

The ECAR Study of
Mobile IT in Higher Education, 2011

Gregory Dobbin, Eden Dahlstrom,
and Mark C. Sheehan

Introduction

Ownership of mobile devices is broad and growing, among students as well as presidents of colleges and universities. Consumers use mobile devices for myriad activities in their everyday lives, and students increasingly expect mobile computing to be part of their academic lives.

ECAR undertook this study of mobile IT in higher education in June 2011, following a successful 5-Day Mobile Computing Sprint, conducted by EDUCAUSE the month before.

Outline

1. Why Study Mobile IT?
2. Respondent Demographics
3. Mobile Activity Today
4. Mobile-Development Planning

Section 1

WHY STUDY MOBILE IT?

A Majority of Students Own Mobile Devices

Technology	Students Own
Laptop	87%
Printer	81%
DVD Player	75%
USB Thumbdrive	70%
Wi-Fi	67%
Stationary Gaming Device	66%
iPod	62%
HDTV	56%
Smartphone	55%
Digital Camera	55%
Webcam	55%
Desktop Computer	53%
Handheld Gaming Device	38%
Netbook	11%
iPad	8%
Other tablet	2%

Source: ECAR National Study of Undergraduate Students and Information Technology, 2011.

N=3,000 college students from 1,179 colleges and universities.

<http://www.educause.edu/Resources/ECARNationalStudyofUndergradua/238012>

Mobile Devices Provide Access and Tools

Mobile Device Activity	Smartphone Owners (n = 688)	Other Cell Owners (n = 1,226)
Send or receive text messages	92%	59%
Take a picture	92%	59%
Access the Internet	84%	15%
Send a photo or video to someone	80%	36%
Send or receive e-mail	76%	10%
Download an app	69%	4%
Play a game	64%	14%
Play music	64%	12%
Record a video	59%	15%
Access a social networking site	59%	8%
Watch a video	54%	5%
Post a photo or video online	45%	5%
Check your bank balance or do any online banking	37%	5%
Access Twitter	15%	<1%
Participate in a video call or video chat	13%	1%
Mean Number of Activities (out of 15)	9	2.5

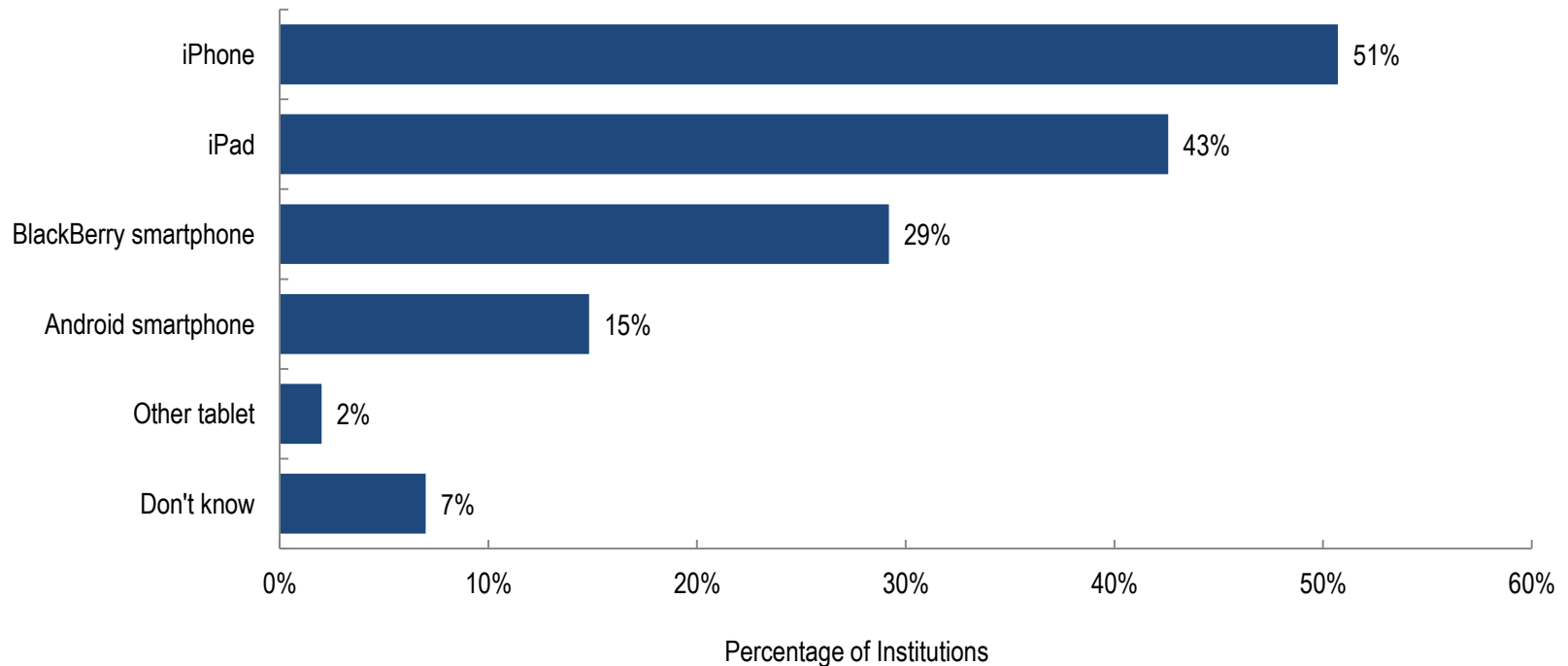
Source: Pew Research Center's Internet & American Life Project, April 26-May 22, 2011 Spring Tracking Survey.
N=2,277 adults ages 18 and older.

Quoted in the Pew Research Center report, *Americans and their cell phones*, Aaron Smith, 8/15/2011, p. 3
<http://pewinternet.org/~media/Files/Reports/2011/Cell%20Phones%202011.pdf>

Presidents Use Mobile Devices

- Many college and university presidents use mobile devices.
- Just under half of respondents indicated that their president uses more than one mobile device.

Types of Mobile Device Used by Respondent Institution Presidents
(Multiple Responses Allowed)



What's the “Killer Mobile App” for Higher Education?

An open-ended question on the survey asked about “killer” apps, and respondents were clear that student services and learning apps were at the top of the list.

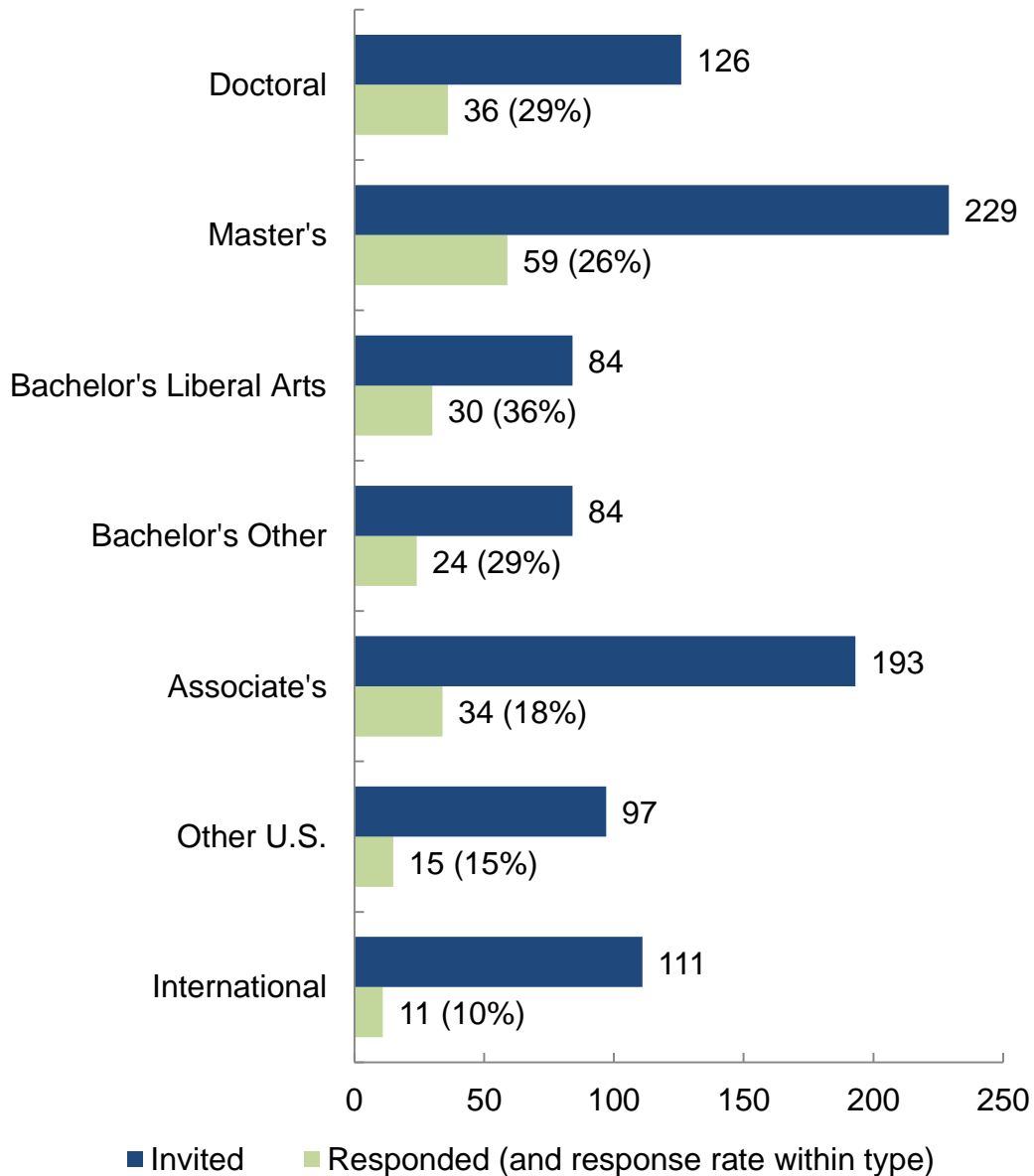
Percentage of responses that say...	
Student services	25%
LMS	25%
Messaging and calendaring	14%
Social network	6%
Personal productivity	6%
Classroom technology	6%
Portal	4%
Collaboration	2%
E-learning	2%
ERP	2%
Other	19%

