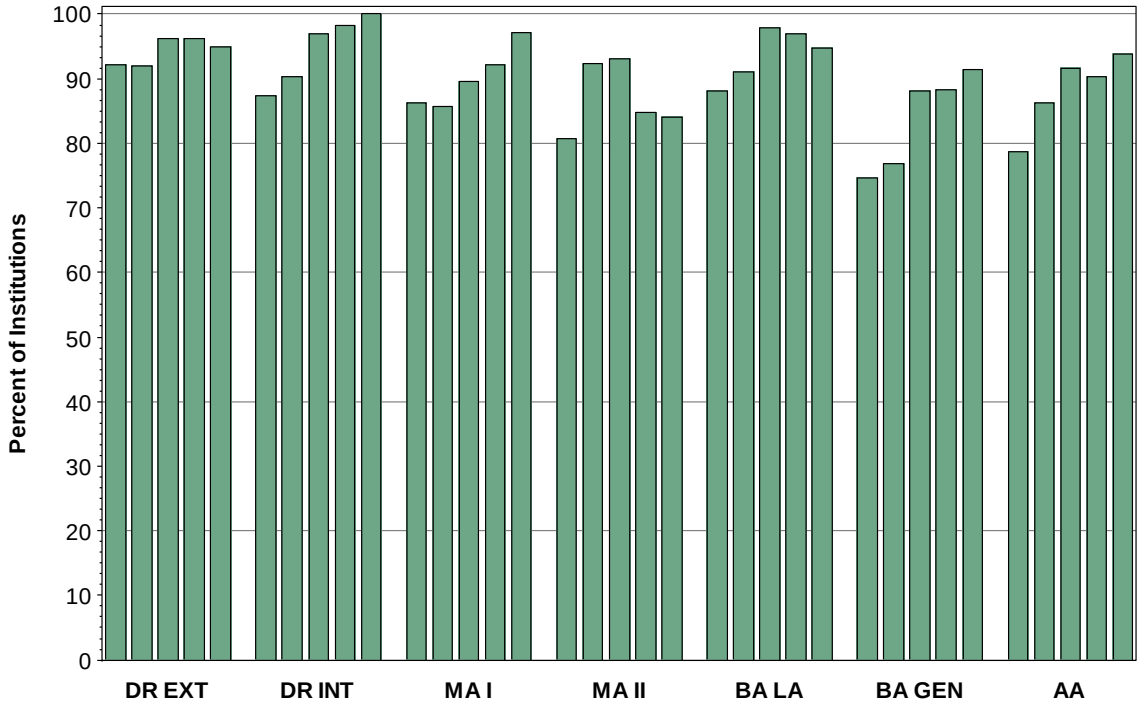

Figure 5-33 Customized Web Portals for Different Audiences 2005–2009

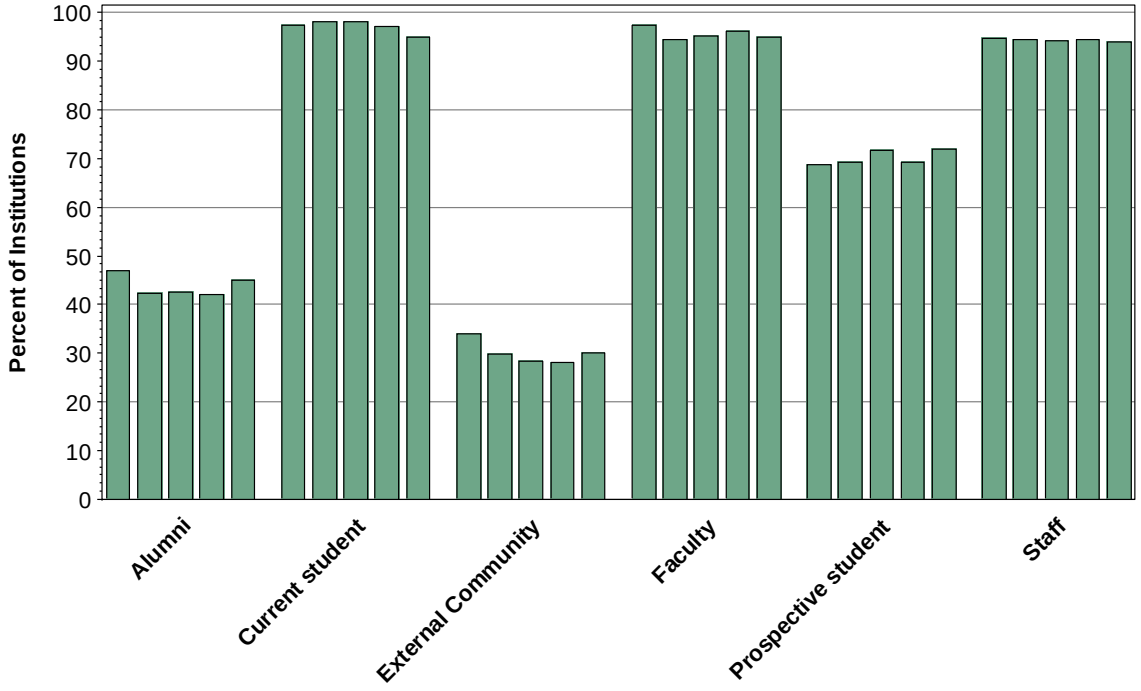

Figure 5-34 Customized Web Portals for Various Audiences (DR EXT) 2005–2009

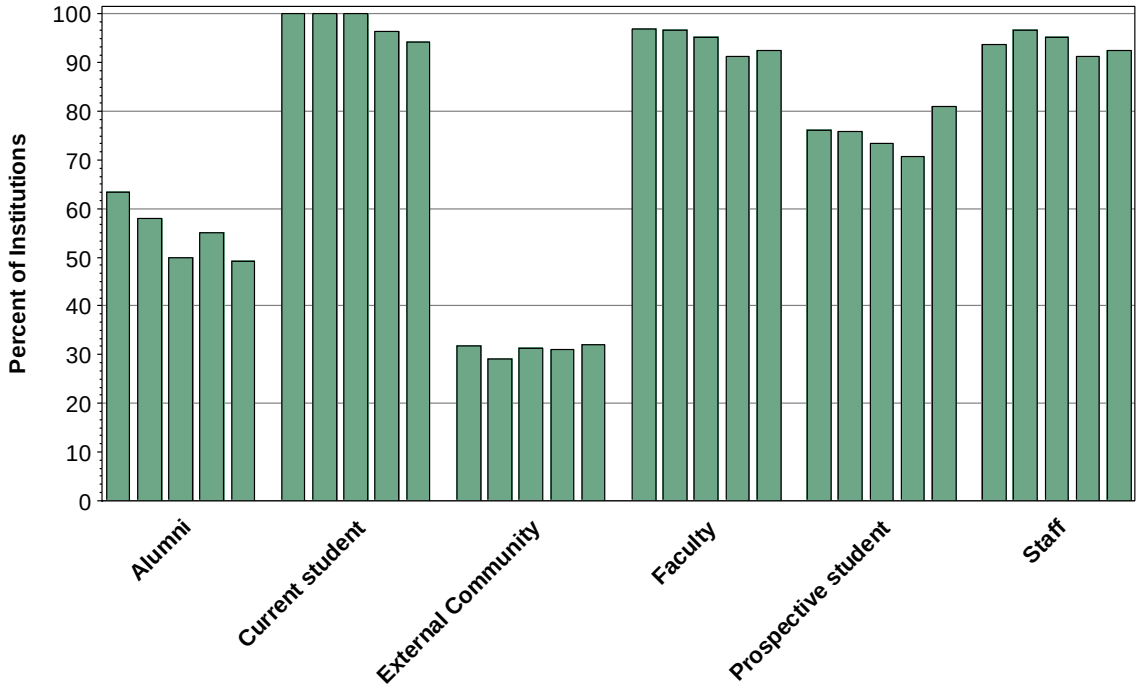

Figure 5-35 Customized Web Portals for Various Audiences (DR INT) 2005–2009

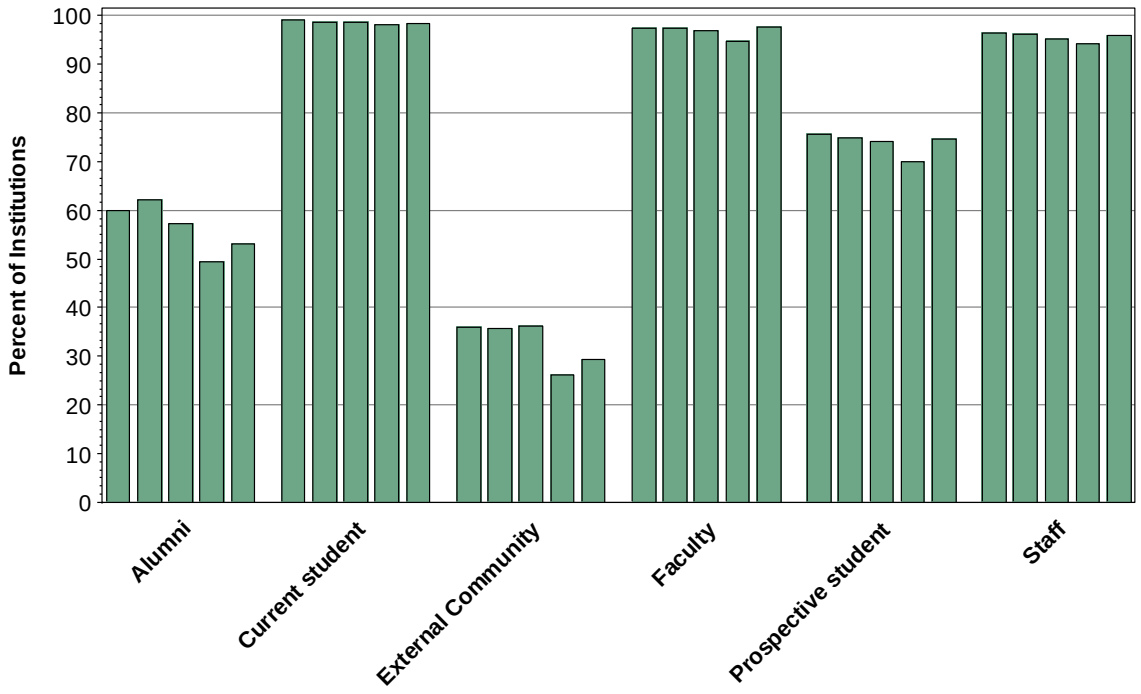

Figure 5-36 Customized Web Portals for Various Audiences (MA I) 2005–2009

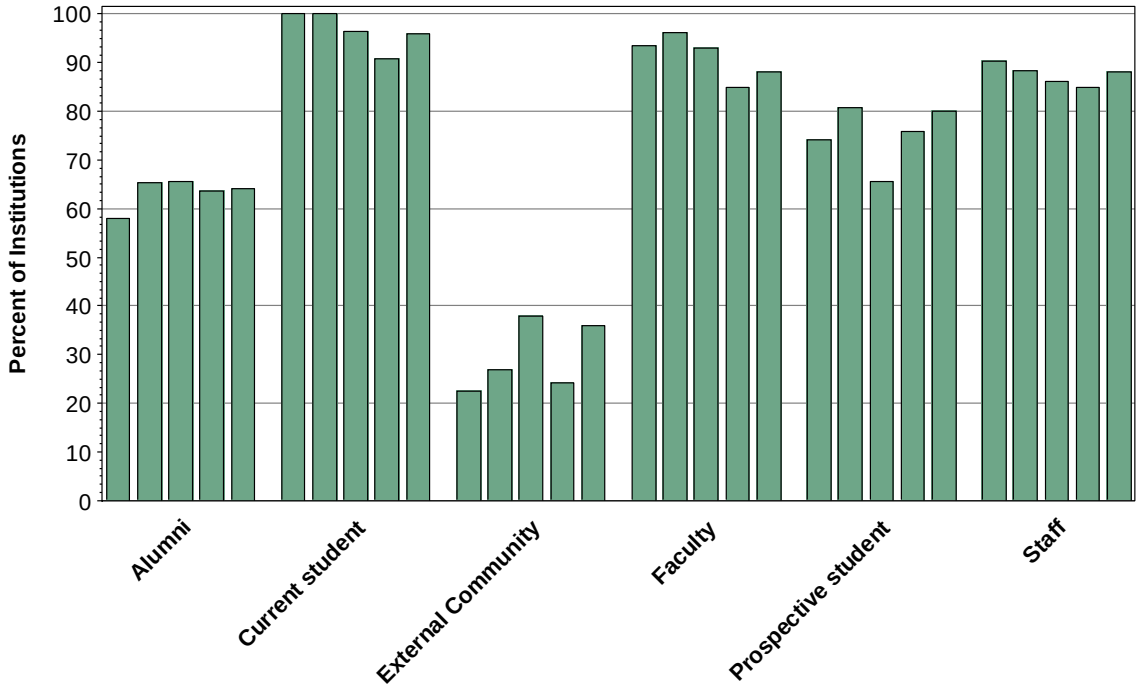

Figure 5-37 Customized Web Portals for Various Audiences (MA II) 2005–2009

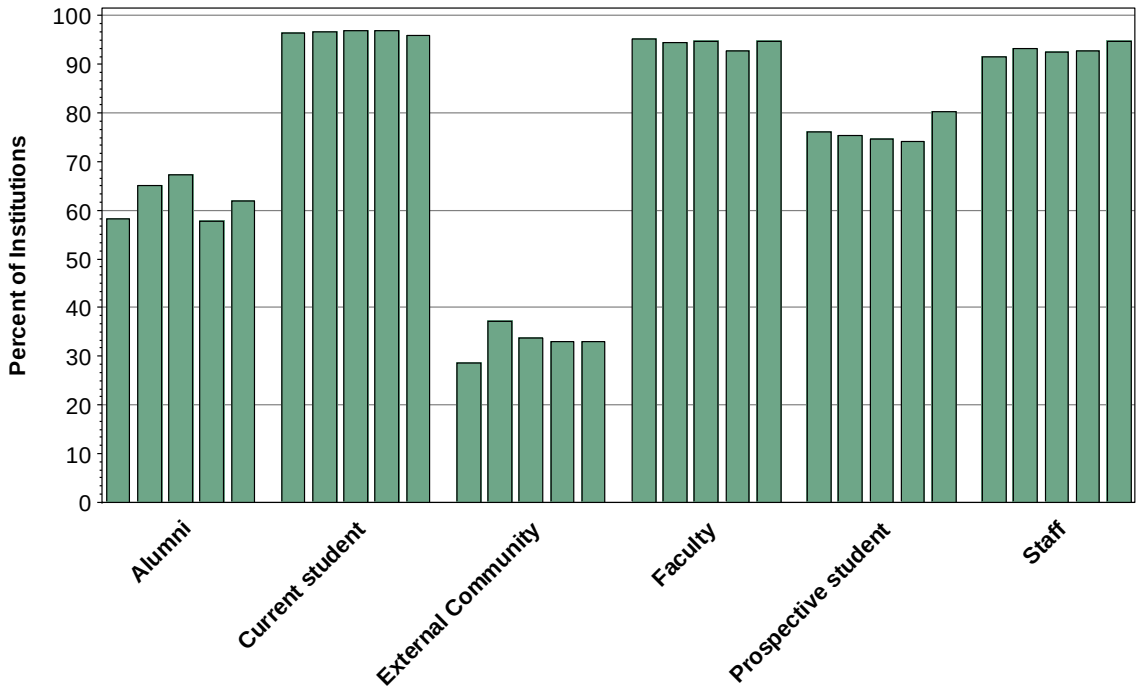

Figure 5-38 Customized Web Portals for Various Audiences (BA LA) 2005–2009

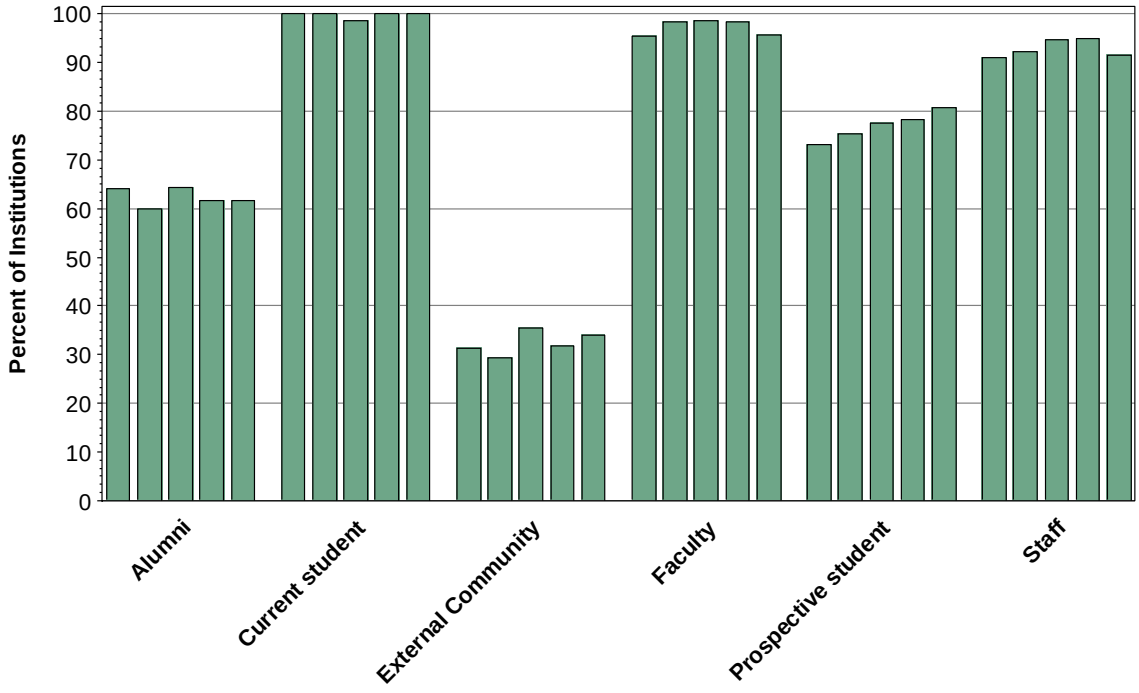

Figure 5-39 Customized Web Portals for Various Audiences (BA GEN) 2005–2009

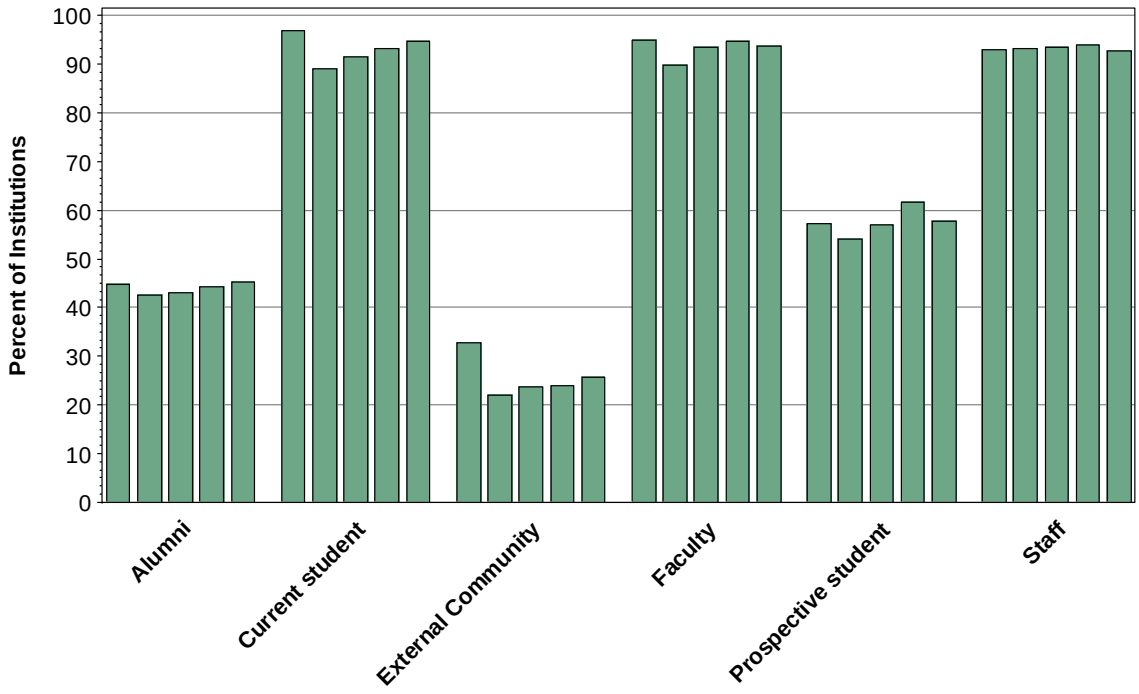

Figure 5-40 Customized Web Portals for Various Audiences (AA) 2005–2009

Appendix A Historical Context

Finding useful and relevant comparative data for information technology units in higher education has long been a challenge, and a number of data-collection activities have arisen through the years to meet this need. Prior to its consolidation with Educom in the summer of 1998,[1] CAUSE had been capturing data from its members for nearly 20 years. Early surveys collected data primarily on administrative systems, as the CAUSE mission had not yet broadened to encompass academic computing. Academic computing data were captured in a survey done annually by Charles Warlick of the University of Texas at Austin. Between these two surveys, the IT community had access to some fundamental data about academic and administrative hardware and software. Warlick's data were published regularly in a print compendium, while summary CAUSE data were published periodically in monograph form.

In addition, the CAUSE data were used to form the basis of an Institution Database (ID) service through which members could request custom reports drawn from the data in six major areas: staffing, budgets, organization, software, computer hardware, and communications. This service was quite popular with members, peaking at 442 custom reports requested in FY1994–1995 and declining in 1996 after CAUSE stopped collecting these data annually.

The CAUSE ID survey instrument changed over the years as the association's mission changed, and especially after Warlick ceased to do his survey in the early 1990s. Several years earlier, Kenneth C. Green had already begun to disseminate and report the findings of a comprehensive academic computing survey (called the Campus Computing Project) that focused on the microcomputer environment on campuses throughout the country, a survey that continues today (see http://www.campuscomputing.net).

In the early 1980s, EDUCOM developed an interactive peer group benchmarking system, called HEDS—Higher Education Data Sharing Service, based on software developed several years earlier for the EDUCOM "EFPM" financial modeling. HEDS enables participating institutions to access data in identified form submitted by other institutions via a series of annual surveys, with access contingent upon completing a given survey. HEDS surveys were not focused on IT, per se, but rather covered a wide range of institutional planning, management, and institutional research topics. HEDS was subsequently spun off into a separate not-for-profit organization, the HEDS Consortium (http://www.e-heds.org/).

Another data collection activity, called the COSTS Project, was developed in the late 1990s by David Smallen and Karen Leach (now vice president for information technology and vice president for administration and finance, respectively, at Hamilton College) to identify and capture information about the cost of IT services on campus (see http://www.costsproject.org). This activity for the most part attracted the participation of small liberal arts institutions.

Following the merger of CAUSE and Educom, EDUCAUSE developed a number of strategies for delivering a research program to capture and share the data and information our members need to plan for and manage IT on their campuses. First, an EDUCAUSE Current Issues Survey was

launched in 2000 and has been conducted annually since then (see http://www.educause.edu/issues). Then, in 2001, the EDUCAUSE Center for Applied Research (ECAR) was created (see http://www.educause.edu/ecar). Finally, an EDUCAUSE task force was convened in the fall of 2001 to consider establishing an ongoing core data collection activity similar to the earlier CAUSE ID survey and service. The dozen members of this task force were representative of the diversity of the EDUCAUSE membership, from small and large, public and private institutions as well as from schools with varying Carnegie classifications. The group recommended that the association develop a Core Data Service (CDS) that would disseminate a web-based survey instrument to collect data about information technology environments and practices on member campuses.

The goal of the CDS is to provide

- a web-based, interactive database service available to all who complete the survey through which they can access data contributed by their peers to help benchmark, plan, and make decisions about IT on their campus; and