Section 2

RESPONDENT DEMOGRAPHICS

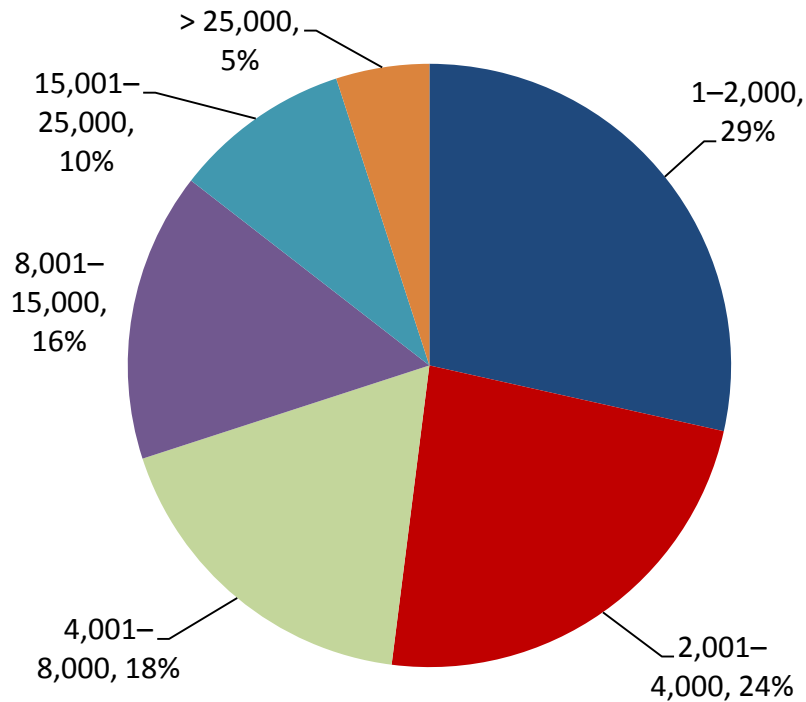
New Sampling Methodology Leads to Better Response Rates

- Our survey was released July 14, 2011, and most of the 209 respondents had completed it by August 3.
- For this survey, ECAR adopted a sampling methodology that targeted a subset of about 900 institutions, approximately half the EDUCAUSE membership. EDUCAUSE staff proactively sought a maximal number of responses through e-mail and telephone reminders.
- Results were positive and encouraging, with response rates around 30% for most Carnegie classes and stronger response rates than in past ECAR surveys for all of them.
- This was the first mainstream ECAR study to invite participation from member institutions in countries outside North America.

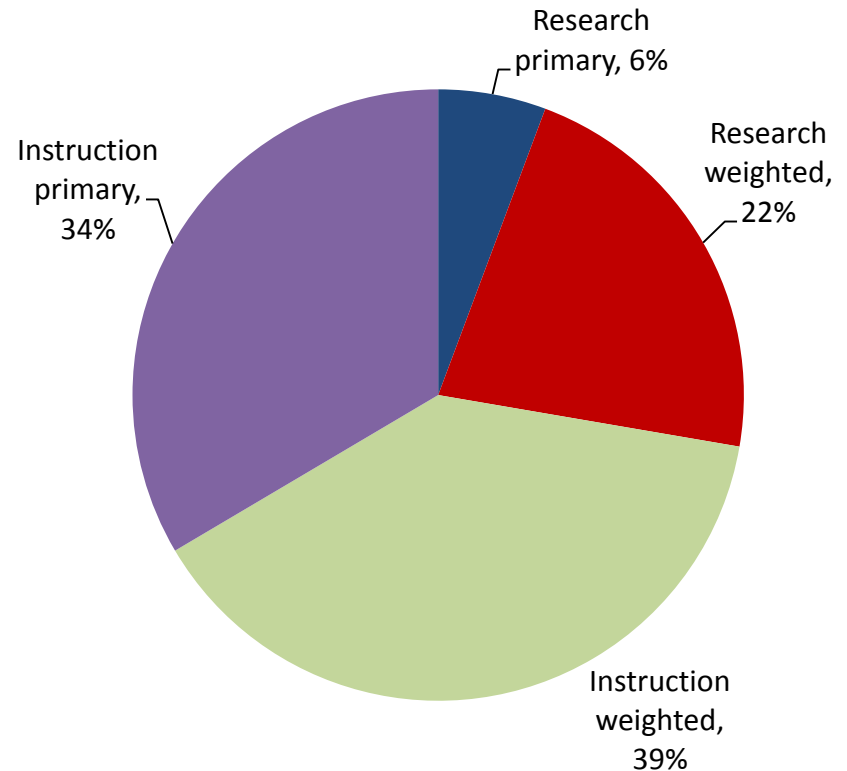


Survey Captured Institutions of Diverse Size and Focus

FTE Students



Institutional Mission/Focus



Mobile Signal Coverage Varies but Is Not Consequential

- The playing field is not level for delivery of mobile IT over commercial mobile networks.
 - In cities and suburbs 83% of respondents rate coverage as good or very good.
 - In more rural settings, only 57% of institutions report coverage of that quality.
- However, the mobile IT outcomes we measured do not vary significantly with mobile signal coverage.



Right Click for Data

Section 3

MOBILE ACTIVITY TODAY

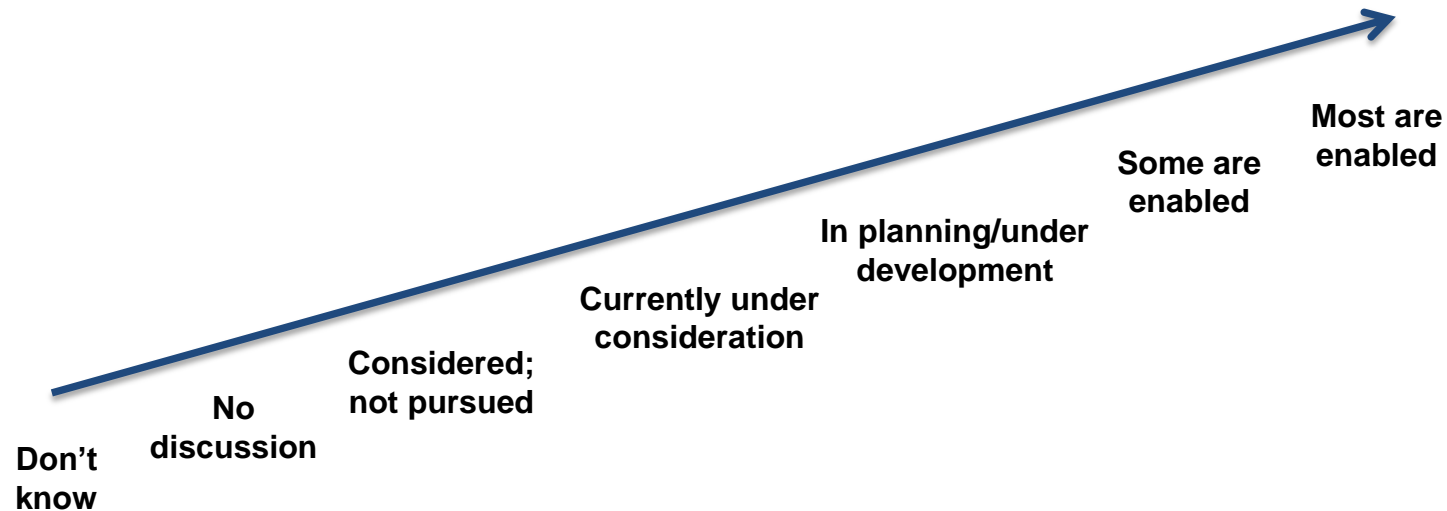
Activity and Progress

The survey asked about several indicators of activity in mobile computing and the progress that colleges and universities are seeing from those efforts:

- Stage of mobile-enablement of 14 institutional service areas
- Extent to which current mobile demand is being met
- Where institutions expect to see mobile demand in coming academic year
- Preparedness to meet next academic year's demands for mobile IT
- Number of services, applications, and websites mobile-enabled in past 12 months
- Money spent on mobile-enablement
- Staffing for mobile-enablement projects

Stage of Mobile-Enablement

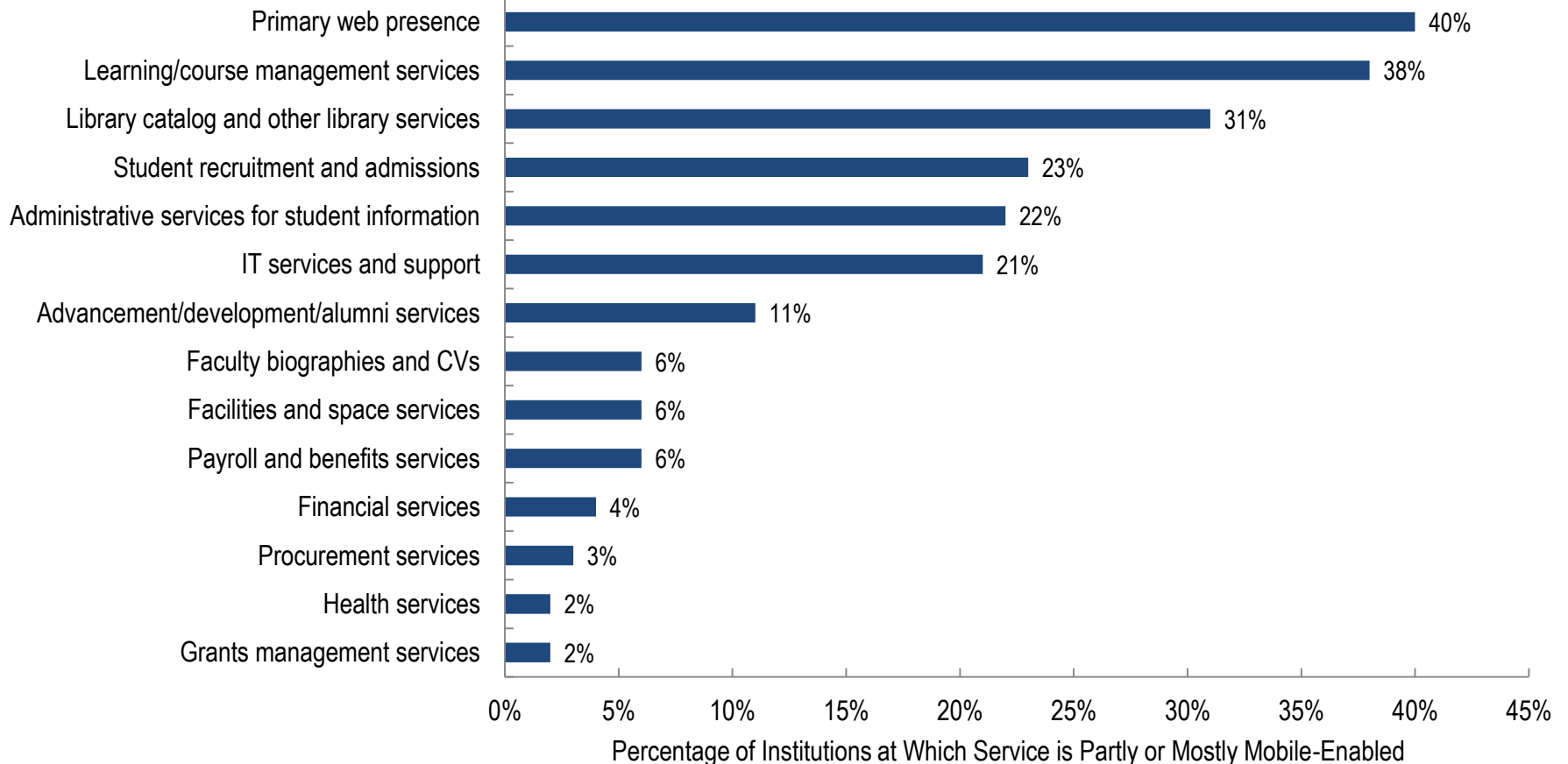
Q: At which stage of mobile enablement are these institutional services, applications, and websites?



- Administrative services for student information (includes grades, registration, financial aid, etc.)
- Student recruitment and admissions
- Library catalog and other library services
- Learning/course management services
- Payroll and benefits services
- Grants management services
- Financial services (includes accounts payable, budget, etc.)
- Procurement services
- Facilities and space services
- Advancement/development/alumni services
- Faculty biographies and CVs
- Primary web presence (includes institutional home page and other major descriptive pages)
- IT services and support (includes help desk, multimedia services, voice/data network, etc.)
- Health services (institutional health center)

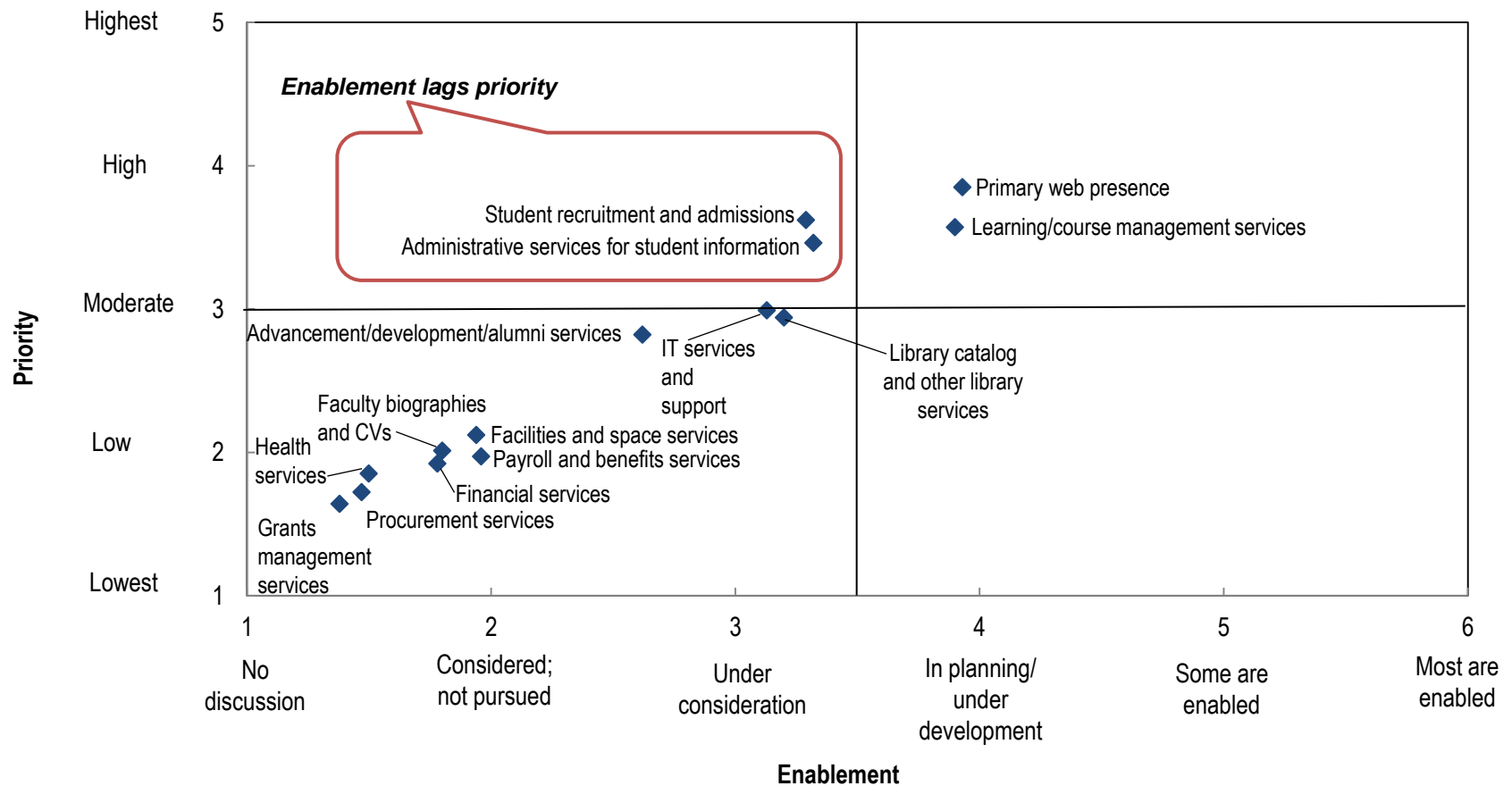
Student- and Public-Facing Services Are Enabled First

- Student- and public-facing services tend to be at considerably higher levels of mobile-enablement.
- Services focused on staff are languishing, relative to student-focused services.

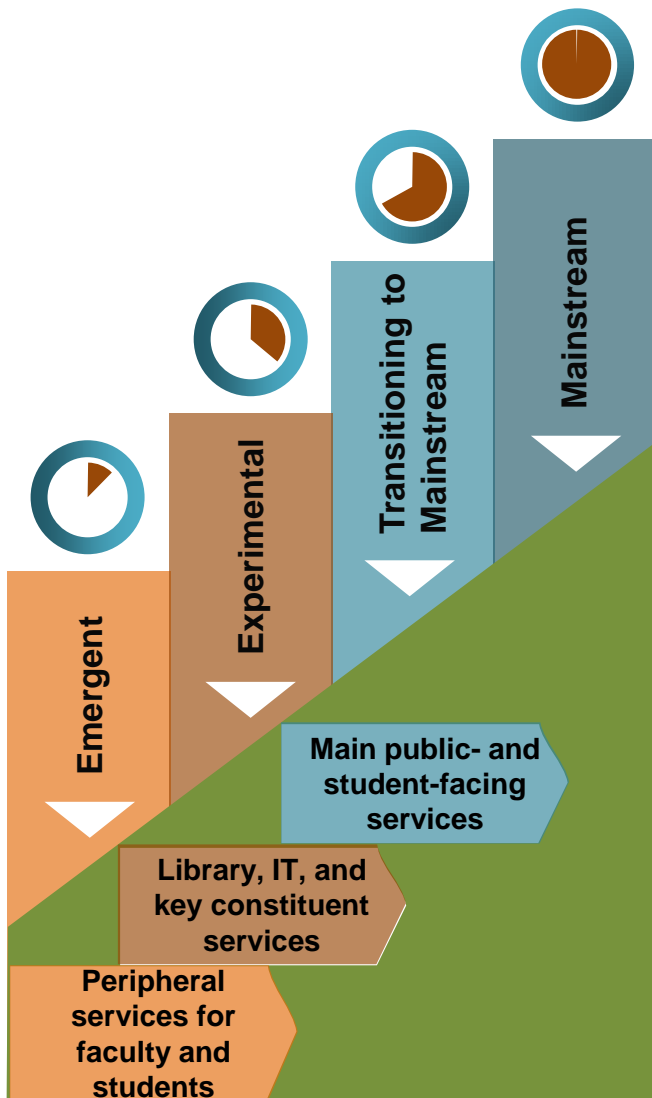


Mobile-Enablement Tends to Follow Priority

- Where institutions see the highest priority for mobile computing, they are showing results.
- Mobile services focused on faculty and staff are not common.



Maturity for Mobile-Enablement



MAINSTREAM

- None

TRANSITIONING TO MAINSTREAM

- Primary web presence
- Learning/course management services

EXPERIMENTAL

- Library catalog and other library services
- IT services and support
- Administrative services for student information
- Student recruitment and admissions
- Advancement/development/alumni services

EMERGENT

- Faculty biographies and CVs
- Facilities and space services
- Payroll and benefits services
- Financial services
- Procurement services
- Health services (institutional health center)
- Grants management services

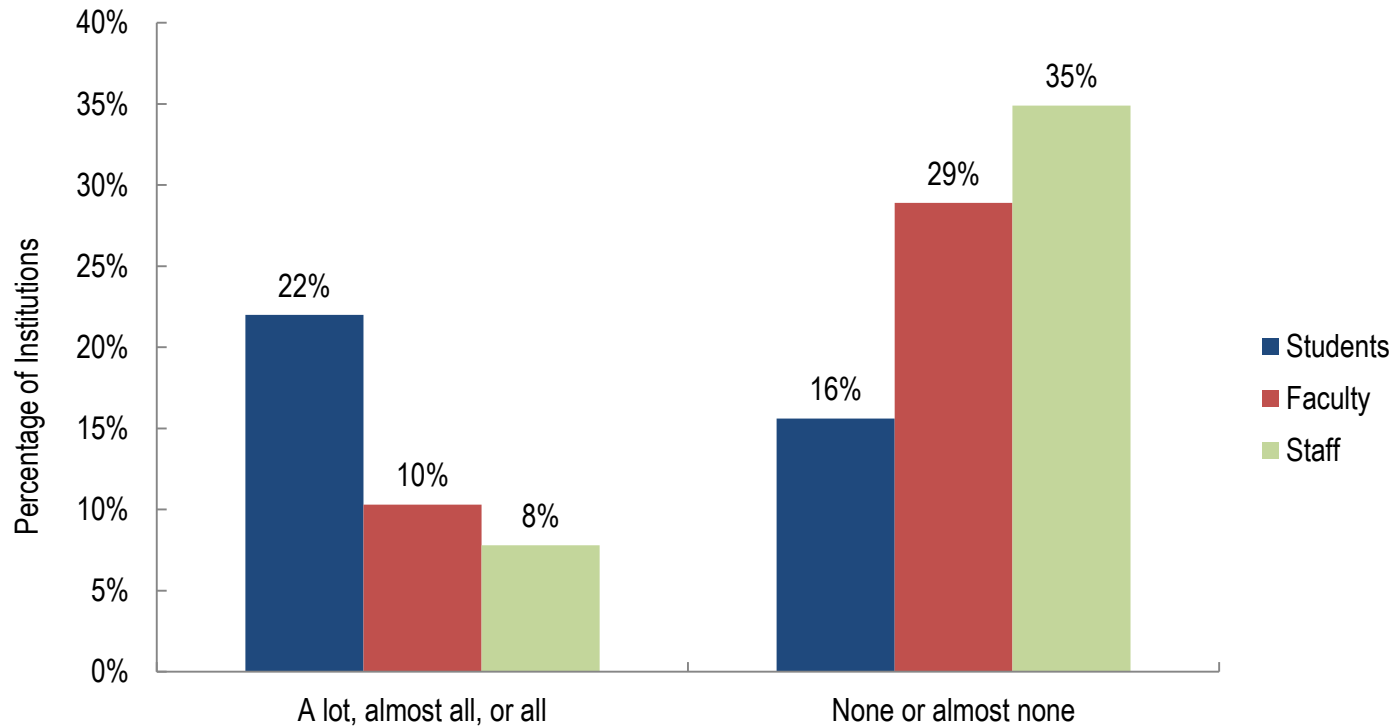


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Students are the Focus of Current Demand

Q: Each of the constituencies below places certain demands upon the institution for mobile services, applications, and websites. At present, how much of that demand is your institution meeting?