- an annual summary report about campus IT environments based on data contributed through the survey.

The Core Data Service was launched in December 2002 with the idea that it would not duplicate but rather cooperate with existing IT-related data collection efforts and explore opportunities to partner with other associations in such efforts. To that end, in the summer of 2005, leaders of EDUCAUSE and the COSTS Project agreed to integrate their respective efforts to gather and analyze data about the costs and environmental factors of information technology in higher education. Thus the annual EDUCAUSE core data survey now includes questions that enable former COSTS Project participants to use the CDS to access the data they need for IT planning.

In early 2010, EDUCAUSE launched a project to review and redesign the CDS. Goals of the redesign include updating the survey question set, making the data service both more powerful and easier to use, attracting more participants, and replacing the underlying software platform. The redesign project also includes streamlining the appropriate use policy, broadening the content of the CDS website, and enhancing the Annual Summary Report. The project plan calls for the redesign principles to be presented at the EDUCAUSE Annual Conference in October, 2010, with the updated survey in place in January, 2011; the redesigned data access and reporting service operational in May 2011; and the enhanced Annual Summary Report published in early fall 2011.

Endnotes

1. CAUSE, the Association for the Management of Information Technology in Higher Education, was founded in 1971 as a nonprofit professional association, with an initial focus on administrative computing; see http://www.educause.edu/About+EDUCAUSE/OperationsandBackground/CAUSEHistory/695. Educom was a nonprofit consortium of higher education institutions, founded in 1964, whose mission was to facilitate the introduction, use, access to, and management of information resources in teaching, learning, scholarship, and research; see http://www.educause.edu/About+EDUCAUSE/OperationsandBackground/EducomHistory/696. The two organizations merged in 1998 to form EDUCAUSE, whose mission is to advance higher education by promoting the intelligent use of information technology.

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Appendix B Participating Institutions

Institutions that responded in time for inclusion in this report are listed below, along with the classification code from the 2000 version of *The Carnegie Classification of Higher Education* for U.S. institutions and two letter country code for institutions outside the U.S. Two listings are provided in this appendix. The first is alphabetical by the name of the institution. The second is alphabetical by name *within* Carnegie Classifications; all non-U.S. participants are grouped at the end of the second listing and organized by country code.

Alphabetical by Name of Institution

A.T. Still University of Health Sciences (MED)
Abilene Christian University (MA I)
Abraham Baldwin Agricultural College (AA)
Adrian College (BA LA)
Albion College (BA LA)
Albright College (BA LA)
Allegheny College (BA LA)
Alverno College (BA GEN)
American University (DR INT)
American University of Beirut (LB)
American University of Sharjah (AE)
Amherst College (BA LA)
Angelo State University (MA I)
Anna Maria College (MA I)
Anne Arundel Community College (AA)
Antelope Valley College (AA)
Appalachian State University (MA I)
Aquinas College (MA II)
Arizona State University (DR EXT)
Armstrong Atlantic State University (MA I)
Asbury University (BA GEN)
Ashland University (MA I)
Assiniboine Community College (CA)
Assumption College (MA I)
Athabasca University
Atlanta Metropolitan College (AA)
Auburn University (DR EXT)
Auburn University at Montgomery (MA I)
Augusta State University (MA I)
Augustana College (BA GEN)
Austin College (BA LA)
Austin Peay State University (MA I)
Australian Catholic University (AU)
Australian National University (AU)
AUT University (NZ)
Azusa Pacific University (MA I)
Babson College (BUS)
Bainbridge College (AA)
Baldwin-Wallace College (MA I)
Ball State University (DR INT)
Barry University (MA I)
Barton County Community College (AA)
Bastyr University (MA I)
Bates College (BA LA)
Bay Path College (BA AA)
Baylor University (DR INT)
Belmont Abbey College (MA II)
Beloit College (BA LA)
Benedictine University (MA I)
Bennington College (BA LA)
Berea College (BA LA)
Berry College (BA GEN)
Bethany Lutheran College (AA)
Bethel University (MA I)
Bevill State Community College (AA)
Birmingham-Southern College (BA LA)
Bishop State Community College (AA)
Bismarck State College (AA)
Black Hills State University (BA GEN)
Blackburn College (BA LA)
Blinn College (AA)
Bloomsburg University of Pennsylvania (MA I)
Blue Ridge Community College (AA)
Bluefield State College (BA GEN)
Bluffton University (BA GEN)
Boise State University (MA I)
Boston College (DR EXT)
Boston University (DR EXT)
Bow Valley College (CA)
Bowdoin College (BA LA)
Bowie State University (MA I)
Bowling Green Technical College (AA)
Bradley University (MA I)
Brandeis University (DR EXT)