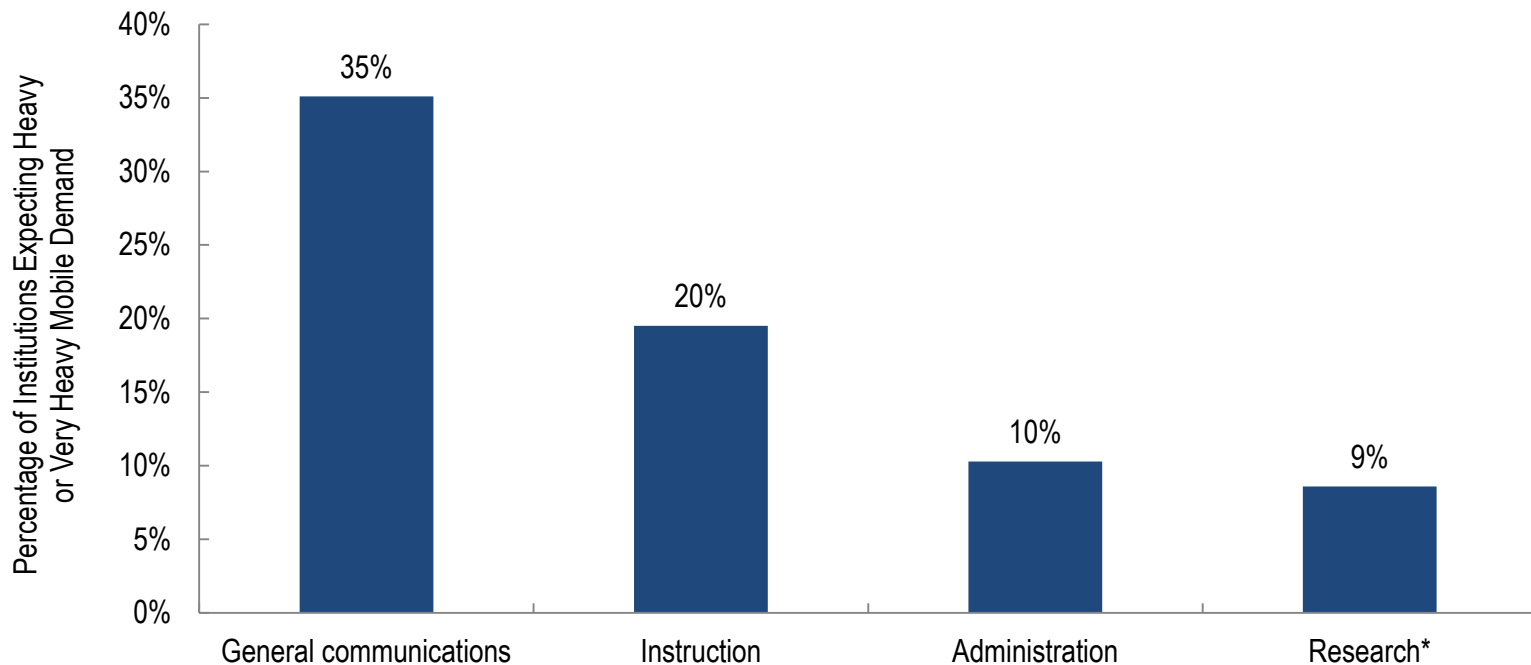
- Institutions are meeting the mobile demand for students at more than twice the rate at which they meet them for faculty and nearly three times the rate for staff.



Amount of Current Mobile Demand Being Met for Three Constituencies

Expected Mobile Demand is Greatest for General Communications

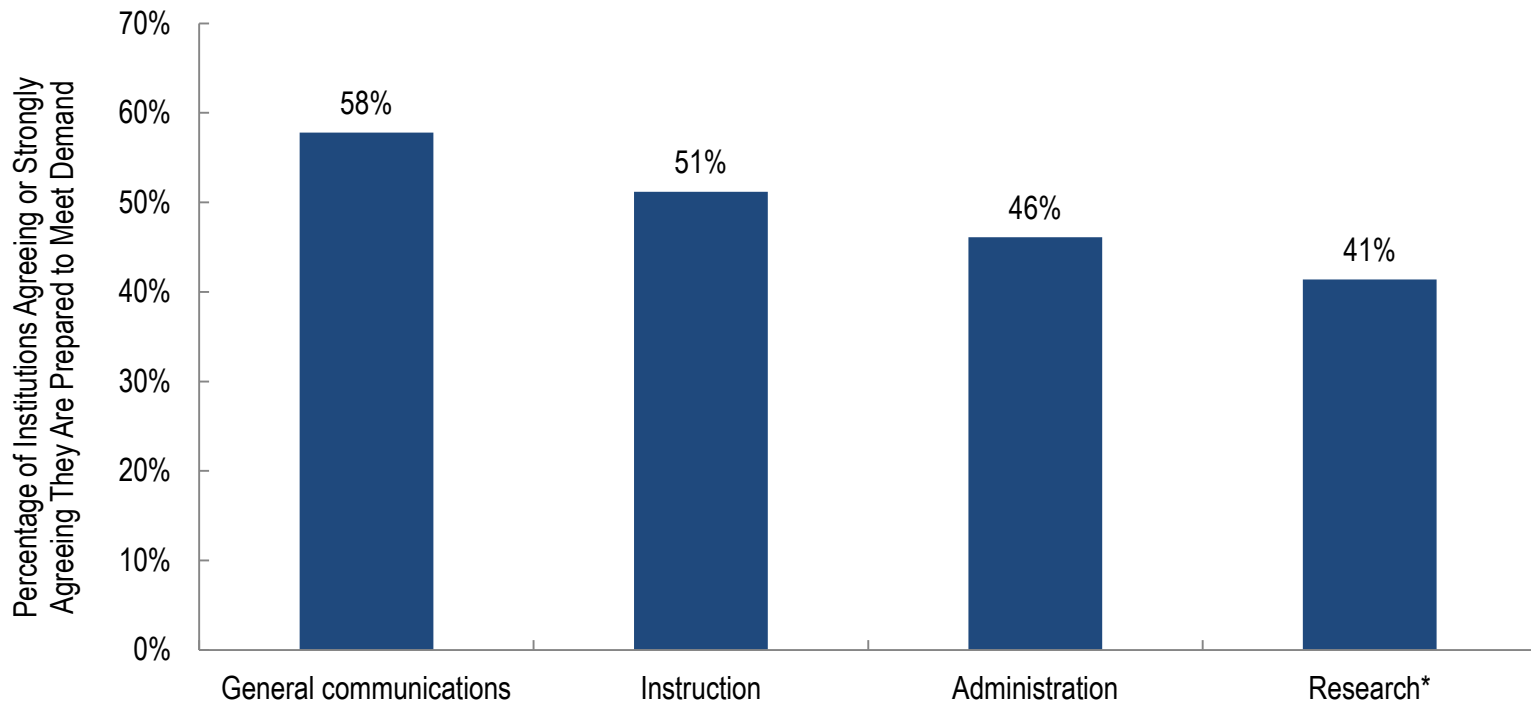
- Institutions anticipate that general communications needs will place the heaviest demands on mobile services.
- Twice as many institutions anticipate heavy or very heavy demand for instruction-focused mobile services as for administrative services.



* Among only institutions reporting a research-focused mission

Preparedness for Mobile Demand is Fairly Even

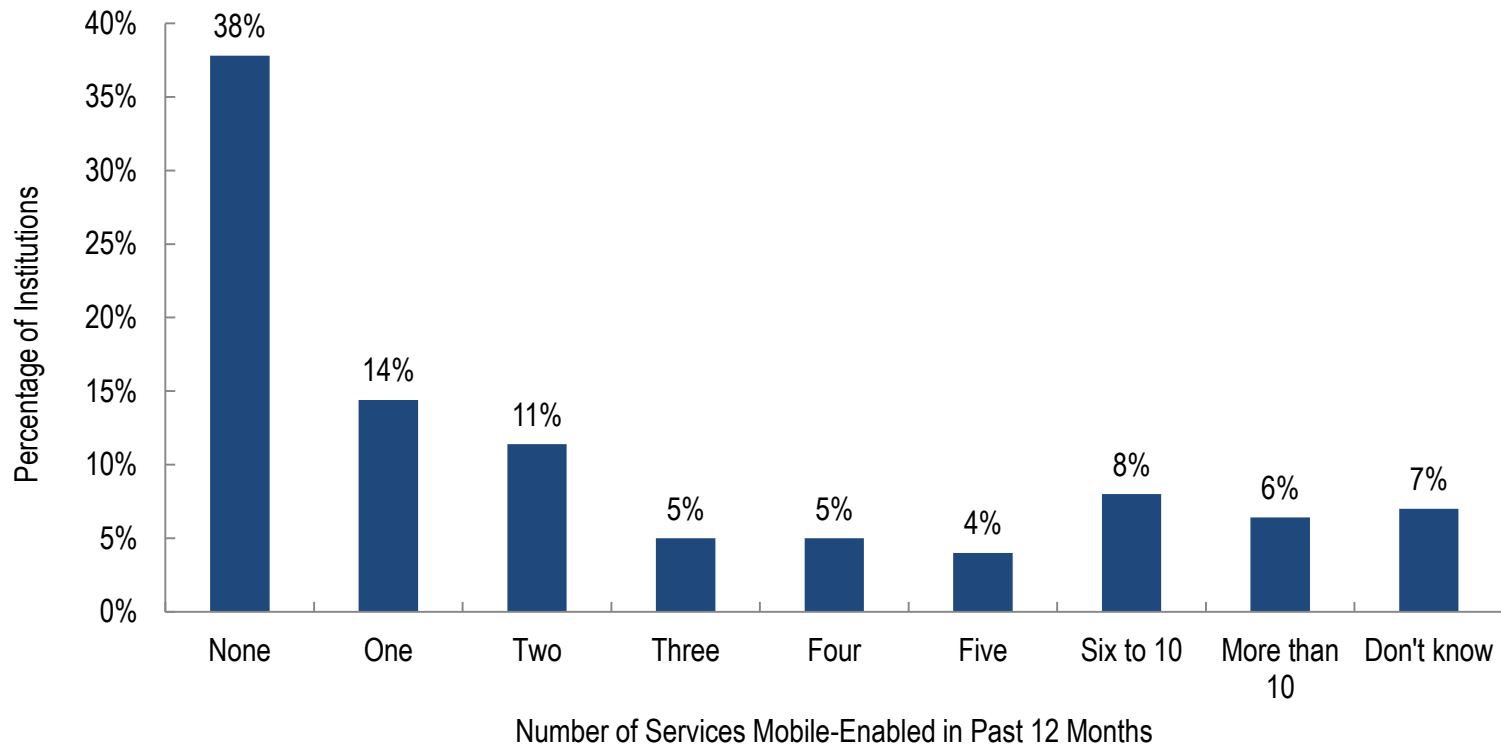
- IT organizations feel generally prepared to meet mobile demand.
- Just 20% and 26%, respectively, disagreed or strongly disagreed that they were prepared to meet the demands of general communications and instruction.