Brenau University (MA I)
Bridgewater College (BA LA)
Bridgewater State College (MA I)
Broome Community College (AA)
Brown University (DR EXT)
Bryn Athyn College of the New Church (BA AA)
Bryn Mawr College (BA LA)
Bucknell University (BA LA)
Buena Vista University (BA GEN)
Buffalo State College (MA I)
Butler County Community College (AA)
Butler University (MA I)
Butte College (AA)
California College of the Arts (ART)
California Institute of Integral Studies (OTHER)
California Lutheran University (MA I)
California Polytechnic State University, San Luis Obispo (MA I)
California State Polytechnic University, Pomona (MA I)
California State University, Bakersfield (MA I)
California State University, Channel Islands (BA LA)
California State University, Chico (MA I)
California State University, Dominguez Hills (MA I)
California State University, East Bay (MA I)
California State University, Fresno (MA I)
California State University, Fullerton (MA I)
California State University, Long Beach (MA I)
California State University, Los Angeles (MA I)
California State University, Monterey Bay (BA LA)
California State University, Northridge (MA I)
California State University, Sacramento (MA I)
California State University, San Bernardino (MA I)
California State University, San Marcos (MA I)
California State University, Stanislaus (MA I)
Calvin College (BA GEN)
Camosun College (CA)
Canadian University College (CA)
Canisius College (MA I)
Capital University (MA II)
Cardinal Stritch University (MA I)
Carleton College (BA LA)
Carleton University (CA)
Carnegie Mellon University (DR EXT)
Carroll College (BA GEN)
Carroll University (BA GEN)
Case Western Reserve University (DR EXT)
Castleton State College (MA II)
Catawba College (BA GEN)
Cedar Crest College (BA GEN)
Central Michigan University (DR INT)
Central Piedmont Community College (AA)
Central Queensland University (AU)
Central Virginia Community College (AA)
Centre College (BA LA)
Century College (AA)
Chandler-Gilbert Community College (AA)
Charles Drew University of Medicine & Science (HEALTH)
Charles Sturt University (AU)
Chattanooga State Community College (AA)
Chesapeake College (AA)
Chowan University (BA GEN)
City University of Hong Kong (CN)
Claremont McKenna College (BA LA)
Clark College (AA)
Clark State Community College (AA)
Clark University (DR INT)
Clarke University (BA GEN)
Clarkson College (HEALTH)
Clayton State University (BA AA)
Clemson University (DR EXT)
Cleveland State Community College (AA)
Colby College (BA LA)
Colby-Sawyer College (BA GEN)
Colgate University (BA LA)
College of DuPage (AA)
College of Menominee Nation (TRIBAL)
College of Mount Saint Joseph (MA II)
College of Saint Benedict/Saint John's University (BA LA)
College of the Holy Cross (BA LA)
College of the Ozarks (BA GEN)
College of the Siskiyous (AA)
College of William and Mary (DR INT)
College of Wooster (BA LA)
Colorado College (BA LA)
Colorado State University (DR EXT)
Columbia College (BA GEN)
Columbia College Chicago (MA I)
Community College of Beaver County (AA)
Community College of Rhode Island (AA)
Community College of Vermont (AA)
Concordia College (BA GEN)
Concordia College (BA GEN)
Concordia Seminary (FAITH)
Concordia University Texas (BA GEN)
Connecticut College (BA LA)
Coppin State University (MA I)
Corban University (BA GEN)

Creighton University (MA I)
Crown College (BA GEN)
Curtin University of Technology (AU)
Dabney S. Lancaster Community College (AA)
Dakota Wesleyan University (BA GEN)
Dalhousie University (CA)
Dalton State College (AA)
Dana College (BA GEN)
Danville Community College (AA)
Dartmouth College (DR INT)
Davidson College (BA LA)
Deakin University (AU)
Delta State University (MA I)
Denison University (BA LA)
Denver Seminary (FAITH)
DePauw University (BA LA)
Dickinson College (BA LA)
Dickinson State University (BA GEN)
Doane College (MA II)
Dominican University (MA I)
Dominican University of California (MA I)
Drake University (MA I)
Drew University (BA LA)
Drexel University (DR INT)
Earlham College (BA LA)
East Carolina University (DR INT)
East Georgia College (AA)
East Tennessee State University (DR INT)
Eastern Illinois University (MA I)
Eastern Mennonite University (BA LA)
Eastern Michigan University (MA I)
Eastern Oregon University (MA II)
Eastern Shore Community College (AA)
Eastern University (MA I)
Eckerd College (BA LA)
Edgewood College (MA I)
Edison State College (AA)
Edith Cowan University (AU)
Elmhurst College (BA GEN)
Elon University (MA I)
Emporia State University (MA I)
Estrella Mountain Community College (AA)
ETH Zurich (CH)
Eureka College (BA GEN)
Excelsior College (BA LA)
Fairfield University (MA I)
Flagler College (BA GEN)
Flinders University (AU)
Florence-Darlington Technical College (AA)
Florida Atlantic University (DR INT)
Florida International University (DR EXT)
Florida Southern College (BA GEN)
Florida State University (DR EXT)
Fordham University (DR EXT)
Fort Belknap College (TRIBAL)
Fort Hays State University (MA I)
Fort Lewis College (BA LA)
Franklin and Marshall College (BA LA)
Franklin W. Olin College of Engineering (ENGR)
Frostburg State University (MA I)
Furman University (BA LA)
Gainesville State College (AA)
Gallaudet University (MA I)
Galveston College (AA)
GateWay Community College (AA)
Gavilan College (AA)
Genesee Community College (AA)
Geneva College (MA II)
George Brown College (CA)
George Fox University (MA I)
George Mason University (DR INT)
Georgia College & State University (MA I)
Georgia Gwinnett College (BA GEN)
Georgia Institute of Technology (DR EXT)
Georgia Perimeter College (AA)
Georgia Southern University (MA I)
Georgia Southwestern State University (MA I)
Georgia State University (DR EXT)
Germanna Community College (AA)
Gettysburg College (BA LA)
Glendale Community College (AA)
Gonzaga University (MA I)
Gordon College (AA)
Gordon-Conwell Theological Seminary (FAITH)
Grace College and Seminary (BA GEN)
Grand Rapids Community College (AA)
Grand Valley State University (MA I)
Green Mountain College (BA GEN)
Greensboro College (BA LA)
Griffith University (AU)
Grinnell College (BA LA)
Grove City College (BA GEN)
Guam Community College (AA)
Guilford College (BA LA)
Gwynedd-Mercy College (MA II)
Hamilton College (BA LA)
Hamline University (MA I)
Hanover College (BA LA)

Hartwick College (BA LA)
Harvard University (DR EXT)
Harvey Mudd College (ENGR)
Haverford College (BA LA)
Hillsdale College (BA LA)
Hobart and William Smith Colleges (BA LA)
Hofstra University (DR INT)
Hope College (BA LA)
Houghton College (BA GEN)
Houston Baptist University (MA I)
Hudson Valley Community College (AA)
Humber College Institute of Technology & Advanced Learning (CA)
Humboldt State University (MA I)
Huston-Tillotson University (BA GEN)
Idaho State University (DR INT)
Illinois Central College (AA)
Illinois State University (DR INT)
Illinois Wesleyan University (BA LA)
Indiana Institute of Technology (BUS)
Indiana State University (DR INT)
Indiana University (DR EXT)
Indiana University East (BA GEN)
Indiana University Kokomo (BA GEN)
Indiana University Northwest (MA I)
Indiana University of Pennsylvania (DR INT)
Indiana University South Bend (MA I)
Indiana University Southeast (MA I)
Indiana University-Purdue University Indianapolis (DR INT)
Inver Hills Community College (AA)
Iowa State University (DR EXT)
Ithaca College (MA I)
J. Sargeant Reynolds Community College (AA)
Jackson State Community College (AA)
Jackson State University (DR INT)
Jacksonville University (MA I)
Jefferson Community College (AA)
John Carroll University (MA I)
John Marshall Law School (LAW)
John Tyler Community College (AA)
Johnson County Community College (AA)
Johnson State College (MA I)
Kalamazoo College (BA LA)
Kansas State University (DR EXT)
Keene State College (MA II)
Kennesaw State University (MA I)
Kent State University (DR EXT)
Kenyon College (BA LA)
Keyano College (CA)
Keystone College (AA)
King's College (MA II)
Knox College (BA LA)
Kutztown University of Pennsylvania (MA I)
Kwantlen Polytechnic University (CA)
Kyushu University (JP)
La Trobe University (AU)
Lafayette College (BA LA)
Lake Forest College (BA LA)
Lake Region State College (AA)
Lamar Institute of Technology (OTHER)
Lamar State College-Orange (AA)
Lamar State College-Port Arthur (AA)
Lamar University (MA I)
Lane Community College (AA)
Lansing Community College (AA)
Lawrence University (BA LA)
Le Moyne College (MA II)
Lebanon Valley College (MA II)
Lee University (BA GEN)
Lesley University (MA I)
LeTourneau University (MA II)
Lewis & Clark College (BA LA)
Lewis University (MA I)
Liberty University (MA I)
Lincoln Memorial University (MA I)
Lincoln University (NZ)
Lindsey Wilson College (BA LA)
Linn-Benton Community College (AA)
Lipscomb University (MA II)
Lone Star College System (AA)
Loras College (MA II)
Lord Fairfax Community College (AA)
Louisiana State University (DR EXT)
Louisiana State University in Shreveport (MA I)
Lourdes College (BA GEN)
Loyola Marymount University (MA I)
Loyola University Chicago (DR EXT)
Loyola University Maryland (MA I)
Luther College (BA LA)
Luther Seminary (FAITH)
Lynchburg College (MA I)
Lyndon State College (BA GEN)
Lynn University (MA I)
Macalester College (BA LA)
Macomb Community College (AA)
Macon State College (AA)
Madisonville Community College (AA)
Madonna University (MA I)

Malone University (MA I)
Manhattan College (MA I)
Mansfield University of Pennsylvania (MA I)
Marian University (MA II)
Marietta College (BA GEN)
Marion Technical College (AA)
Marist College (MA I)
Marquette University (DR EXT)
Marshall University (MA I)
Mary Baldwin College (MA II)
Marylhurst University (MA I)
Marywood University (MA I)
Massachusetts College of Art and Design (ART)
Massachusetts College of Liberal Arts (BA LA)
Mayville State University (BA GEN)
McDaniel College (BA LA)
McGill University (CA)
McMaster University (CA)
McMurry University (BA GEN)
Medical College of Georgia (MED)
Memorial University of Newfoundland (CA)
Mercer County Community College (AA)
Mercyhurst College (MA II)
Messiah College (BA GEN)
Metropolitan State College of Denver (BA GEN)
Miami Dade College (AA)
Miami University (DR INT)
Michigan State University (DR EXT)
Michigan Technological University (DR INT)
Middle Georgia College (AA)
Middle Tennessee State University (DR INT)
Middlebury College (BA LA)
Millersville University of Pennsylvania (MA I)
Millikin University (BA GEN)
Mills College (BA LA)
Millsaps College (BA LA)
Minnesota State University, Mankato (MA I)
Minot State University (MA I)
Misericordia University (HEALTH)
Mississippi State University (DR EXT)
Mississippi Valley State University (BA GEN)
Missouri University of Science and Technology (DR INT)
MIT (DR EXT)
Molloy College (MA II)
Monash University (AU)
Monmouth College (BA LA)
Montana State University Billings (MA I)
Montana State University-Great Falls, College of Technology (AA)
Montgomery College (AA)
Montgomery County Community College (AA)
Moody Bible Institute (FAITH)
Moraine Valley Community College (AA)
Morgan State University (DR INT)
Morningside College (MA II)
Mott Community College (AA)
Mount Holyoke College (BA LA)
Mount Saint Mary College (MA I)
Mount Saint Mary's University (MA I)
Mount St. Mary's College (MA I)
Mountain Empire Community College (AA)
Murdoch University (AU)
Muskingum University (BA LA)
Nagoya University (JP)
Nanyang Technological University (SG)
Nashville State Community College (AA)
National University (MA I)
National University of Singapore (SG)
Nebraska Wesleyan University (BA LA)
Neosho County Community College (AA)
New College of Florida (BA LA)
New England Conservatory of Music (ART)
New Mexico Institute of Mining and Technology (DR INT)
New Mexico State University (DR EXT)
New York University (DR EXT)
Niagara County Community College (AA)
Nichols College (BUS)
North Carolina A&T State University (MA I)
North Carolina Central University (MA I)
North Carolina State University (DR EXT)
North Dakota State College of Science (AA)
North Dakota State University (DR INT)
North Georgia College & State University (MA I)
North Greenville University (BA GEN)
Northeast Community College (AA)
Northeast State Community College (AA)
Northeastern Illinois University (MA I)
Northern Arizona University (DR INT)
Northern Illinois University (DR EXT)
Northern Virginia Community College (AA)
Northland International University (FAITH)
NorthTec (NZ)
Northwest Nazarene University (MA II)
Northwestern Michigan College (AA)
Northwestern University (DR EXT)
Northwood University (BUS)
Nova Scotia Community College (CA)

Oakland University (DR INT)
Oberlin College (BA LA)
Occidental College (BA LA)
Oglethorpe University (BA LA)
Ohio Northern University (BA GEN)
Ohio University (DR EXT)
Ohio Wesleyan University (BA LA)
Okanagan College (CA)
Oklahoma State University (DR EXT)
Orange County Community College (AA)
Oregon State University (DR EXT)
Osaka University (JP)
Ouachita Baptist University (BA GEN)
Ouachita Technical College (AA)
Ozarks Technical Community College (AA)
Ozyegin University (TR)
Pace University (MA I)
Pacific Lutheran University (MA I)
Paradise Valley Community College (AA)
Patrick Henry Community College (AA)
Paul D. Camp Community College (AA)
Peace College (BA AA)
Pellissippi State Community College (AA)
Pennsylvania College of Technology (BA AA)
Pepperdine University (DR INT)
Philadelphia University (MA I)
Phoenix College (AA)
Piedmont Technical College (AA)
Piedmont Virginia Community College (AA)
Pikes Peak Community College (AA)
Pikeville College (BA GEN)
Pima County Community College District (AA)
Point Park University (MA II)
Pomona College (BA LA)
Portland State University (DR INT)
Prairie View A&M University (MA I)
Prescott College (MA II)
Prince George's Community College (AA)
Princeton University (DR EXT)
Purchase College, SUNY (MA II)
Purdue University (DR EXT)
Purdue University Calumet (MA I)
Queen's University (CA)
Quinnipiac University (MA I)
Radford University (MA I)
Rappahannock Community College (AA)
Redeemer College (CA)
Reed College (BA LA)
Regis University (MA I)
Rensselaer Polytechnic Institute (DR EXT)
Rhodes College (BA LA)
Rhodes State College (AA)
Rice University (DR EXT)
Ridgewater College (AA)
Rio Salado College (AA)
Ripon College (BA LA)
Riverland Community College (AA)
RMIT University (AU)
Roane State Community College (AA)
Robert Morris University (MA I)
Roberts Wesleyan College (MA I)
Rochester Institute of Technology (MA I)
Rockhurst University (MA I)
Rocky Mountain College of Art & Design (ART)
Roosevelt University (MA I)
Rosalind Franklin University of Medicine and Science (MED)
Rosemont College (BA LA)
Rutgers, The State University of New Jersey (DR EXT)
Ryerson University (CA)
Sabanci University (TR)
Saint Anselm College (BA LA)
Saint Joseph College (MA I)
Saint Louis Community College at Florissant Valley (AA)
Saint Louis Community College at Forest Park (AA)
Saint Louis Community College at Meramec (AA)
Saint Louis University (DR EXT)
Saint Mary's College of California (MA I)
Saint Mary's University (CA)
Saint Michael's College (MA I)
Saint Paul College, A Community & Technical College (AA)
Sam Houston State University (MA I)
Samford University (MA I)
San Francisco State University (MA I)
San Juan College (AA)
Santa Barbara City College (AA)
Santa Clara University (MA I)
Santa Fe College (AA)
Savannah College of Art and Design (ART)
Savannah State University (MA II)
School of the Art Institute of Chicago (ART)
Schreiner University (BA LA)
Scottsdale Community College (AA)
Seattle Central Community College (AA)
Seattle Pacific University (MA I)
Seattle University (MA I)
Seneca College of Applied Arts and Technology (CA)