** Among only institutions reporting a research-focused mission*

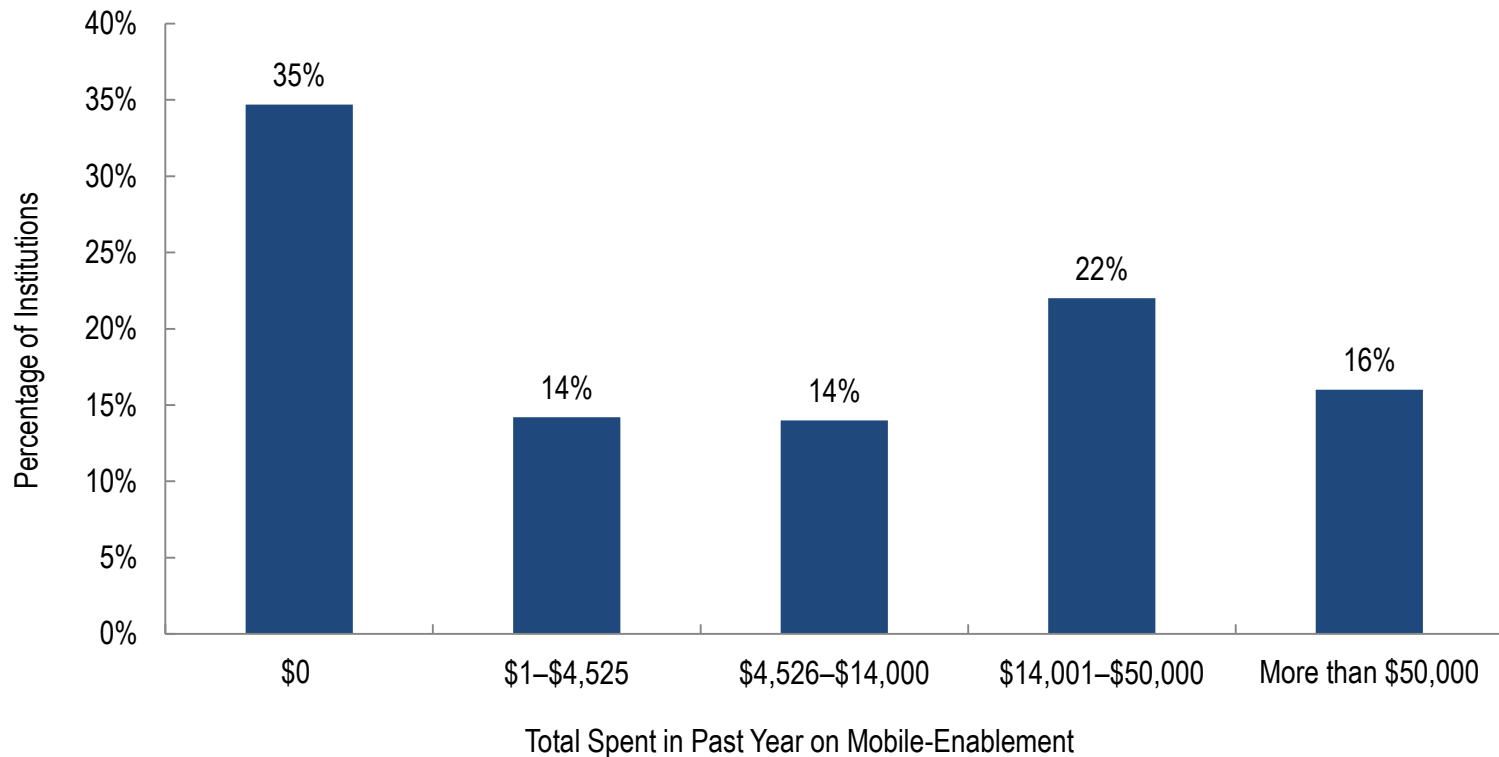
Many Haven't Mobile-Enabled Any Services

- Nearly two in five respondents had not mobile-enabled *any* institutional services in the previous 12 months.
- The largest number of mobile-enabled services at a single institution was 50.

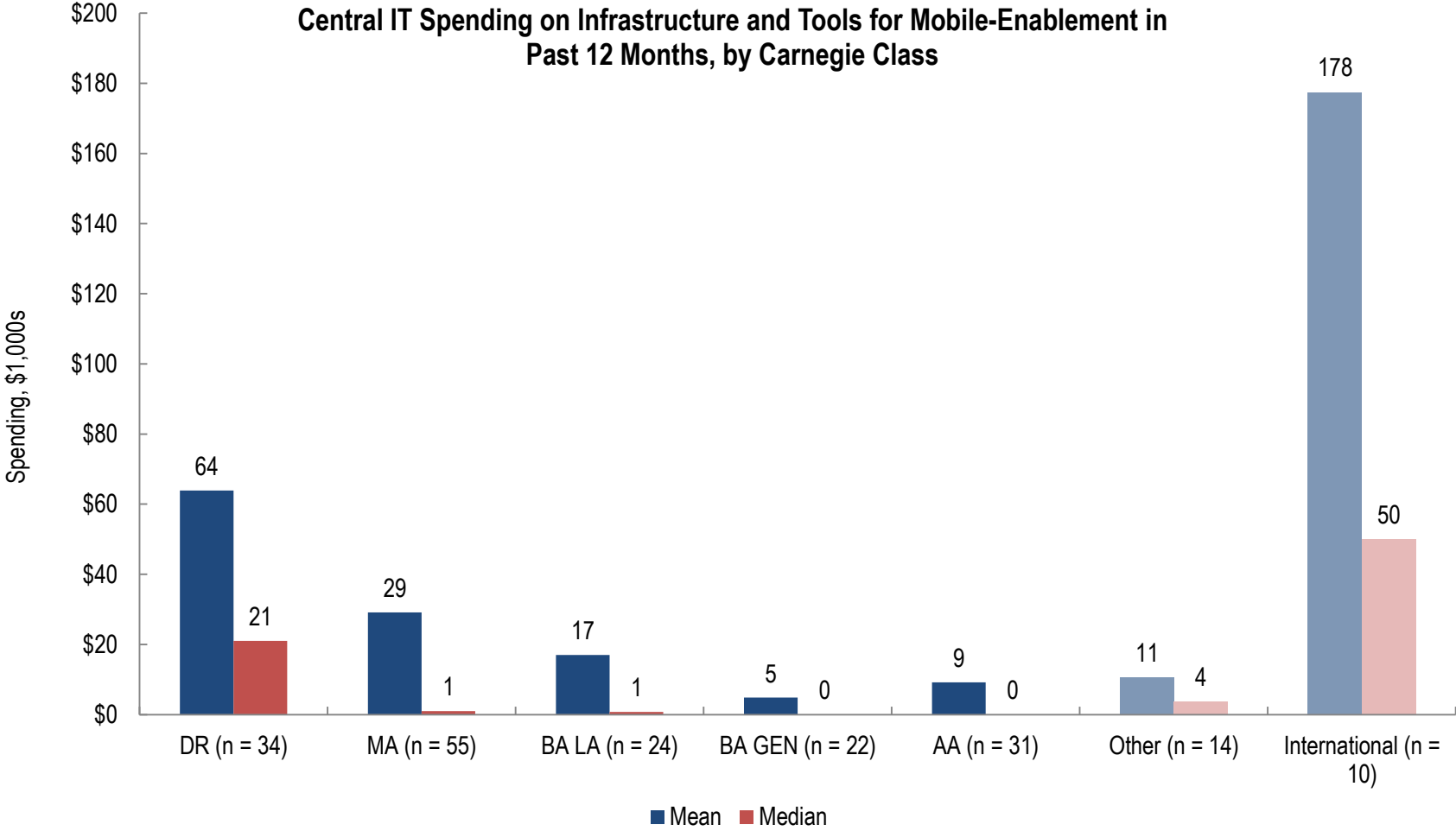


Large Numbers Spent No Money on Mobile-Enablement

- More than one-third of respondents had not spent any money on mobile-enablement in the 12 months prior to the survey.
- Small numbers had spent more than \$100K on mobile initiatives.

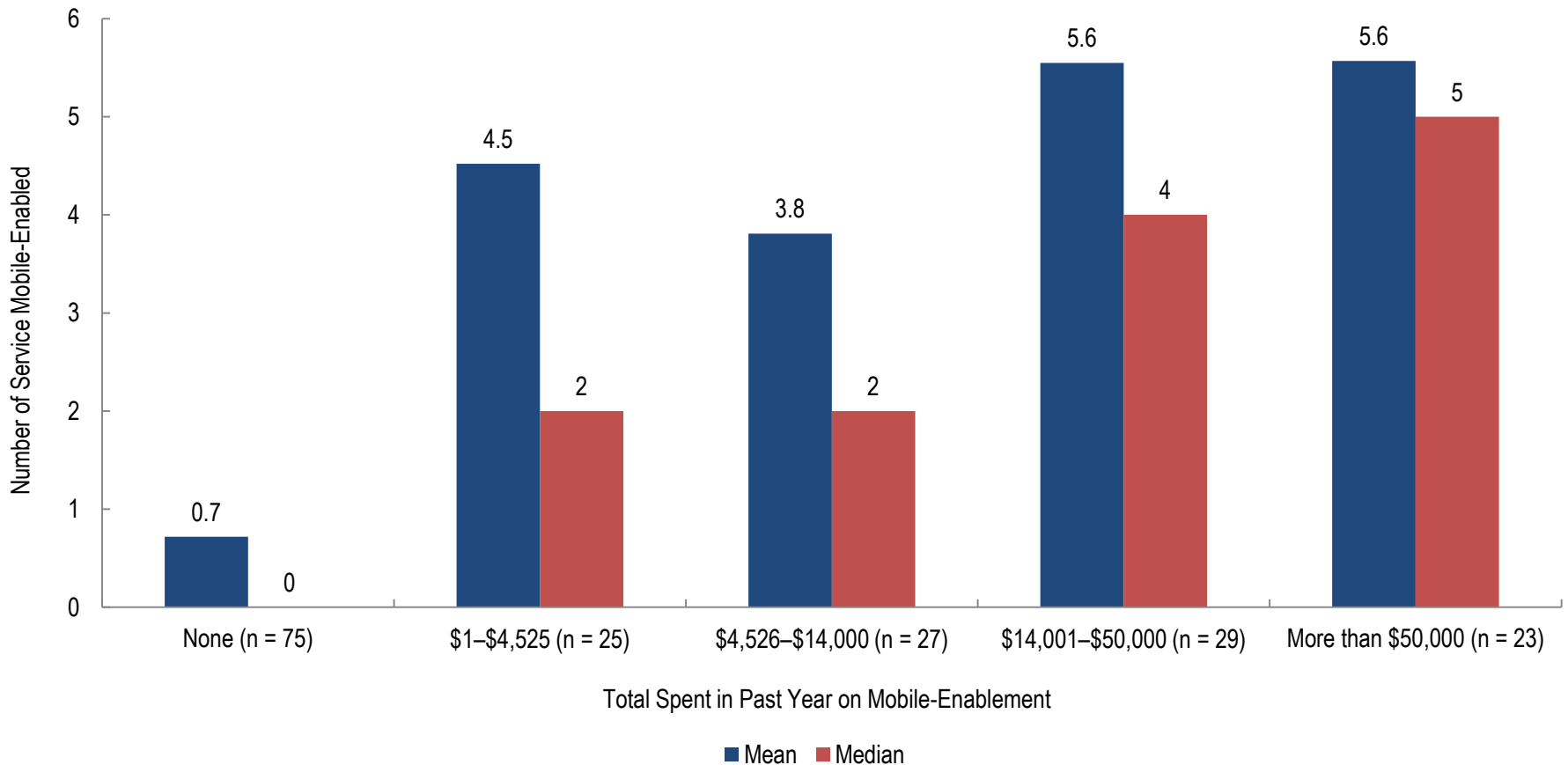


Spending Varies Widely



On Average, More Mobile Enablement Occurs Where Central IT Spends More On It

Services, Applications, and Websites Central IT Has Mobile Enabled in the Past 12 Months, by Spending on Infrastructure and Tools for Mobile-Enablement