Seton Hall University (DR INT)
Sewanee: The University of the South (BA LA)
Shepherd University (BA GEN)
Sheridan College (AA)
Siena Heights University (MA I)
Simon Fraser University (CA)
Skidmore College (BA LA)
Smith College (BA LA)
Soka University of America (BA GEN)
South Dakota School of Mines & Technology (ENGR)
South Dakota State University (DR INT)
South Florida Community College (AA)
South Georgia College (AA)
South Mountain Community College (AA)
Southeast Community College (AA)
Southern Cross University (AU)
Southern Illinois University Edwardsville (MA I)
Southern Methodist University (DR EXT)
Southern Nazarene University (MA I)
Southern Oregon University (MA I)
Southern Polytechnic State University (ENGR)
Southern Wesleyan University (MA II)
Southside Virginia Community College (AA)
Southwest Minnesota State University (MA II)
Southwest Tennessee Community College (AA)
Southwest Virginia Community College (AA)
Southwestern Oregon Community College (AA)
Spoon River College (AA)
Springfield Technical Community College (AA)
St. Bonaventure University (MA I)
St. Cloud State University (MA I)
St. John Fisher College (MA II)
St. John's University (DR INT)
St. Lawrence University (BA LA)
St. Louis College of Pharmacy (HEALTH)
St. Mary's College of Maryland (BA LA)
St. Olaf College (BA LA)
Stanford University (DR EXT)
Stark State College of Technology (AA)
State Fair Community College (AA)
Stephen F. Austin State University (MA I)
Stonehill College (BA GEN)
SUNY College at Fredonia (MA I)
SUNY College at Geneseo (MA I)
SUNY College at Oneonta (MA I)
SUNY College at Oswego (MA I)
SUNY College at Plattsburgh (MA I)
SUNY College of Optometry (HEALTH)
SUNY College of Technology at Cobleskill (BA AA)
Susquehanna University (BA LA)
Swarthmore College (BA LA)
Sweet Briar College (BA LA)
Swinburne University of Technology (AU)
Syracuse University (DR EXT)
Tabor College (BA GEN)
Tacoma Community College (AA)
Tarleton State University (MA I)
Taylor University (BA GEN)
Tecnologico de Monterrey (MX)
Texas A&M Health Science Center (HEALTH)
Texas A&M University (DR EXT)
Texas A&M University at Galveston (BA LA)
Texas A&M University at Qatar (QA)
Texas A&M University-Commerce (DR INT)
Texas A&M University-Corpus Christi (MA I)
Texas A&M University-Kingsville (DR INT)
Texas A&M University-Texarkana (MA I)
Texas Lutheran University (BA GEN)
Texas State University-San Marcos (MA I)
Texas Wesleyan University (MA II)
Texas Woman's University (DR INT)
The American University in Cairo (EG)
The Banff Centre (CA)
The Catholic University of America (DR EXT)
The College of New Jersey (MA I)
The College of Saint Rose (MA I)
The College of Saint Scholastica (MA I)
The George Washington University (DR EXT)
The Hebrew University of Jerusalem (IL)
The Hong Kong Polytechnic University (CN)
The Johns Hopkins University (DR EXT)
The Ohio State University (DR EXT)
The University of Adelaide (AU)
The University of Arizona (DR EXT)
The University of Auckland (NZ)
The University of British Columbia (CA)
The University of Findlay (MA I)
The University of Iowa (DR EXT)
The University of Melbourne (AU)
The University of Memphis (DR EXT)
The University of Queensland (AU)
The University of Scranton (MA I)
The University of South Dakota (DR INT)
The University of Tennessee Health Science Center (MED)
The University of Texas at Arlington (DR EXT)
The University of Texas Health Science Center at Houston (MED)

The University of Texas M. D. Anderson Cancer Center (MED)
The University of the Arts (ART)
The University of Toledo (DR EXT)
The University of Western Ontario (CA)
Thomas College (BUS)
Thomas Edison State College (MA II)
Thomas Jefferson University (MED)
Thomas Nelson Community College (AA)
Thompson Rivers University (CA)
Tidewater Community College (AA)
Toccoa Falls College (BA GEN)
Touro College (MA I)
Towson University (MA I)
Trevecca Nazarene University (MA I)
Trine University (BA GEN)
Trinity Christian College (BA GEN)
Trinity College (BA LA)
Trinity University (MA I)
Truckee Meadows Community College (AA)
Tufts University (DR EXT)
Tunxis Community College (AA)
Union College (BA LA)
United States Air Force Academy (OTHER)
United States Naval Academy (OTHER)
Unity College (BA GEN)
Universidad de Los Andes (CO)
Universite de Lausanne (CH)
Universite de Montreal (CA)
University at Albany, SUNY (DR EXT)
University of Alabama (DR EXT)
University of Alaska Fairbanks (DR INT)
University of Arkansas (DR EXT)
University of Ballarat (AU)
University of Baltimore (MA I)
University of Bridgeport (DR INT)
University of Calgary (CA)
University of California, Berkeley (DR EXT)
University of California, Irvine (DR EXT)
University of California, Merced (BA GEN)
University of California, Riverside (DR EXT)
University of California, Santa Cruz (DR EXT)
University of Central Florida (DR INT)
University of Central Missouri (MA I)
University of Cincinnati (DR EXT)
University of Colorado at Boulder (DR EXT)
University of Colorado Denver (DR INT)
University of Dayton (DR INT)
University of Delaware (DR EXT)
University of Denver (DR EXT)
University of Detroit Mercy (MA I)
University of Dubuque (MA II)
University of Georgia (DR EXT)
University of Guelph (CA)
University of Hawaii (DR EXT)
University of Hawaii at Hilo (BA LA)
University of Helsinki (FI)
University of Hong Kong (CN)
University of Houston (DR EXT)
University of Houston-Downtown (BA GEN)
University of Houston-Victoria (MA I)
University of Idaho (DR EXT)
University of Illinois at Urbana-Champaign (DR EXT)
University of Indianapolis (MA I)
University of Kansas (DR EXT)
University of Kentucky (DR EXT)
University of La Verne (DR INT)
University of Louisville (DR EXT)
University of Maine (DR EXT)
University of Manitoba (CA)
University of Mary Hardin-Baylor (MA I)
University of Maryland (DR EXT)
University of Maryland, Baltimore County (DR EXT)
University of Massachusetts Amherst (DR EXT)
University of Massachusetts Boston (DR INT)
University of Massachusetts Dartmouth (MA I)
University of Massachusetts Lowell (DR INT)
University of Massachusetts Medical School (MED)
University of Michigan-Ann Arbor (DR EXT)
University of Michigan-Flint (MA I)
University of Minnesota (DR EXT)
University of Minnesota-Crookston (BA GEN)
University of Mississippi (DR EXT)
University of Missouri (DR EXT)
University of Missouri-Kansas City (DR INT)
University of Nebraska - Lincoln (DR EXT)
University of Nebraska at Kearney (MA I)
University of Nebraska at Omaha (MA I)
University of Nevada, Las Vegas (DR INT)
University of New Hampshire (DR EXT)
University of New Mexico (DR EXT)
University of Newcastle (AU)
University of North Carolina at Chapel Hill (DR EXT)
University of North Carolina at Pembroke (MA I)
University of North Carolina School of the Arts (ART)
University of North Dakota (DR INT)
University of North Florida (MA I)
University of North Texas (DR EXT)

University of North Texas HSC at Fort Worth (MED)
University of Northern Colorado (DR INT)
University of Northern Iowa (MA I)
University of Notre Dame (DR EXT)
University of Oklahoma Health Sciences Center (MED)
University of Oregon (DR EXT)
University of Otago (NZ)
University of Ottawa (CA)
University of Pennsylvania (DR EXT)
University of Puerto Rico at Ponce (BA GEN)
University of Puget Sound (BA LA)
University of Redlands (MA I)
University of Regina (CA)
University of Rhode Island (DR EXT)
University of Richmond (MA I)
University of Rochester (DR EXT)
University of San Diego (DR INT)
University of San Francisco (DR INT)
University of Saskatchewan (CA)
University of Sioux Falls (MA II)
University of South Africa (ZA)
University of South Carolina Upstate (BA GEN)
University of Southern California (DR EXT)
University of Southern Maine (MA I)
University of Southern Mississippi (DR INT)
University of Southern Queensland (AU)
University of St. Francis (MA I)
University of St. Thomas (DR INT)
University of St. Thomas (MA I)
University of Sydney (AU)
University of Tennessee at Chattanooga (MA I)
University of Tennessee at Martin (MA I)
University of Texas at Austin (DR EXT)
University of Texas at Brownsville (MA I)
University of Texas at Dallas (DR INT)
University of Texas at El Paso (DR INT)
University of Texas at San Antonio (MA I)
University of Texas at Tyler (MA I)
University of Texas Health Center at Tyler (HEALTH)
University of Texas HSC at San Antonio (MED)
University of Texas Medical Branch (MED)
University of Texas of the Permian Basin (MA I)
University of Texas-Pan American (MA I)
University of the Free State (ZA)
University of the Incarnate Word (MA I)
University of the Pacific (DR INT)
University of the Sciences in Philadelphia (HEALTH)
University of Toronto (CA)
University of Tulsa (DR INT)
University of Vermont (DR EXT)
University of Victoria (CA)
University of Virginia (DR EXT)
University of Washington (DR EXT)
University of Washington Bothell (MA I)
University of Waterloo (CA)
University of West Florida (MA I)
University of West Georgia (MA I)
University of Western Australia (AU)
University of Windsor (CA)
University of Wisconsin-Eau Claire (MA I)
University of Wisconsin-Green Bay (MA II)
University of Wisconsin-La Crosse (MA I)
University of Wisconsin-Madison (DR EXT)
University of Wisconsin-Oshkosh (MA I)
University of Wisconsin-Parkside (MA II)
University of Wisconsin-Stevens Point (MA I)
University of Wisconsin-Superior (MA I)
University of Wyoming (DR EXT)
Upper Iowa University (BA GEN)
Ursinus College (BA LA)
Ursuline College (MA I)
Utica College (BA GEN)
Valdosta State University (MA I)
Valencia Community College (AA)
Valley City State University (BA GEN)
Vancouver Community College (CA)
Vanderbilt University (DR EXT)
Vassar College (BA LA)
Vermont Law School (LAW)
Vermont Technical College (ENGR)
Victoria College (AA)
Victoria University of Wellington (NZ)
Villanova University (MA I)
Virginia Commonwealth University (DR EXT)
Virginia Tech (DR EXT)
Virginia Western Community College (AA)
Viterbo University (MA II)
Volunteer State Community College (AA)
Wabash College (BA LA)
Walters State Community College (AA)
Wartburg College (BA GEN)
Washington & Jefferson College (BA LA)
Washington and Lee University (BA LA)
Washington College (BA LA)
Washington State University (DR EXT)
Washington University in St. Louis (DR EXT)
Waycross College (AA)
Wayne State University (DR EXT)

Webster University (MA I)
Wellesley College (BA LA)
Wentworth Institute of Technology (ENGR)
Wesley College (BA GEN)
Wesleyan University (BA LA)
West Hills Community College District (AA)
West Kentucky Community and Technical College (AA)
West Liberty University (BA GEN)
West Texas A&M University (MA I)
West Virginia University (DR EXT)
Westchester Community College (AA)
Western Carolina University (MA I)
Western Michigan University (DR EXT)
Western New Mexico University (MA I)
Western Technical College (AA)
Western Washington University (MA I)
Westfield State College (MA I)
Westmont College (BA LA)
Wheaton College (BA LA)
Wheaton College (BA LA)
Whitman College (BA LA)
Whittier College (BA LA)
Willamette University (BA LA)
William Paterson University of New Jersey (MA I)
Williams College (BA LA)
Winona State University (MA I)
Wofford College (BA LA)
Xavier University (MA I)
Yale University (DR EXT)
Yeshiva University (DR EXT)
York University (CA)
Yuba College (AA)

Alphabetical within Carnegie Classification or Country Code

Doctoral/Extensive (DR EXT)

Arizona State University (DR EXT)
Auburn University (DR EXT)
Boston College (DR EXT)
Boston University (DR EXT)
Brandeis University (DR EXT)
Brown University (DR EXT)
Carnegie Mellon University (DR EXT)
Case Western Reserve University (DR EXT)
Clemson University (DR EXT)
Colorado State University (DR EXT)
Florida International University (DR EXT)
Florida State University (DR EXT)
Fordham University (DR EXT)
Georgia Institute of Technology (DR EXT)
Georgia State University (DR EXT)
Harvard University (DR EXT)
Indiana University (DR EXT)
Iowa State University (DR EXT)
Kansas State University (DR EXT)
Kent State University (DR EXT)
Louisiana State University (DR EXT)
Loyola University Chicago (DR EXT)
Marquette University (DR EXT)
Michigan State University (DR EXT)
Mississippi State University (DR EXT)
MIT (DR EXT)
New Mexico State University (DR EXT)
New York University (DR EXT)
North Carolina State University (DR EXT)
Northern Illinois University (DR EXT)
Northwestern University (DR EXT)
Ohio University (DR EXT)
Oklahoma State University (DR EXT)
Oregon State University (DR EXT)
Princeton University (DR EXT)
Purdue University (DR EXT)
Rensselaer Polytechnic Institute (DR EXT)
Rice University (DR EXT)
Rutgers, The State University of New Jersey (DR EXT)
Saint Louis University (DR EXT)
Southern Methodist University (DR EXT)
Stanford University (DR EXT)
Syracuse University (DR EXT)
Texas A&M University (DR EXT)
The Catholic University of America (DR EXT)
The George Washington University (DR EXT)
The Johns Hopkins University (DR EXT)
The Ohio State University (DR EXT)
The University of Arizona (DR EXT)
The University of Iowa (DR EXT)
The University of Memphis (DR EXT)
The University of Texas at Arlington (DR EXT)
The University of Toledo (DR EXT)
Tufts University (DR EXT)
University at Albany, SUNY (DR EXT)
University of Alabama (DR EXT)
University of Arkansas (DR EXT)
University of California, Berkeley (DR EXT)
University of California, Irvine (DR EXT)
University of California, Riverside (DR EXT)
University of California, Santa Cruz (DR EXT)
University of Cincinnati (DR EXT)
University of Colorado at Boulder (DR EXT)
University of Delaware (DR EXT)
University of Denver (DR EXT)
University of Georgia (DR EXT)
University of Hawaii (DR EXT)
University of Houston (DR EXT)
University of Idaho (DR EXT)
University of Illinois at Urbana-Champaign (DR EXT)
University of Kansas (DR EXT)
University of Kentucky (DR EXT)
University of Louisville (DR EXT)
University of Maine (DR EXT)
University of Maryland (DR EXT)
University of Maryland, Baltimore County (DR EXT)
University of Massachusetts Amherst (DR EXT)

University of Michigan-Ann Arbor (DR EXT)
University of Minnesota (DR EXT)
University of Mississippi (DR EXT)
University of Missouri (DR EXT)
University of Nebraska - Lincoln (DR EXT)
University of New Hampshire (DR EXT)
University of New Mexico (DR EXT)
University of North Carolina at Chapel Hill (DR EXT)
University of North Texas (DR EXT)
University of Notre Dame (DR EXT)
University of Oregon (DR EXT)
University of Pennsylvania (DR EXT)
University of Rhode Island (DR EXT)
University of Rochester (DR EXT)
University of Southern California (DR EXT)
University of Texas at Austin (DR EXT)
University of Vermont (DR EXT)
University of Virginia (DR EXT)
University of Washington (DR EXT)
University of Wisconsin-Madison (DR EXT)
University of Wyoming (DR EXT)
Vanderbilt University (DR EXT)
Virginia Commonwealth University (DR EXT)
Virginia Tech (DR EXT)
Washington State University (DR EXT)
Washington University in St. Louis (DR EXT)
Wayne State University (DR EXT)
West Virginia University (DR EXT)
Western Michigan University (DR EXT)
Yale University (DR EXT)
Yeshiva University (DR EXT)

Doctoral/Intensive (DR INT)

American University (DR INT)
Ball State University (DR INT)
Baylor University (DR INT)
Central Michigan University (DR INT)
Clark University (DR INT)
College of William and Mary (DR INT)
Dartmouth College (DR INT)
Drexel University (DR INT)
East Carolina University (DR INT)
East Tennessee State University (DR INT)
Florida Atlantic University (DR INT)
George Mason University (DR INT)
Hofstra University (DR INT)
Idaho State University (DR INT)
Illinois State University (DR INT)
Indiana State University (DR INT)
Indiana University of Pennsylvania (DR INT)
Indiana University-Purdue University Indianapolis (DR INT)
Jackson State University (DR INT)
Miami University (DR INT)
Michigan Technological University (DR INT)
Middle Tennessee State University (DR INT)
Missouri University of Science and Technology (DR INT)
Morgan State University (DR INT)
New Mexico Institute of Mining and Technology (DR INT)
North Dakota State University (DR INT)
Northern Arizona University (DR INT)
Oakland University (DR INT)
Pepperdine University (DR INT)
Portland State University (DR INT)
Seton Hall University (DR INT)
South Dakota State University (DR INT)
St. John's University (DR INT)
Texas A&M University-Commerce (DR INT)
Texas A&M University-Kingsville (DR INT)
Texas Woman's University (DR INT)
The University of South Dakota (DR INT)
University of Alaska Fairbanks (DR INT)
University of Bridgeport (DR INT)
University of Central Florida (DR INT)
University of Colorado Denver (DR INT)
University of Dayton (DR INT)
University of La Verne (DR INT)
University of Massachusetts Boston (DR INT)
University of Massachusetts Lowell (DR INT)
University of Missouri-Kansas City (DR INT)
University of Nevada, Las Vegas (DR INT)
University of North Dakota (DR INT)
University of Northern Colorado (DR INT)

University of San Diego (DR INT)
University of San Francisco (DR INT)
University of Southern Mississippi (DR INT)
University of St. Thomas (DR INT)
University of Texas at Dallas (DR INT)
University of Texas at El Paso (DR INT)
University of the Pacific (DR INT)
University of Tulsa (DR INT)

Master's I (MA I)

Abilene Christian University (MA I)
Angelo State University (MA I)
Anna Maria College (MA I)
Appalachian State University (MA I)
Armstrong Atlantic State University (MA I)
Ashland University (MA I)
Assumption College (MA I)
Auburn University at Montgomery (MA I)
Augusta State University (MA I)
Austin Peay State University (MA I)
Azusa Pacific University (MA I)
Baldwin-Wallace College (MA I)
Barry University (MA I)
Bastyr University (MA I)
Benedictine University (MA I)
Bethel University (MA I)
Bloomsburg University of Pennsylvania (MA I)
Boise State University (MA I)
Bowie State University (MA I)
Bradley University (MA I)
Brenau University (MA I)
Bridgewater State College (MA I)
Buffalo State College (MA I)
Butler University (MA I)
California Lutheran University (MA I)
California Polytechnic State University, San Luis Obispo (MA I)
California State Polytechnic University, Pomona (MA I)
California State University, Bakersfield (MA I)
California State University, Chico (MA I)
California State University, Dominguez Hills (MA I)
California State University, East Bay (MA I)
California State University, Fresno (MA I)
California State University, Fullerton (MA I)
California State University, Long Beach (MA I)
California State University, Los Angeles (MA I)
California State University, Northridge (MA I)
California State University, Sacramento (MA I)
California State University, San Bernardino (MA I)
California State University, San Marcos (MA I)
California State University, Stanislaus (MA I)
Canisius College (MA I)
Cardinal Stritch University (MA I)
Columbia College Chicago (MA I)
Coppin State University (MA I)
Creighton University (MA I)
Delta State University (MA I)
Dominican University (MA I)
Dominican University of California (MA I)
Drake University (MA I)
Eastern Illinois University (MA I)
Eastern Michigan University (MA I)
Eastern University (MA I)
Edgewood College (MA I)
Elon University (MA I)
Emporia State University (MA I)
Fairfield University (MA I)
Fort Hays State University (MA I)
Frostburg State University (MA I)
Gallaudet University (MA I)
George Fox University (MA I)
Georgia College & State University (MA I)
Georgia Southern University (MA I)
Georgia Southwestern State University (MA I)
Gonzaga University (MA I)
Grand Valley State University (MA I)
Hamline University (MA I)
Houston Baptist University (MA I)
Humboldt State University (MA I)
Indiana University Northwest (MA I)
Indiana University South Bend (MA I)
Indiana University Southeast (MA I)
Ithaca College (MA I)

Jacksonville University (MA I)
John Carroll University (MA I)
Johnson State College (MA I)
Kennesaw State University (MA I)
Kutztown University of Pennsylvania (MA I)
Lamar University (MA I)
Lesley University (MA I)
Lewis University (MA I)
Liberty University (MA I)
Lincoln Memorial University (MA I)
Louisiana State University in Shreveport (MA I)
Loyola Marymount University (MA I)
Loyola University Maryland (MA I)
Lynchburg College (MA I)
Lynn University (MA I)
Madonna University (MA I)
Malone University (MA I)
Manhattan College (MA I)
Mansfield University of Pennsylvania (MA I)
Marist College (MA I)
Marshall University (MA I)
Marylhurst University (MA I)
Marywood University (MA I)
Millersville University of Pennsylvania (MA I)
Minnesota State University, Mankato (MA I)
Minot State University (MA I)
Montana State University Billings (MA I)
Mount Saint Mary College (MA I)
Mount Saint Mary's University (MA I)
Mount St. Mary's College (MA I)
National University (MA I)
North Carolina A&T State University (MA I)
North Carolina Central University (MA I)
North Georgia College & State University (MA I)
Northeastern Illinois University (MA I)
Pace University (MA I)
Pacific Lutheran University (MA I)
Philadelphia University (MA I)
Prairie View A&M University (MA I)
Purdue University Calumet (MA I)
Quinnipiac University (MA I)
Radford University (MA I)
Regis University (MA I)
Robert Morris University (MA I)
Roberts Wesleyan College (MA I)
Rochester Institute of Technology (MA I)
Rockhurst University (MA I)
Roosevelt University (MA I)
Saint Joseph College (MA I)
Saint Mary's College of California (MA I)
Saint Michael's College (MA I)
Sam Houston State University (MA I)
Samford University (MA I)
San Francisco State University (MA I)
Santa Clara University (MA I)
Seattle Pacific University (MA I)
Seattle University (MA I)
Siena Heights University (MA I)
Southern Illinois University Edwardsville (MA I)
Southern Nazarene University (MA I)
Southern Oregon University (MA I)
St. Bonaventure University (MA I)
St. Cloud State University (MA I)
Stephen F. Austin State University (MA I)
SUNY College at Fredonia (MA I)
SUNY College at Geneseo (MA I)
SUNY College at Oneonta (MA I)
SUNY College at Oswego (MA I)
SUNY College at Plattsburgh (MA I)
Tarleton State University (MA I)
Texas A&M University-Corpus Christi (MA I)
Texas A&M University-Texarkana (MA I)
Texas State University-San Marcos (MA I)
The College of New Jersey (MA I)
The College of Saint Rose (MA I)
The College of Saint Scholastica (MA I)
The University of Findlay (MA I)
The University of Scranton (MA I)
Touro College (MA I)
Towson University (MA I)
Trevecca Nazarene University (MA I)
Trinity University (MA I)

University of Baltimore (MA I)
University of Central Missouri (MA I)
University of Detroit Mercy (MA I)
University of Houston-Victoria (MA I)
University of Indianapolis (MA I)
University of Mary Hardin-Baylor (MA I)
University of Massachusetts Dartmouth (MA I)
University of Michigan-Flint (MA I)
University of Nebraska at Kearney (MA I)
University of Nebraska at Omaha (MA I)
University of North Carolina at Pembroke (MA I)
University of North Florida (MA I)
University of Northern Iowa (MA I)
University of Redlands (MA I)
University of Richmond (MA I)
University of Southern Maine (MA I)
University of St. Francis (MA I)
University of St. Thomas (MA I)
University of Tennessee at Chattanooga (MA I)
University of Tennessee at Martin (MA I)
University of Texas at Brownsville (MA I)
University of Texas at San Antonio (MA I)
University of Texas at Tyler (MA I)
University of Texas of the Permian Basin (MA I)
University of Texas-Pan American (MA I)
University of the Incarnate Word (MA I)
University of Washington Bothell (MA I)
University of West Florida (MA I)
University of West Georgia (MA I)
University of Wisconsin-Eau Claire (MA I)
University of Wisconsin-La Crosse (MA I)
University of Wisconsin-Oshkosh (MA I)
University of Wisconsin-Stevens Point (MA I)
University of Wisconsin-Superior (MA I)
Ursuline College (MA I)
Valdosta State University (MA I)
Villanova University (MA I)
Webster University (MA I)
West Texas A&M University (MA I)
Western Carolina University (MA I)
Western New Mexico University (MA I)
Western Washington University (MA I)
Westfield State College (MA I)
William Paterson University of New Jersey (MA I)
Winona State University (MA I)
Xavier University (MA I)

Master's II (MA II)

Aquinas College (MA II)
Belmont Abbey College (MA II)
Capital University (MA II)
Castleton State College (MA II)
College of Mount Saint Joseph (MA II)
Doane College (MA II)
Eastern Oregon University (MA II)
Geneva College (MA II)
Gwynedd-Mercy College (MA II)
Keene State College (MA II)
King's College (MA II)
Le Moyne College (MA II)
Lebanon Valley College (MA II)
LeTourneau University (MA II)
Lipscomb University (MA II)
Loras College (MA II)
Marian University (MA II)
Mary Baldwin College (MA II)
Mercyhurst College (MA II)
Molloy College (MA II)
Morningside College (MA II)
Northwest Nazarene University (MA II)
Point Park University (MA II)
Prescott College (MA II)
Purchase College, SUNY (MA II)
Savannah State University (MA II)
Southern Wesleyan University (MA II)
Southwest Minnesota State University (MA II)
St. John Fisher College (MA II)
Texas Wesleyan University (MA II)
Thomas Edison State College (MA II)
University of Dubuque (MA II)
University of Sioux Falls (MA II)
University of Wisconsin-Green Bay (MA II)

University of Wisconsin-Parkside (MA II)
Viterbo University (MA II)

Bachelor's Liberal Arts (BA LA)

Adrian College (BA LA)
Albion College (BA LA)
Albright College (BA LA)
Allegheny College (BA LA)
Amherst College (BA LA)
Austin College (BA LA)
Bates College (BA LA)
Beloit College (BA LA)
Bennington College (BA LA)
Berea College (BA LA)
Birmingham-Southern College (BA LA)
Blackburn College (BA LA)
Bowdoin College (BA LA)
Bridgewater College (BA LA)
Bryn Mawr College (BA LA)
Bucknell University (BA LA)
California State University, Channel Islands (BA LA)
California State University, Monterey Bay (BA LA)
Carleton College (BA LA)
Centre College (BA LA)
Claremont McKenna College (BA LA)
Colby College (BA LA)
Colgate University (BA LA)
College of Saint Benedict/Saint John's University (BA LA)
College of the Holy Cross (BA LA)
College of Wooster (BA LA)
Colorado College (BA LA)
Connecticut College (BA LA)
Davidson College (BA LA)
Denison University (BA LA)
DePauw University (BA LA)
Dickinson College (BA LA)
Drew University (BA LA)
Earlham College (BA LA)
Eastern Mennonite University (BA LA)
Eckerd College (BA LA)
Excelsior College (BA LA)
Fort Lewis College (BA LA)
Franklin and Marshall College (BA LA)
Furman University (BA LA)
Gettysburg College (BA LA)
Greensboro College (BA LA)
Grinnell College (BA LA)
Guilford College (BA LA)
Hamilton College (BA LA)
Hanover College (BA LA)
Hartwick College (BA LA)
Haverford College (BA LA)
Hillsdale College (BA LA)
Hobart and William Smith Colleges (BA LA)
Hope College (BA LA)
Illinois Wesleyan University (BA LA)
Kalamazoo College (BA LA)
Kenyon College (BA LA)
Knox College (BA LA)
Lafayette College (BA LA)
Lake Forest College (BA LA)
Lawrence University (BA LA)
Lewis & Clark College (BA LA)
Lindsey Wilson College (BA LA)
Luther College (BA LA)
Macalester College (BA LA)
Massachusetts College of Liberal Arts (BA LA)
McDaniel College (BA LA)
Middlebury College (BA LA)
Mills College (BA LA)
Millsaps College (BA LA)
Monmouth College (BA LA)
Mount Holyoke College (BA LA)
Muskingum University (BA LA)
Nebraska Wesleyan University (BA LA)
New College of Florida (BA LA)
Oberlin College (BA LA)
Occidental College (BA LA)
Oglethorpe University (BA LA)
Ohio Wesleyan University (BA LA)
Pomona College (BA LA)
Reed College (BA LA)

Rhodes College (BA LA)
Ripon College (BA LA)
Rosemont College (BA LA)
Saint Anselm College (BA LA)
Schreiner University (BA LA)
Sewanee: The University of the South (BA LA)
Skidmore College (BA LA)
Smith College (BA LA)
St. Lawrence University (BA LA)
St. Mary's College of Maryland (BA LA)
St. Olaf College (BA LA)
Susquehanna University (BA LA)
Swarthmore College (BA LA)
Sweet Briar College (BA LA)
Texas A&M University at Galveston (BA LA)
Trinity College (BA LA)
Union College (BA LA)
University of Hawaii at Hilo (BA LA)
University of Puget Sound (BA LA)
Ursinus College (BA LA)
Vassar College (BA LA)
Wabash College (BA LA)
Washington & Jefferson College (BA LA)
Washington and Lee University (BA LA)
Washington College (BA LA)
Wellesley College (BA LA)
Wesleyan University (BA LA)
Westmont College (BA LA)
Wheaton College (BA LA)
Wheaton College (BA LA)
Whitman College (BA LA)
Whittier College (BA LA)
Willamette University (BA LA)
Williams College (BA LA)
Wofford College (BA LA)