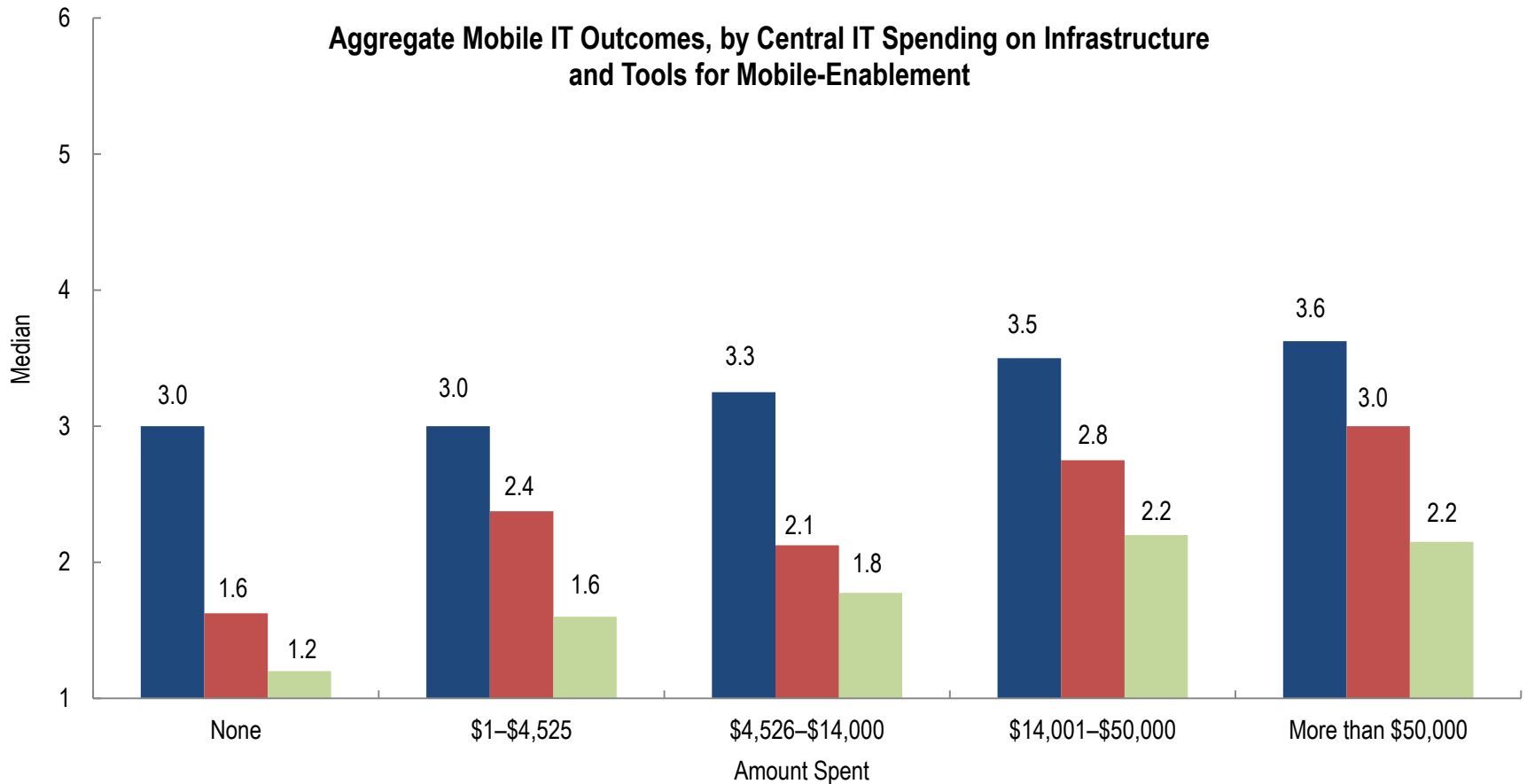


It Costs Roughly \$5,000 to Mobile-Enable a Service

Although the survey was not explicitly designed to uncover this number, we analyzed the data to see roughly how much higher education is spending to enable each mobile service.

- The median mobile-enablement cost per service was \$5,143.
- The lowest-spending 25% of institutions spent less than \$2,000 per service.
- The middle 50% spent between \$2,000 and \$16,250 per service.
- The highest-spending 25% spent more than \$16,250 to mobile-enable each service.

Other Progress Indicators Also Vary by Spending



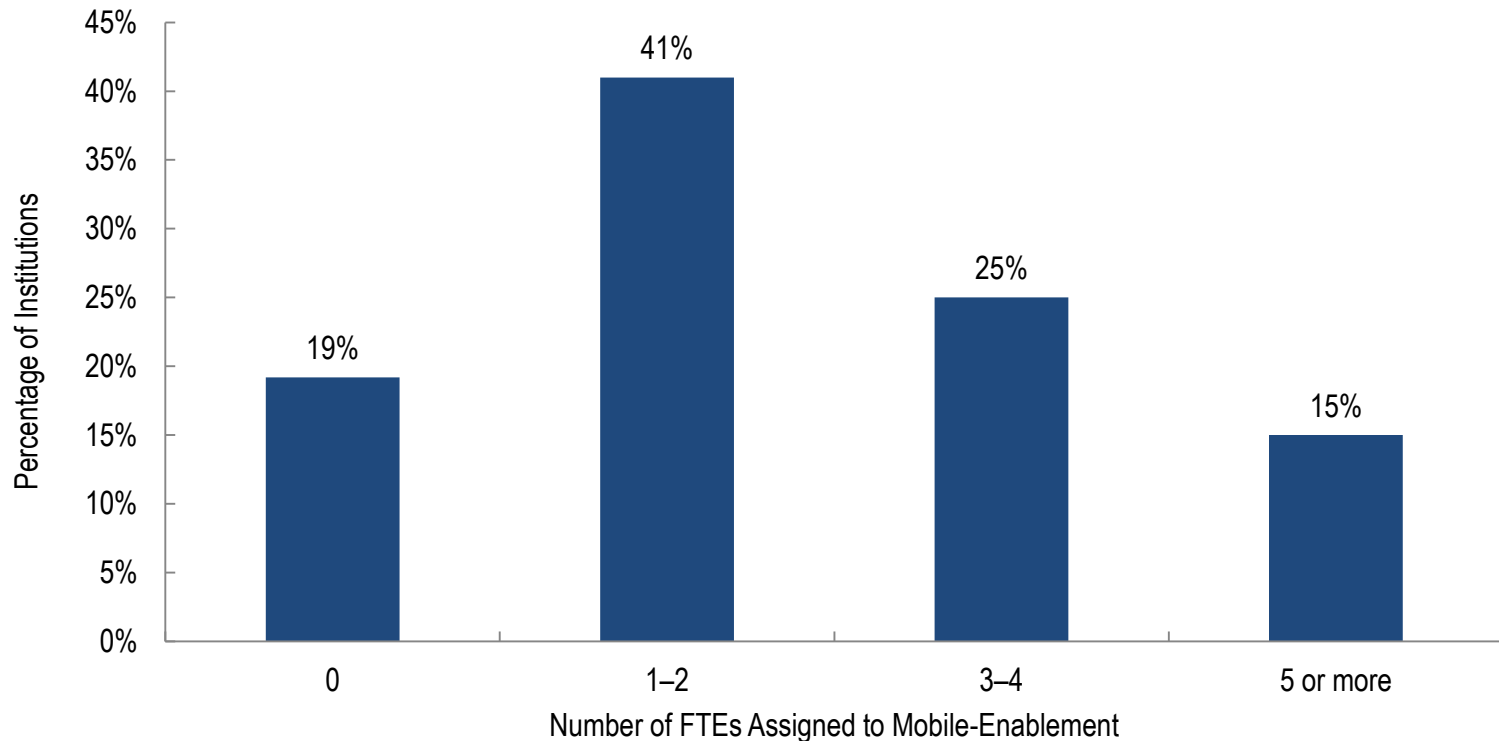
- Amount of Current Demand Being Met (4 constituencies, 5-pt. scale)
- Stage of Enablement (14 items, 6-pt. scale)
- Institution Is Prepared for New Academic Year (4 weighted areas, 5-pt. scale)

Higher Education Anticipates Increase in Spending for Mobile-Enablement

- 90% of respondents expect spending on mobile-enablement to increase over the next three years
- The middle 50% of respondents expect a rise of between 5% and 25% in mobile spending.
- No respondents expect a decrease in spending.