Bachelor's General (BA GEN)

Alverno College (BA GEN)
Asbury University (BA GEN)
Augustana College (BA GEN)
Berry College (BA GEN)
Black Hills State University (BA GEN)
Bluefield State College (BA GEN)
Bluffton University (BA GEN)
Buena Vista University (BA GEN)
Calvin College (BA GEN)
Carroll College (BA GEN)
Carroll University (BA GEN)
Catawba College (BA GEN)
Cedar Crest College (BA GEN)
Chowan University (BA GEN)
Clarke University (BA GEN)
Colby-Sawyer College (BA GEN)
College of the Ozarks (BA GEN)
Columbia College (BA GEN)
Concordia College (BA GEN)
Concordia College (BA GEN)
Concordia University Texas (BA GEN)
Corban University (BA GEN)
Crown College (BA GEN)
Dakota Wesleyan University (BA GEN)
Dana College (BA GEN)
Dickinson State University (BA GEN)
Elmhurst College (BA GEN)
Eureka College (BA GEN)
Flagler College (BA GEN)
Florida Southern College (BA GEN)
Georgia Gwinnett College (BA GEN)
Grace College and Seminary (BA GEN)
Green Mountain College (BA GEN)
Grove City College (BA GEN)
Houghton College (BA GEN)
Huston-Tillotson University (BA GEN)
Indiana University East (BA GEN)
Indiana University Kokomo (BA GEN)
Lee University (BA GEN)
Lourdes College (BA GEN)
Lyndon State College (BA GEN)
Marietta College (BA GEN)
Mayville State University (BA GEN)
McMurry University (BA GEN)
Messiah College (BA GEN)

Metropolitan State College of Denver (BA GEN)
Millikin University (BA GEN)
Mississippi Valley State University (BA GEN)
North Greenville University (BA GEN)
Ohio Northern University (BA GEN)
Ouachita Baptist University (BA GEN)
Pikeville College (BA GEN)
Shepherd University (BA GEN)
Soka University of America (BA GEN)
Stonehill College (BA GEN)
Tabor College (BA GEN)
Taylor University (BA GEN)
Texas Lutheran University (BA GEN)
Toccoa Falls College (BA GEN)
Trine University (BA GEN)
Trinity Christian College (BA GEN)
Unity College (BA GEN)
University of California, Merced (BA GEN)
University of Houston-Downtown (BA GEN)
University of Minnesota-Crookston (BA GEN)
University of Puerto Rico at Ponce (BA GEN)
University of South Carolina Upstate (BA GEN)
Upper Iowa University (BA GEN)
Utica College (BA GEN)
Valley City State University (BA GEN)
Wartburg College (BA GEN)
Wesley College (BA GEN)
West Liberty University (BA GEN)

Associate's Institutions (AA)

Abraham Baldwin Agricultural College (AA)
Anne Arundel Community College (AA)
Antelope Valley College (AA)
Atlanta Metropolitan College (AA)
Bainbridge College (AA)
Barton County Community College (AA)
Bethany Lutheran College (AA)
Bevill State Community College (AA)
Bishop State Community College (AA)
Bismarck State College (AA)
Blinn College (AA)
Blue Ridge Community College (AA)
Bowling Green Technical College (AA)
Broome Community College (AA)
Butler County Community College (AA)
Butte College (AA)
Central Piedmont Community College (AA)
Central Virginia Community College (AA)
Century College (AA)
Chandler-Gilbert Community College (AA)
Chattanooga State Community College (AA)
Chesapeake College (AA)
Clark College (AA)
Clark State Community College (AA)
Cleveland State Community College (AA)
College of DuPage (AA)
College of the Siskiyous (AA)
Community College of Beaver County (AA)
Community College of Rhode Island (AA)
Community College of Vermont (AA)
Dabney S. Lancaster Community College (AA)
Dalton State College (AA)
Danville Community College (AA)
East Georgia College (AA)
Eastern Shore Community College (AA)
Edison State College (AA)
Estrella Mountain Community College (AA)
Florence-Darlington Technical College (AA)
Gainesville State College (AA)
Galveston College (AA)
GateWay Community College (AA)
Gavilan College (AA)
Genesee Community College (AA)
Georgia Perimeter College (AA)
Germanna Community College (AA)
Glendale Community College (AA)
Gordon College (AA)
Grand Rapids Community College (AA)
Guam Community College (AA)
Hudson Valley Community College (AA)
Illinois Central College (AA)
Inver Hills Community College (AA)

J. Sargeant Reynolds Community College (AA)
Jackson State Community College (AA)
Jefferson Community College (AA)
John Tyler Community College (AA)
Johnson County Community College (AA)
Keystone College (AA)
Lake Region State College (AA)
Lamar State College-Orange (AA)
Lamar State College-Port Arthur (AA)
Lane Community College (AA)
Lansing Community College (AA)
Linn-Benton Community College (AA)
Lone Star College System (AA)
Lord Fairfax Community College (AA)
Macomb Community College (AA)
Macon State College (AA)
Madisonville Community College (AA)
Marion Technical College (AA)
Mercer County Community College (AA)
Miami Dade College (AA)
Middle Georgia College (AA)
Montana State University-Great Falls, College of Technology (AA)
Montgomery College (AA)
Montgomery County Community College (AA)
Moraine Valley Community College (AA)
Mott Community College (AA)
Mountain Empire Community College (AA)
Nashville State Community College (AA)
Neosho County Community College (AA)
Niagara County Community College (AA)
North Dakota State College of Science (AA)
Northeast Community College (AA)
Northeast State Community College (AA)
Northern Virginia Community College (AA)
Northwestern Michigan College (AA)
Orange County Community College (AA)
Ouachita Technical College (AA)
Ozarks Technical Community College (AA)
Paradise Valley Community College (AA)
Patrick Henry Community College (AA)
Paul D. Camp Community College (AA)
Pellissippi State Community College (AA)
Phoenix College (AA)
Piedmont Technical College (AA)
Piedmont Virginia Community College (AA)
Pikes Peak Community College (AA)
Pima County Community College District (AA)
Prince George's Community College (AA)
Rappahannock Community College (AA)
Rhodes State College (AA)
Ridgewater College (AA)
Rio Salado College (AA)
Riverland Community College (AA)
Roane State Community College (AA)
Saint Louis Community College at Florissant Valley (AA)
Saint Louis Community College at Forest Park (AA)
Saint Louis Community College at Meramec (AA)
Saint Paul College, A Community & Technical College (AA)
San Juan College (AA)
Santa Barbara City College (AA)
Santa Fe College (AA)
Scottsdale Community College (AA)
Seattle Central Community College (AA)
Sheridan College (AA)
South Florida Community College (AA)
South Georgia College (AA)
South Mountain Community College (AA)
Southeast Community College (AA)
Southside Virginia Community College (AA)
Southwest Tennessee Community College (AA)
Southwest Virginia Community College (AA)
Southwestern Oregon Community College (AA)
Spoon River College (AA)
Springfield Technical Community College (AA)
Stark State College of Technology (AA)
State Fair Community College (AA)
Tacoma Community College (AA)
Thomas Nelson Community College (AA)
Tidewater Community College (AA)
Truckee Meadows Community College (AA)
Tunxis Community College (AA)
Valencia Community College (AA)

Victoria College (AA)
Virginia Western Community College (AA)
Volunteer State Community College (AA)
Walters State Community College (AA)
Waycross College (AA)
West Hills Community College District (AA)
West Kentucky Community and Technical College (AA)
Westchester Community College (AA)
Western Technical College (AA)
Yuba College (AA)

Other Carnegie Classification

California College of the Arts (ART)
Massachusetts College of Art and Design (ART)
New England Conservatory of Music (ART)
Rocky Mountain College of Art & Design (ART)
Savannah College of Art and Design (ART)
School of the Art Institute of Chicago (ART)
The University of the Arts (ART)
University of North Carolina School of the Arts (ART)

Bay Path College (BA AA)
Bryn Athyn College of the New Church (BA AA)
Clayton State University (BA AA)
Peace College (BA AA)
Pennsylvania College of Technology (BA AA)
SUNY College of Technology at Cobleskill (BA AA)

Babson College (BUS)
Indiana Institute of Technology (BUS)
Nichols College (BUS)
Northwood University (BUS)
Thomas College (BUS)

Franklin W. Olin College of Engineering (ENGR)
Harvey Mudd College (ENGR)
South Dakota School of Mines & Technology (ENGR)
Southern Polytechnic State University (ENGR)
Vermont Technical College (ENGR)
Wentworth Institute of Technology (ENGR)

Concordia Seminary (FAITH)
Denver Seminary (FAITH)
Gordon-Conwell Theological Seminary (FAITH)
Luther Seminary (FAITH)
Moody Bible Institute (FAITH)
Northland International University (FAITH)

Charles Drew University of Medicine & Science (HEALTH)
Clarkson College (HEALTH)
Misericordia University (HEALTH)
St. Louis College of Pharmacy (HEALTH)
SUNY College of Optometry (HEALTH)
Texas A&M Health Science Center (HEALTH)
University of Texas Health Center at Tyler (HEALTH)
University of the Sciences in Philadelphia (HEALTH)

John Marshall Law School (LAW)
Vermont Law School (LAW)

A.T. Still University of Health Sciences (MED)
Medical College of Georgia (MED)
Rosalind Franklin University of Medicine and Science (MED)
The University of Tennessee Health Science Center (MED)
The University of Texas Health Science Center at Houston (MED)
The University of Texas M. D. Anderson Cancer Center (MED)
Thomas Jefferson University (MED)
University of Massachusetts Medical School (MED)
University of North Texas HSC at Fort Worth (MED)
University of Oklahoma Health Sciences Center (MED)
University of Texas HSC at San Antonio (MED)
University of Texas Medical Branch (MED)

California Institute of Integral Studies (OTHER)
Lamar Institute of Technology (OTHER)
United States Air Force Academy (OTHER)
United States Naval Academy (OTHER)

College of Menominee Nation (TRIBAL)
Fort Belknap College (TRIBAL)

Institutions outside the U.S.

American University of Sharjah (AE)

Australian Catholic University (AU)
Australian National University (AU)
Central Queensland University (AU)
Charles Sturt University (AU)
Curtin University of Technology (AU)
Deakin University (AU)
Edith Cowan University (AU)
Flinders University (AU)
Griffith University (AU)
La Trobe University (AU)
Monash University (AU)
Murdoch University (AU)
RMIT University (AU)
Southern Cross University (AU)
Swinburne University of Technology (AU)
The University of Adelaide (AU)
University of Ballarat (AU)
The University of Melbourne (AU)
University of Newcastle (AU)
The University of Queensland (AU)
University of Southern Queensland (AU)
University of Sydney (AU)
University of Western Australia (AU)

Assiniboine Community College (CA)
Athabasca University (CA)
The Banff Centre (CA)
Bow Valley College (CA)
Camosun College (CA)
Canadian University College (CA)
Carleton University (CA)
Dalhousie University (CA)
George Brown College (CA)
Humber College Institute of Technology & Advanced Learning (CA)
Keyano College (CA)
Kwantlen Polytechnic University (CA)
McGill University (CA)
McMaster University (CA)
Memorial University of Newfoundland (CA)
Nova Scotia Community College (CA)
Okanagan College (CA)
Queen's University (CA)
Redeemer College (CA)
Ryerson University (CA)
Saint Mary's University (CA)
Seneca College of Applied Arts and Technology (CA)
Simon Fraser University (CA)
Thompson Rivers University (CA)
Universite de Montreal (CA)
The University of British Columbia (CA)
University of Calgary (CA)
University of Guelph (CA)
University of Manitoba (CA)
University of Ottawa (CA)
University of Regina (CA)
University of Saskatchewan (CA)
University of Toronto (CA)
University of Victoria (CA)
University of Waterloo (CA)
The University of Western Ontario (CA)
University of Windsor (CA)
Vancouver Community College (CA)
York University (CA)

ETH Zurich (CH)
Universite de Lausanne (CH)

City University of Hong Kong (CN)
The Hong Kong Polytechnic University (CN)
University of Hong Kong (CN)

Universidad de Los Andes (CO)

The American University in Cairo (EG)

University of Helsinki (FI)

The Hebrew University of Jerusalem (IL)

Kyushu University (JP)
Nagoya University (JP)
Osaka University (JP)

American University of Beirut (LB)

Tecnologico de Monterrey (MX)

AUT University (NZ)
Lincoln University (NZ)
NorthTec (NZ)
The University of Auckland (NZ)
University of Otago (NZ)
Victoria University of Wellington (NZ)

Texas A&M University at Qatar (QA)

National University of Singapore (SG)
Nanyang Technological University (SG)

Ozyegin University (TR)
Sabanci University (TR)

University of South Africa (ZA)
University of the Free State (ZA)

Appendix C Core Data Survey Questionnaire and Glossary

The **2009 Core Data Survey Questionnaire** can be found at http://www.educause.edu/coredata/survey_2009.pdf.

Glossary

Administration of IT Organization, IT Planning, Technology R&D

For the purposes of our survey, please include the following in this area if applicable:

- Financial planning and management for IT
- Campus IT planning
- IT communications and publications
- Human resource management for the IT organization
- Facilities management for the IT organization
- Advanced technology, technology R&D
- Staff who support these functions (administrative and clerical)
- CIO or CTO position

Administrative/Enterprise Information Systems

Administrative/enterprise information systems include legacy administrative systems or enterprise resource planning (ERP) systems such as student administration (admissions, financial aid, registration, etc.), financial information systems, procurement systems, human resource systems, payroll, research administration (grants and contracts), and library systems (if supported by the IT organization). For the purpose of our survey, please include the following in this area if applicable:

- Development and implementation of these systems
- Maintenance of these systems
- Training of users of these systems
- Programming support related to these systems
- Database/data administration
- Hardware, software, staff, and other infrastructure needed to support these systems

Biometrics

In computer security, biometrics refers to authentication techniques that rely on measurable physical characteristics that can be automatically checked. Examples include retinal scans, computer analysis of fingerprints or speech, or other physiological means of user identification for security purposes.

Blogs

Refers to web logs that are analogous to personal online diaries in which individuals share their observations and opinions.

Broadband

In the human resources context, broadband refers to an approach to job classification and pay structure that is broader and flatter than traditional systems, characterized by wider salary ranges and fewer job titles and vertical levels.

Calculating the Estimate of Dollar Equivalent for Systems and Services

There is no one formula for calculating the dollar equivalent of systems and services provided at no direct charge to its campuses by the central office in a multicampus system or district. One simple, straightforward methodology might be to estimate the system or district office's total cost in providing system-wide or district-wide IT systems and services, then allocate an estimated cost for each campus in the system or district based on campus FTE or other means of estimating usage. EDUCAUSE has set up a Web site providing examples from system offices that worked with their campuses to provide estimates for the 2007 core data survey. See http://net.educause.edu/coredata/s2q1_calculation.asp.

Capital Appropriation

Refers to appropriation to the central IT organization from the campus capital budget to fund major purchases and implementations such as networks, ERP systems, and buildings. Does not include capital appropriations amortized through rates; an example of a capital appropriation amortized through rates would be funds derived from taking out a loan or drawing on the institution's endowment for an initiative such as a major network enhancement or a phone switch. Such special funds require payback and are usually repaid through a fee structure.

Computers

Refers to all devices that have the basic functionality of a microcomputer (e.g., desktops, laptops, servers). It does not refer to Palm devices or personal digital assistants.

Consultants

Refers to individuals or a firm that advises or consults with the institution about information technology plans or directions, either in general or with regard to a specific technology implementation or project.

Contractors

Refers to employees with whom the institution contracts to provide IT infrastructure and/or specific IT services that might otherwise be delivered by in-house IT staff. For the purposes of our survey, consultants are not to be included in the "contractors" category. If your campus outsources all or nearly all IT services and the outsourcer provides staff on site, please count these employees as staff as opposed to contractors.

Desktop Computing Support, User Support Services, Training, Computer Store

For the purposes of our survey, please include the following in this area if applicable:

- Desktop computer technical analysis and consulting staff
- Computer resale activities and staff
- Computer installation, maintenance, and repair
- Technicians and technical support for desktop computing
- Computer repair staff
- Support for knowledge bases, self-help tools
- General user training and education and related staff
- User documentation and general informational publications and related staff
- Infrastructure support for departmental IT support providers
- User support staff (other than help desk staff)
- Reference desk and staff (if you wish to distribute library/IT staff in a merged organization)

E-Portfolios

An e-portfolio is a digitized collection of artifacts used to document accomplishments of an individual or institution. The collection may contain text-based, graphic, or multimedia elements archived on a Web site or on other electronic media such as a CD-ROM or DVD. E-portfolios can be used as a tool in student advising, to document learning outcomes and institutional quality for accreditation, or to demonstrate accomplishments for career searches.

E-Learning

Refers to learning content or interaction that is facilitated electronically, such as delivery of digital content or use of threaded online discussion.

ERP

Refers to an integrated suite of administrative information systems designed to support and automate business processes through a centralized database system. In higher education, these systems usually include student systems, financial systems, and human resources (payroll/personnel) systems, as well as warehouse and planning tools.

Electronic Signatures

Refers to data appended to a message or document that authenticates the identity of the message sender or document signer to ensure that the message or document content has not been changed in the transmission process.

Enterprise Directory

Refers to a database where different types of identifiers are correlated to support identity management, authentication, authorization, and other services.

Enterprise Infrastructure and Services, Identity Management

For the purposes of our survey, please include the following in this area if applicable:

- Portal development and support
- Middleware development and support
- Security infrastructure development and support
- Service-oriented architecture (web services) development and support
- Identity management
- E-mail
- Staff, hardware, and software to support enterprise infrastructure

External Modules

Refers to modules that are not part of the core application suite, that is, a module that you create or purchase that allows you more functionality than the core application.

FTE

Refers to full-time-equivalent personnel, not number of individuals employed. For the purposes of our survey, please calculate FTE based on a 40-hour work week over the course of the full fiscal year (or approximately 2,000 hours per year). For student FTE, a simple formula for calculating total FTE might be to take the number of students employed times the number of hours per week they work times the number of weeks a year they work and divide that total by 2,000. The total FTE number derived can then be distributed across the 13 functional areas listed in question 5 of section 1.

Firewalls

Refers to a set of related programs and policies that protects the resources of a private network from users on other networks. A firewall can also control what outside resources users of the private network can access.

Help Desk

For the purposes of our survey, please include the following in this area if applicable:

- Walk-in support for students, faculty, and staff
- Call-in support for students, faculty, and staff
- Call centers
- Support for knowledge bases, self-help tools
- Specialized support centers
- Help desk staff

Hybrid Course

Refers to a course in which part of the course is delivered online and part is delivered in face-to-face class meetings. Hybrid courses typically reduce the number of days of face-to-face class meetings (for example, from three to two meetings).

IPEDS

The Integrated Postsecondary Education Data Systems (IPEDS) is a single, comprehensive, data-collection program designed to capture data for the National Center for Education Statistics (NCES) for all U.S. institutions and educational organizations whose primary purpose is to provide postsecondary education. IPEDS collects institution-level data in such areas as enrollments, program completions, faculty, staff, and finances. IPEDS data reporting requires the extensive effort of a variety of offices on any campus, and this is the "official" information the college or university stands behind, used by the federal government.

IPTV (Internet Protocol Television)

Refers to a system where a digital television service is delivered to subscribing consumers using the Internet Protocol over a broadband connection.

Information Literacy Requirement

Refers to a requirement to prove the student knows how to find relevant information resources online but also can evaluate the quality of the resource and use technology appropriately for search, categorization, retrieval, and analysis, as well as understand the ethics associated with the use of intellectual property.

Information Technology Policy

For the purposes of our survey, please include the following in this area if applicable:

- IT policy development, dissemination, and education
- Information usage/management policy development and education
- Interpretation of current policy related to specific issues, situations, and incidents
- Coordinating response to incidents of inappropriate use of information or information technology
- Policy staff

Information Technology Security

For the purposes of our survey, please include the following in this area if applicable:

- Vulnerability analysis
- Security planning and design and implementation
- Security policy and process development
- User education and guidance programs
- Incident response
- Security administration staff

Instructional Technology, Multimedia Services, Student Computing

For the purposes of our survey, please include the following in this area if applicable:

- Classroom technology (physical renovation and maintenance; provision of fixed and mobile technology)
- Course management systems (homegrown or purchased)
- Specialized training and support for faculty
- Specialized training and support for students
- Instructional support staff (including technologists and designers)
- Multimedia services (support for audio, video, graphics, and so forth)
- TV, broadcasting
- Public student lab support
- Teaching and technology center staff

Interactive Learning

Refers to learning environments that involve interaction between the student and (a) faculty, (b) other students, or (c) resources. Interactive learning can involve Q&A, simulations, games, role-playing, experimentation, and so forth.

Learning Objects

Refers to reusable digital learning material, such as a simulation, data set, or glossary. Learning objects include metadata, which allows them to be categorized and searched.

Library/IT Staff

If your campus IT organization has merged with the campus library, please include in your staff count only the library FTE personnel who perform IT-related functions. Do not include library FTE who support traditional library functions that do not relate to technology. You may distribute your library/IT FTE among the 13 functional areas listed or you may enter the total FTE for this category of staff in the "other" category and describe them as "library/IT staff." If your IT organization has not merged with the library but you have staff supporting library systems, please include these staff in your count for Administrative/Enterprise Information Systems.

Net Revenue

Refers to revenue remaining after accounting for expenditures for products and the cost of doing business.

Network Infrastructure and Services

For the purposes of our survey, please include the following in this area if applicable:

- Wire and cable infrastructure for data and video networks
- Campus data network
- Remote access (modem pools, ISP)
- Commodity Internet

- High-performance research network (e.g., Abilene)
- Video network
- Converged network
- Wireless network
- Staff, hardware, and software for network infrastructure

Operating Appropriation

Refers to the allocation to the central IT organization from the campus operating budget that is generally used to cover all non-capital IT operations costs such as staff compensation and benefits, operating expenses, equipment (including maintenance and repair), software licenses, and so forth.

Operations, Data Center, Print/Copier Services, Mailroom

For the purposes of our survey, please include the following in this area if applicable:

- Systems administration and operation
- System backups
- Data center environmental support systems such as HVAC, UPS, and backup power supply, and systems monitor
- Print services
- Copier services
- Mail room services
- Staff, hardware, and software affiliated with these functions

Outsource or ASP

Outsource in this context refers to contracting with an external entity or vendor to provide IT services or infrastructure that you might otherwise have employed your IT staff to perform. It does not refer to an arrangement with another part of your institution or with a system office. ASP refers to an arrangement with an application service provider to provide services remotely using high-speed private networks. A common example is a website that other websites use for accepting payment by credit card as part of their online ordering systems.

PKI

Public key infrastructure (PKI) refers to a system of public key encryption using digital certificates from Certificate Authorities and other registration authorities that verify and authenticate the validity of each party involved in an electronic transaction.

Portal

Refers to an approach to an institution's website that aims to leverage investments in enterprise information systems, data warehouses, and infrastructure by providing a seamless and easy-to-navigate web interface to an integrated set of information services for various campus constituents.

Research Computing, Academic Computing

For the purposes of our survey, please include the following in this area if applicable:

- Research computing hardware and software
- Research computing cycles from remote sites
- Staff for research computing consulting and technical assistance
- Academic hardware and software that does not relate to instruction
- Discipline-specific applications development, programming, and support not related to instruction
- General statistical support

Shaping

"Shaping" bandwidth utilization refers to adjusting parameters on the campus Internet connection to limit use through various means, such as type of connection, location of connection, direction of traffic, time of day, or other specific characteristics.

Smart Cards

Refers to a small electronic device about the size of a credit card that contains electronic memory, and possibly an embedded integrated circuit. Smart cards are used for a variety of purposes, including storing information, storing digital cash, and providing a means to access computer networks.

Staff

Refers to all staff employed by the central IT organization, including clerical, technical, and management staff and limited-term or temporary employees who were employed for fiscal year 2006–2007. For the purposes of our survey, if your campus contracted with a vendor or external organization to provide all or nearly all IT services during that period, including all IT staff on site, please count the employees of the outsourcer as staff rather than contractors. If your IT organization has merged with the library, please include in your staff count only the library FTE personnel who perform IT-related functions (see Library/IT Staff).

Telephony

For the purposes of our survey, please include the following in this area if applicable:

- Wire and cable infrastructure for voice network
- Dial tone (including services to student housing)
- Voice mail
- Long-distance resale
- Cellular and paging services
- Telephony staff, hardware, software, etc.
- Token

Refers to a small physical device used to authenticate the holder to a computer system or network. Tokens can hold cryptographic keys or provide one-time passwords. Tokens typically require a user-entered PIN and therefore can directly implement two-factor authentication.

Two-Factor Authentication

Refers to any authentication protocol that requires two forms of authentication to access a system. This contrasts with traditional password authentication, which requires only one factor (knowledge of a password) in order to gain access to a system. Three standard kinds of authentication factors are recognized: something you know (such as a password or PIN), something you have (such as a credit card or a hardware token), or something you are (such as a fingerprint, a retinal pattern, or other biometrics).

Web Services

Refers to a standardized way of integrating web-based applications using the XML, SOAP, WSDL, and UDDI open standards over an Internet Protocol backbone. XML is used to tag the data, SOAP is used to transfer the data, WSDL is used for describing the services available, and UDDI is used for listing what services are available. Used primarily as a means for businesses to communicate with each other and with clients, web services allow organizations to communicate data without intimate knowledge of each other's IT systems behind the firewall. Web services are sometimes referred to as application services.

Web Support Services

For the purposes of our survey, please include the following in this area if applicable:

- Content management support
- Web server support
- Content design and web-based publication
- Web-based applications development or interface
- Web support staff, hardware, and software

Wiki

Refers to an editable web page that can be edited by anyone with access to the wiki.

Wireless Security Technologies

Refers to technologies used to prevent unauthorized access, ensure the confidentiality of data, and detect misuse of wireless networks.

Appendix D Carnegie Classification Definitions

In 1970, the Carnegie Commission on Higher Education developed a classification of colleges and universities to support its program of research and policy analysis. Derived from empirical data on colleges and universities, the "Carnegie Classification" was published for use by other researchers in 1973 and subsequently updated in 1976, 1987, 1994, 2000, and 2005. With the 2005 revision, the single classification system was replaced by a set of multiple, parallel classifications. The original classification framework—now called the basic classification—has also been substantially revised (see http://www.carnegiefoundation.org/classifications/index.asp.

This CDS summary report uses the basic classification system from 2000 (described below) for the sake of simplicity. The 2000 Carnegie Classification included all colleges and universities in the United States that are degree-granting and accredited by an agency recognized by the U.S. Secretary of Education.

Doctorate-Granting Institutions

- **Doctoral/Research Universities–Extensive:** These institutions typically offer a wide range of baccalaureate programs, and they are committed to graduate education through the doctorate. During the period studied, they awarded 50 or more doctoral degrees per year across at least 15 disciplines.
- **Doctoral/Research Universities–Intensive:** These institutions typically offer a wide range of baccalaureate programs, and they are committed to graduate education through the doctorate. During the period studied, they awarded at least 10 doctoral degrees per year across three or more disciplines, or at least 20 doctoral degrees per year overall.

Master's Colleges and Universities

- **Master's Colleges and Universities I:** These institutions typically offer a wide range of baccalaureate programs, and they are committed to graduate education through the master's degree. During the period studied, they awarded 40 or more master's degrees per year across three or more disciplines.
- **Master's Colleges and Universities II:** These institutions typically offer a wide range of baccalaureate programs, and they are committed to graduate education through the master's degree. During the period studied, they awarded 20 or more master's degrees per year.

Baccalaureate Colleges

- **Baccalaureate Colleges–Liberal Arts:** These institutions are primarily undergraduate colleges with major emphasis on baccalaureate programs. During the period studied, they awarded at least half of their baccalaureate degrees in liberal arts fields.
- **Baccalaureate Colleges–General:** These institutions are primarily undergraduate colleges with major emphasis on baccalaureate programs. During the period studied, they awarded less than half of their baccalaureate degrees in liberal arts fields.
- **Baccalaureate/Associate's Colleges:** These institutions are undergraduate colleges where the majority of conferrals are below the baccalaureate level (associate's degrees and certifi-

cates). During the period studied, bachelor's degrees accounted for at least 10 percent of undergraduate awards.

Associate's Colleges

These institutions offer associate's degree and certificate programs but, with few exceptions, award no baccalaureate degrees. This group includes community, junior, and technical colleges where, during the period studied, bachelor's degrees represented less than 10 percent of all undergraduate awards.

Specialized Institutions

These institutions offer degrees ranging from the bachelor's to the doctorate, and typically award a majority of degrees in a single field. The list includes only institutions that are listed as separate campuses in the *2000 Higher Education Directory*. Specialized institutions include:

- **Theological seminaries and other specialized faith-related institutions:** These institutions primarily offer religious instruction or train members of the clergy.
- **Medical schools and medical centers:** These institutions award most of their professional degrees in medicine. In some instances, they include other health professions programs, such as dentistry, pharmacy, or nursing.
- **Other separate health profession schools:** These institutions award most of their degrees in such fields as chiropractic, nursing, pharmacy, or podiatry.
- **Schools of engineering and technology:** These institutions award most of their bachelor's or graduate degrees in technical fields of study.
- **Schools of business and management:** These institutions award most of their bachelor's or graduate degrees in business or business-related programs.
- **Schools of art, music, and design:** These institutions award most of their bachelor's or graduate degrees in art, music, design, architecture, or some combination of such fields.
- **Schools of law:** These institutions award most of their degrees in law.
- **Teachers colleges:** These institutions award most of their bachelor's or graduate degrees in education or education-related fields.
- **Other specialized institutions:** Institutions in this category include graduate centers, maritime academies, military institutes, and institutions that do not fit any other classification.