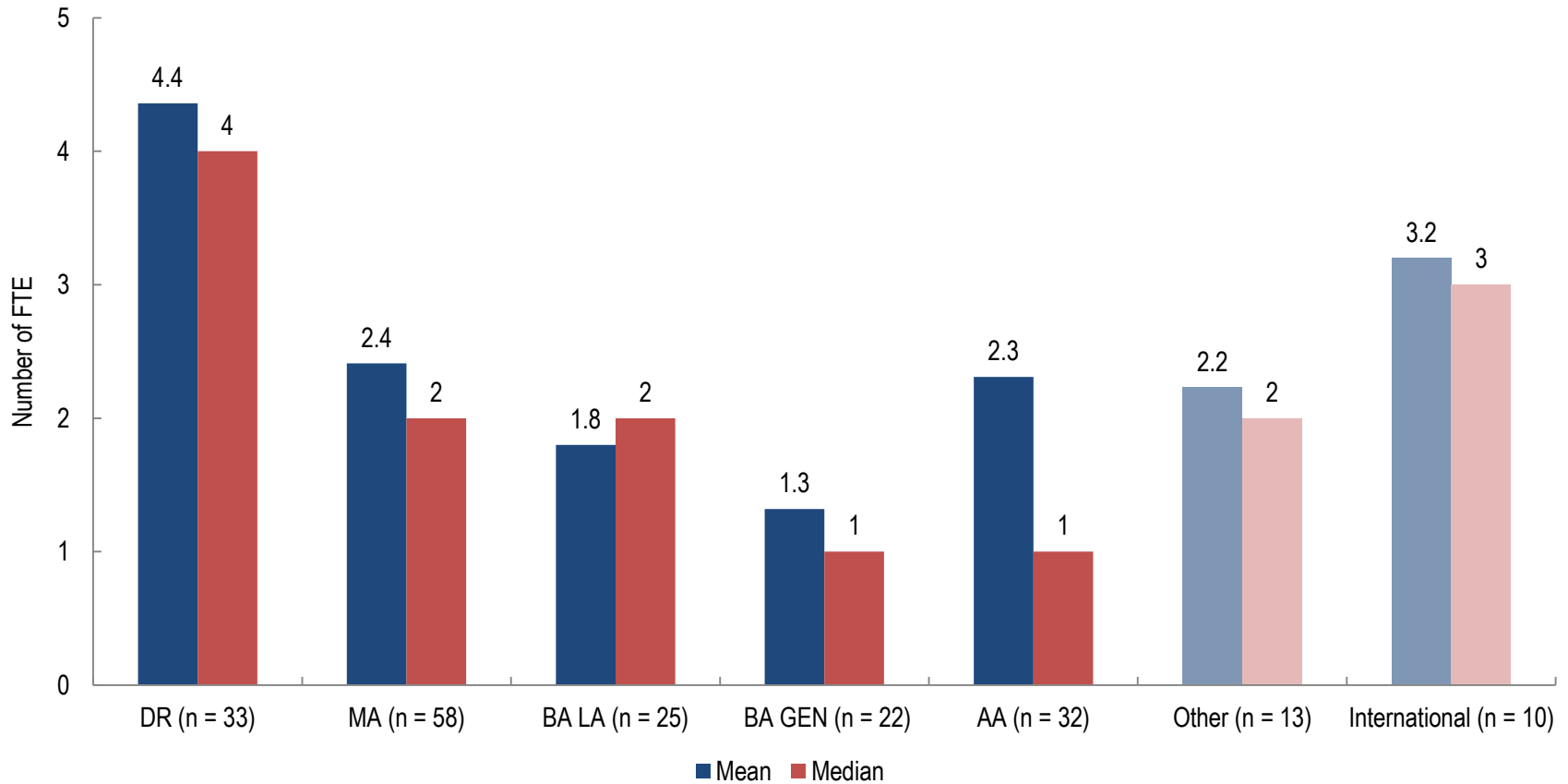
Staffing for Mobile-Enablement Remains Modest

- One-fifth of institutions have zero FTEs assigned to mobile-enablement.
- The largest proportion have between 1 and 2 FTEs working on mobile-enablement.



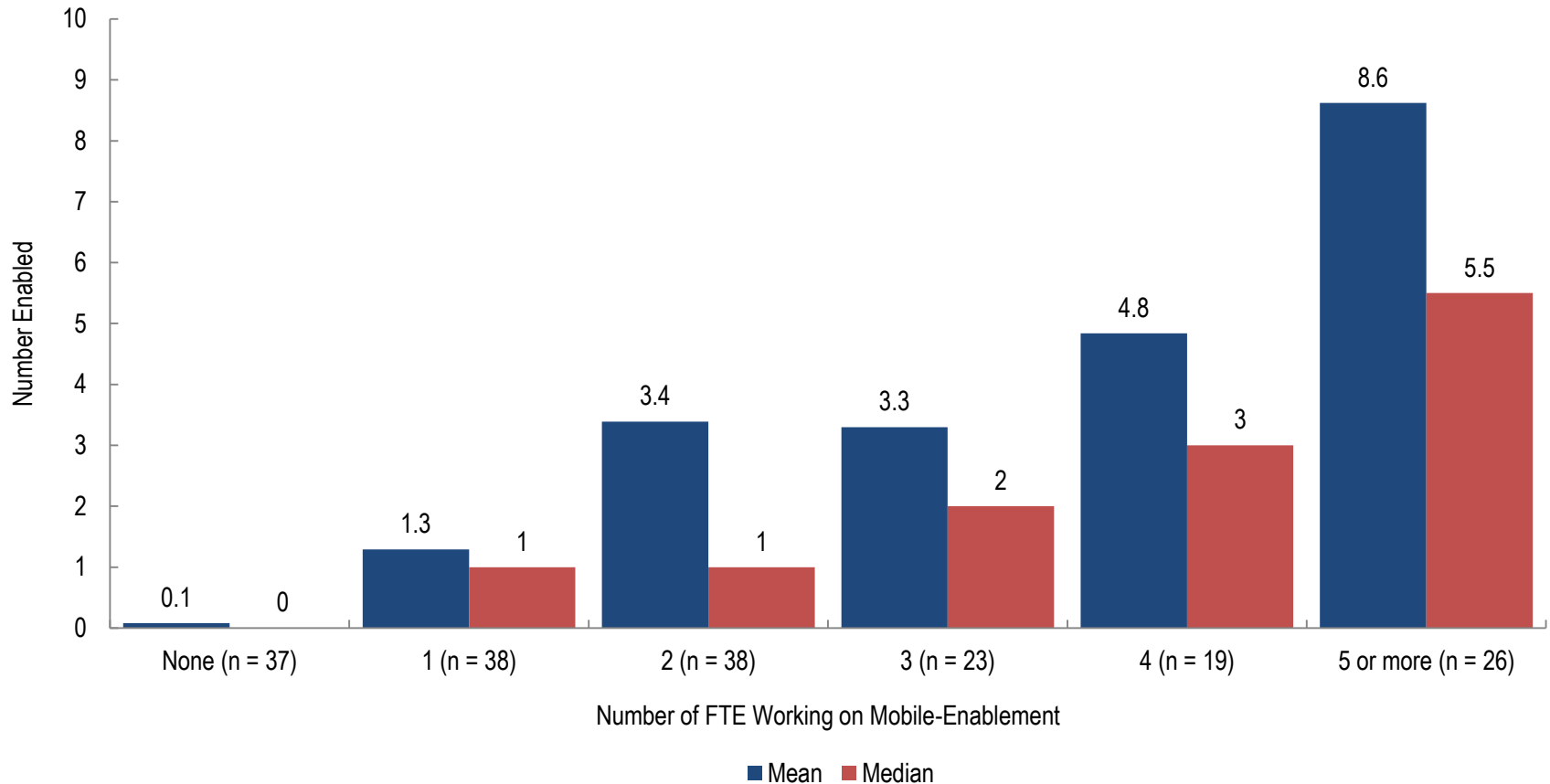
Number of Staff Working on Mobile Enablement Varies by Carnegie

Number of Central IT FTEs Working on Mobile-Enablement, by Carnegie Class

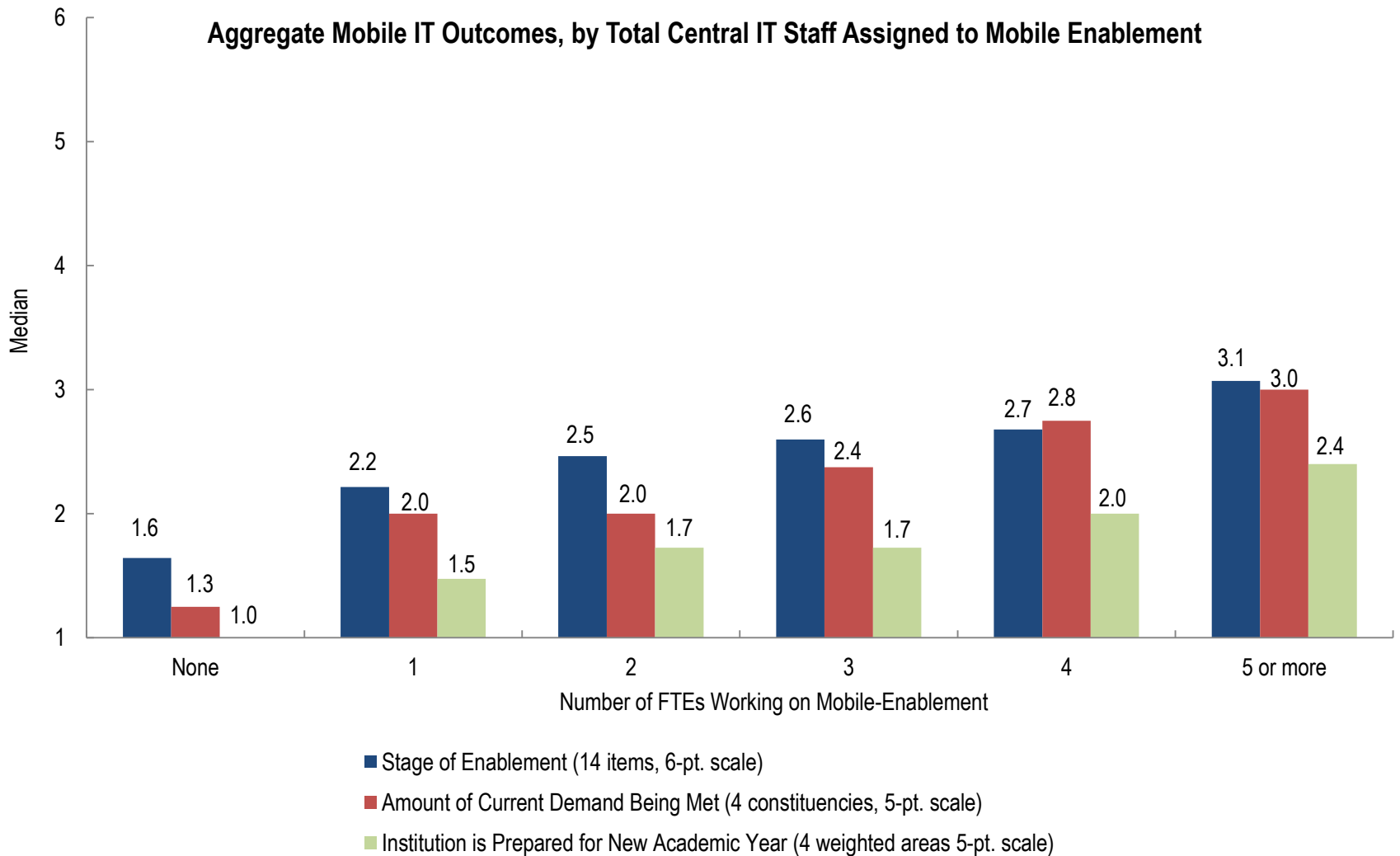


More Staff Working on Mobile-Enablement Results in Greater Progress

Number of Services, Applications, and Websites Central IT Has Mobile-Enabled in Past 12 Months, by Total Central IT FTEs Working on Mobile-Enablement