Tribal Colleges and Universities

These colleges are, with few exceptions, tribally controlled and located on reservations. They are all members of the American Indian Higher Education Consortium.

Appendix E Crosswalk from Questionnaire to Tables and Figures

Question	Tables, Figures
IT Organization, Staffing, and Planning	
Q1.1	Figure 1-1 IT Leaders' Titles 2005–2009
Q1.2	Figure 1-2 IT Reporting Relationships 2005–2009
Q1.3	Table 1-2 Median Staff and Student Worker FTEs by Functional Area 2009 Table 1-3 Median Percentage of Staff and Student Worker FTEs by Functional Area 2009
Q1.4	Figure 1-3 Executive Cabinet Membership 2005–2009
Q1.5	Figure 1-4 Centralized IT Staff FTEs 2005–2009 Figure 1-5 Centralized Student Worker FTEs 2005–2009 Figure 1-6 Student FTEs Served per Centralized IT staff FTE 2005–2009 Table 1-3 Median Percentage of Staff and Student Worker FTEs by Functional Area 2009
Q1.6	Figure 1-7 Centralized IT Staff as a Percentage of Total IT Staff 2005–2009
Q1.7	Figure 1-8 Separate Salary Scales 2005–2009
Q1.8	Figure 1-9 Separate Job Titles 2005–2009
Q1.9	Figure 1-10 Stand-Alone and Campus Strategic Plans 2005–2009
Q1.10	Table 1-4 Advisory Groups to Centralized IT 2009
IT Financing and Management	
Q2.1	Figure 2-1 Centralized IT Funding (Nominal) 2005–2009 Figure 2-2 Centralized IT Funding (Adjusted for Inflation) 2005–2009 Figure 2-3 Centralized IT Funding per Student FTE (Nominal) 2005–2009 Figure 2-4 Centralized IT Funding per Student FTE (Adjusted for Inflation) 2005–200 Figure 2-5 Operating Appropriation (Nominal) 2005–2009 Figure 2-6 Operating Appropriation (Adjusted for Inflation) 2005–2009 Figure 2-7 Operating Appropriation per Student FTE (Adjusted for Inflation) 2005–2009 Table 2-1 Percent of Institutions Reporting Sources of Centralized IT Funding 2009
Q2.2	*None*
Q2.3	Figure 2-14 Annual Budget for Professional Development per Staff Member 2005–2009
Q2.4	Figure 2-8 Staff Compensation as Percentage of Centralized IT Funding 2005–2009 Figure 2-9 Staff Compensation per FTE (Nominal) 2005–2009 Figure 2-10 Staff Compensation per FTE (Adjusted for Inflation) 2005–2009 Figure 2-11 Student Worker Compensation per FTE (Nominal) 2005–2009 Figure 2-12 Student Worker Compensation per FTE (Adjusted for Inflation) 2005–2009 Figure 2-13 Percent of Total Compensation for Various Types of Personnel 2005-2009
Q2.5	*None*
Q2.6	*None*
Q2.7	Figure 2-15 Charging of Student Technology Fees 2005–200 Figure 2-16 Method of Charging Technology Fee 2005–2009
Q2.8	*None*
Q2.9	Figure 2-17 Computers Owned/Leased by the Institution per Student FTE 2005–2009
Q2.10	Figure 2-18 Computer Replacement Cycles 2005–2009
Q2.11	Figure 2-19 Replacement Funding for Computers 2005–2009
Q2.12	Figure 2-20 Actual Replacement of Computers 2005–2009
Q2.13	Figure 2-21 Funding for Network Infrastructure Renewal 2005–2009

Question	Tables, Figures
Q2.14	Figure 2-22 Use of Service Level Agreements (SLAs) 2005–2009 Table 2-3 Use of SLAs 2009
Q2.15	Figure 2-23 Use of External Suppliers 2005–2009 Table 2-4 Use of External Suppliers 2009
Q2.16	*None*
Q2.17	*None*
Faculty and Student Computing	
Q3.1	Figure 3-1 Hours of Help Desk Availability
Q3.2	Figure 3-3 Student Computer Ownership (Private Institutions) 2005–2009 Figure 3-4 Student Computer Ownership (Public Institutions) 2005–2009
Q3.3	Figure 3-2 Student Computer Requirements and Recommendations 2005–200
Q3.4	Figure 3-5 Internet Service in Residence Halls 2005-2009 Figure 3-6 Network Speed in Residence Halls 2005–2009
Q3.5	Figure 3-7 Negotiated Access for Online Media (2005–2009)
Q3.6	Figure 3-8 Issuing Student E-mail Accounts 2005–2009
Q3.7	Figure 3-8 Issuing Student E-mail Accounts 2005–2009
Q3.8	Figure 3-18 Types of Faculty Support (1) (DR EXT) 2005–2009 Figure 3-19 Types of Faculty Support (2) (DR EXT) 2005–2009 Figure 3-20 Types of Faculty Support (1) (DR INT) 2005–2009 Figure 3-21 Types of Faculty Support (2) (DR INT) 2005–2009 Figure 3-22 Types of Faculty Support (1) (MA I) 2005–2009 Figure 3-23 Types of Faculty Support (2) (MA I) 2005–2009 Figure 3-24 Types of Faculty Support (1) (MA II) 2005–2009 Figure 3-25 Types of Faculty Support (2) (MA II) 2005–2009 Figure 3-26 Types of Faculty Support (1) (BA LA) 2005–2009 Figure 3-27 Types of Faculty Support (2) (BA LA) 2005–2009 Figure 3-28 Types of Faculty Support (1) (BA GEN) 2005–2009 Figure 3-29 Types of Faculty Support (2) (BA GEN) 2005–2009 Figure 3-30 Types of Faculty Support (1) (AA) 2005–2009 Figure 3-31 Types of Faculty Support (2) (AA) 2005–2009
Q3.9	Figure 3-32 Support for Course Management Systems (CMS) 2005–2009 Figure 3-33 Faculty use of Course Management Systems (CMS) 2005–2009
Q3.10	*None*
Q3.11	Figure 3-9 Wired Connectivity in Classrooms 2005–2009 Figure 3-10 Wireless Connectivity in Classrooms 2005–2009 Figure 3-11 Classroom Technologies (DR EXT) 2005–2009 Figure 3-12 Classroom Technologies (DR INT) 2005–2009 Figure 3-13 Classroom Technologies (MA I) 2005–2009 Figure 3-14 Classroom Technologies (MA II) 2005–2009 Figure 3-15 Classroom Technologies (BA LA) 2005–2009 Figure 3-16 Classroom Technologies (BA GEN) 2005–2009 Figure 3-17 Classroom Technologies (AA) 2005–2009
Networking and Security	
Q4.1	Figure 4-1 Bandwidth to Commodity Internet 2005–2009 Figure 4-2 Bandwidth to High-Performance Networks 2005–2009

Question	Tables, Figures
Q4.2	Figure 4-3 Tracking Bandwidth Utilization 2005–2009 Figure 4-4 Shaping Bandwidth by Time of Day 2005–2009 Figure 4-5 Shaping Bandwidth by Type of Traffic 2005–2009 Figure 4-6 Shaping Bandwidth by Location 2005–2009 Figure 4-7 Shaping Bandwidth by Direction 2005–2009
Q4.3	*None*
Q4.4	Figure 4-8 Availability of Wireless Access on Campus (1) (DR EXT) 2005–2009 Figure 4-9 Availability of Wireless Access on Campus (2) (DR EXT) 2005–2009 Figure 4-10 Availability of Wireless Access on Campus (1) (DR INT) 2005–2009 Figure 4-11 Availability of Wireless Access on Campus (2) (DR INT) 2005–2009 Figure 4-12 Availability of Wireless Access on Campus (1) (MA I) 2005–2009 Figure 4-13 Availability of Wireless Access on Campus (2) (MA I) 2005–2009 Figure 4-14 Availability of Wireless Access on Campus (1) (MA II) 2005–2009 Figure 4-15 Availability of Wireless Access on Campus (2) (MA II) 2005–2009 Figure 4-16 Availability of Wireless Access on Campus (1) (BA LA) 2005–2009 Figure 4-17 Availability of Wireless Access on Campus (2) (BA LA) 2005–2009 Figure 4-18 Availability of Wireless Access on Campus (1) (BA GEN) 2005–2009 Figure 4-19 Availability of Wireless Access on Campus (2) (BA GEN) 2005–2009
Q4.5	Figure 4-22 Videoconferencing Sites Available 2005–2009
Q4.6	Figure 4-23 Computers with Videoconferencing Capabilities 2005–2009
Q4.7	Figure 4-24 Status of Security Technologies (DR EXT) 2005–2009 Figure 4-25 Status of Network Service Technologies (DR EXT) 2005–2009 Figure 4-27 Status of Security Technologies (DR INT) 2005–2009 Figure 4-28 Status of Network Services Technologies (DR INT) 2005–2009 Figure 4-30 Status of Security Technologies (MA I) 2005–2009 Figure 4-31 Status of Network Services Technologies (MA I) 2005–2009 Figure 4-33 Status of Security Technologies (MA II) 2005–2009 Figure 4-34 Status of Network Services Technologies (MA II) 2005–2009 Figure 4-36 Status of Security Technologies (BA LA) 2005–2009 Figure 4-37 Status of Network Services Technologies (BA LA) 2005–2009 Figure 4-39 Status of Security Technologies (BA GEN) 2005–2009 Figure 4-40 Status of Network Services Technologies (BA GEN) 2005–2009 Figure 4-42 Status of Security Technologies (AA) 2005–2009 Figure 4-43 Status of Network Services Technologies (AA) 2005–2009
Q4.8	Figure 4-26 Status of Identity Management Technologies (DR EXT) 2005–2009 Figure 4-29 Status of Identity Management Technologies (DR INT) 2005–2009 Figure 4-32 Status of Identity Management Technologies (MA I) 2005–2009 Figure 4-35 Status of Identity Management Technologies (MA II) 2005–2009 Figure 4-38 Status of Identity Management Technologies (BA LA) 2005–2009 Figure 4-41 Status of Identity Management Technologies (BA GEN) 2005–2009 Figure 4-44 Status of Identity Management Technologies (AA) 2005–2009
Q4.9	Figure 4-45 Status of End-User Authentication 2005–2009
Q4.10	Figure 4-46 Use of Firewalls (DR EXT) 2005–2009 Figure 4-47 Use of Firewalls (DR INT) 2005–2009 Figure 4-48 Use of Firewalls (MA I) 2005–2009 Figure 4-49 Use of Firewalls (MA II) 2005–2009 Figure 4-50 Use of Firewalls (BA LA) 2005–2009 Figure 4-51 Use of Firewalls (BA GEN) 2005–2009 Figure 4-52 Use of Firewalls (AA) 2005–2009

Question	Tables, Figures
Q4.11	Figure 4-53 Policies and Practices on Security Patching and Scanning (DR EXT) 2005–2009 Figure 4-54 Policies and Practices on Security Patching and Scanning (DR INT) 2005–2009 Figure 4-55 Policies and Practices on Security Patching and Scanning (MA I) 2005–2009 Figure 4-56 Policies and Practices on Security Patching and Scanning (MA II) 2005–2009 Figure 4-57 Policies and Practices on Security Patching and Scanning (BA LA) 2005–2009 Figure 4-58 Policies and Practices on Security Patching and Scanning (BA GEN) 2005–2009 Figure 4-59 Policies and Practices on Security Patching and Scanning (AA) 2005–2009
Q4.12	Figure 4-60 Campus Security Risk Assessment 2005–2009
Information Systems	
Q5.1	Figure 5-1 Presence of Information Systems (DR EXT) 2005–2009 Figure 5-2 Presence of Information Systems (DR INT) 2005–2009 Figure 5-3 Presence of Information Systems (MA I) 2005–2009 Figure 5-4 Presence of Information Systems (MA II) 2005–2009 Figure 5-5 Presence of Information Systems (BA LA) 2005–2009 Figure 5-6 Presence of Information Systems (BA GEN) 2005–2009 Figure 5-7 Presence of Information Systems (AA) 2005–2009 Figure 5-8 Solutions for Various Information Systems (DR EXT) 2005–2009 Figure 5-9 Solutions for Various Information Systems (DR INT) 2005–2009 Figure 5-10 Solutions for Various Information Systems (MA I) 2005–2009 Figure 5-11 Solutions for Various Information Systems (MA II) 2005–2009 Figure 5-12 Solutions for Various Information Systems (BA LA) 2005–2009 Figure 5-13 Solutions for Various Information Systems (BA GEN) 2005–2009 Figure 5-14 Solutions for Various Information Systems (AA) 2005–2009 Figure 5-15 Top Vendors for Student Information Systems 2005–2009 Figure 5-16 Top Vendors for Financial Information Systems 2005–2009 Figure 5-17 Top Vendors for HR Systems 2005–2009 Figure 5-18 Top Vendors for Development Systems 2005–2009 Figure 5-19 Top Vendors for Library Systems 2005–2009 Figure 5-20 Top Vendors for Course Management Systems 2005–2009 Figure 5-21 Top Vendors for Grants Management Systems 2005–2009 Figure 5-22 Year of Implementation for Information Systems (DR EXT) 2005–2009 Figure 5-23 Year of Implementation for Information Systems (DR INT) 2005–2009 Figure 5-24 Year of Implementation for Information Systems (MA I) 2005–2009 Figure 5-25 Year of Implementation for Information Systems (MA II) 2005–2009 Figure 5-26 Year of Implementation for Information Systems (BA LA) 2005–2009 Figure 5-27 Year of Implementation for Information Systems (BA GEN) 2005–2009 Figure 5-28 Year of Implementation for Information Systems (AA) 2005–2009
Q5.2	*None*
Q5.3	Table 5-2 Modification of Commercial or Open-Source Products 2009
Q5.4	Figure 5-29 Enterprise Resource Planning System (ERP) Status 2005–2009 Table 5-3 Percent of ERP Costs for Various Components 2009

Question	Tables, Figures
Q5.5	Figure 5-30 Status of Web Portals 2005–2009 Figure 5-31 Web Portal Strategies 2005–2009 Figure 5-32 Web Portals Customizable by User 2005–2009 Figure 5-33 Customized Web Portals for Different Audiences 2005–2009 Figure 5-34 Customized Web Portals for Various Audiences (DR EXT) 2005–2009 Figure 5-35 Customized Web Portals for Various Audiences (DR INT) 2005–2009 Figure 5-36 Customized Web Portals for Various Audiences (MA I) 2005–2009 Figure 5-37 Customized Web Portals for Various Audiences (MA II) 2005–2009 Figure 5-38 Customized Web Portals for Various Audiences (BA LA) 2005–2009 Figure 5-39 Customized Web Portals for Various Audiences (BA GEN) 2005–2009 Figure 5-40 Customized Web Portals for Various Audiences (AA) 2005–2009

Index

U

V

W