Other Progress Indicators Also Vary by Staffing



Section 4

MOBILE-DEVELOPMENT PLANNING

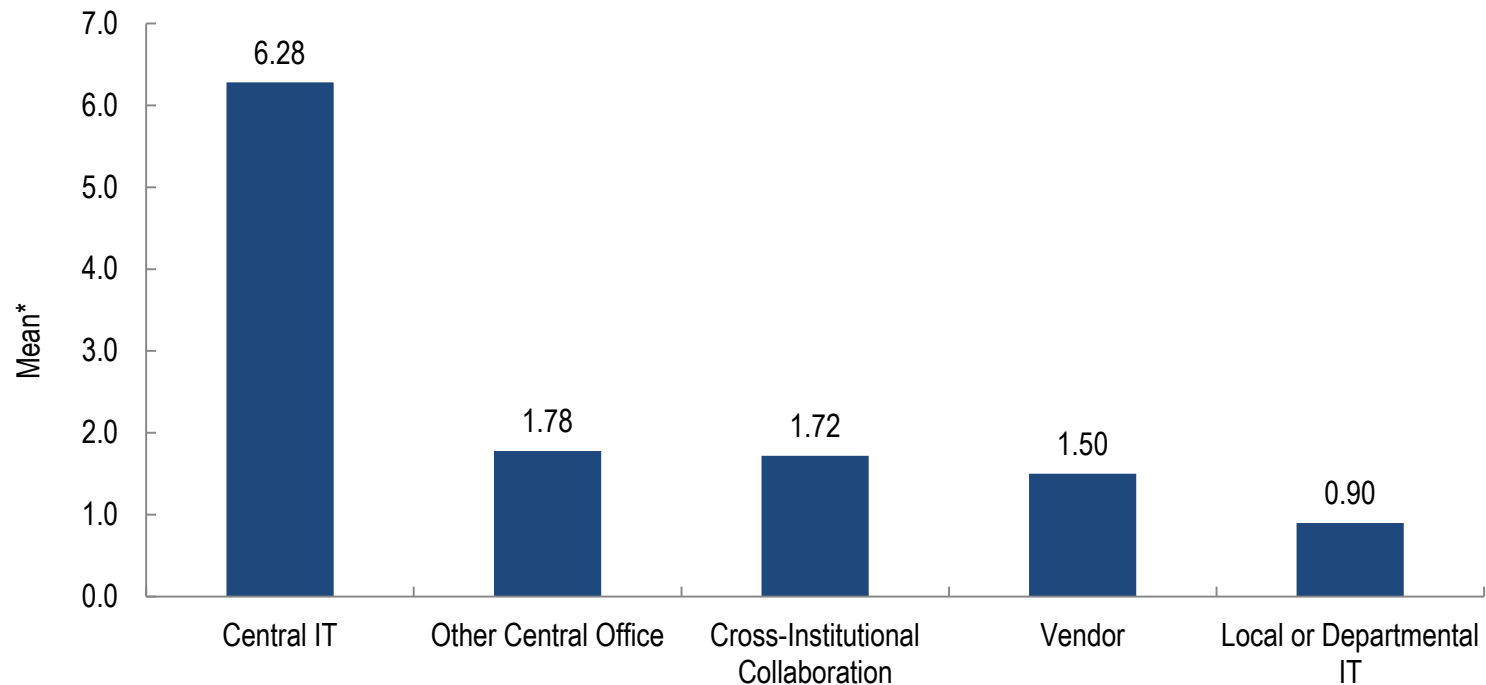
Elements of a Mobile-Computing Plan

For those institutions that have clear goals for mobile computing, several decision points play into an overall plan for how to achieve those goals:

- Leaders of Mobile-Enablement
- Development Strategy
- Collaborations

Who Is in Charge of Mobile-Enablement?

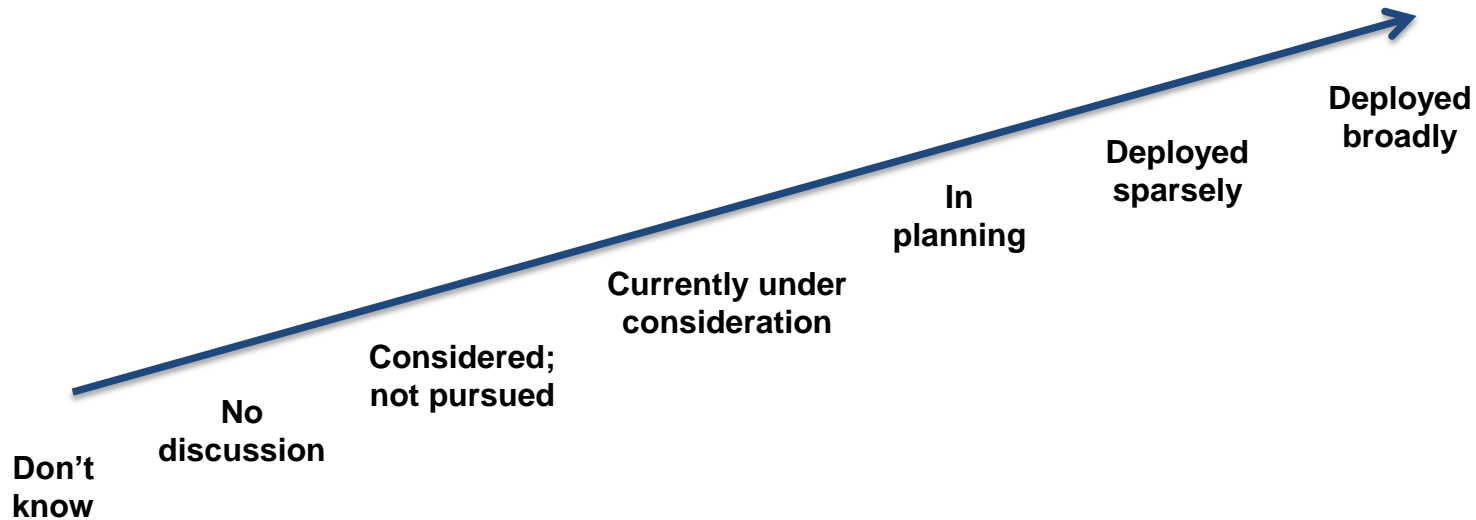
- For the 14 service areas we asked about, central IT has primary responsibility for mobile-enablement for more than 6 areas, on average.
- Institutions with smaller staffs and budgets said they are looking to vendors to take a larger role in mobile development.



* Scale = 0-14

Mobile-Development Strategies

Q: To what extent has your institution adopted the following technologies for deploying online services, applications, and websites to mobile devices?



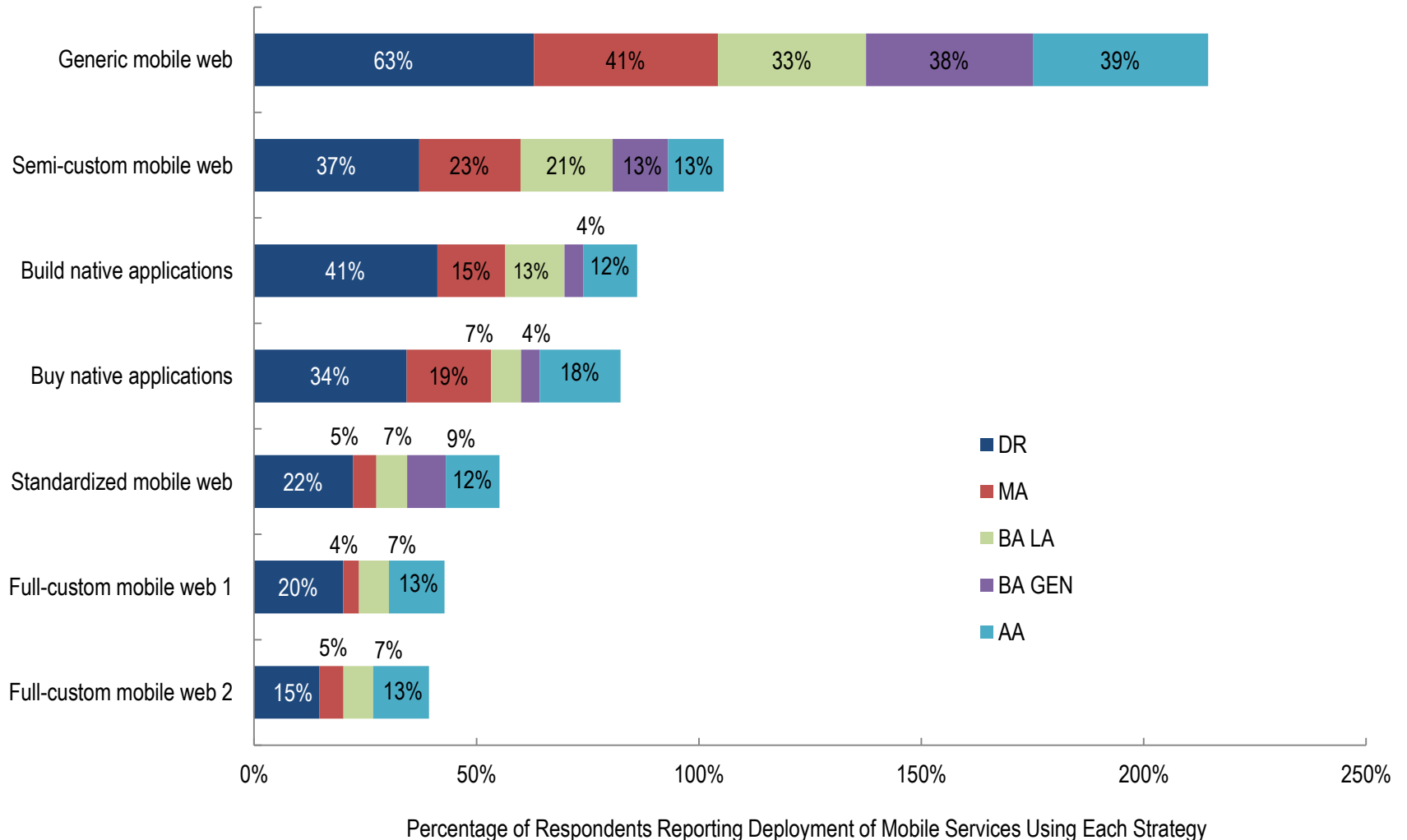
- Generic mobile web (improve display of existing items for generic device)
- Semi-custom mobile web (sense device and modify display)
- Full-custom mobile web 1 (sense device and modify multiple aspects)
- Full-custom mobile web 2 (sense device and provide new items)
- Standardized mobile web (use framework)
- Build native applications
- Buy native applications “off the shelf”

Mobile-Development Strategies, Defined

- Generic mobile web: Modify existing conventional web-based services to display better on generic mobile device screens.
- Semi-custom mobile web: Modify existing conventional web-based services to recognize specific mobile devices and customize display for them.
- Full-custom mobile web 1: Modify existing conventional web-based services to recognize specific mobile devices and use device-specific features such as voice input and geolocation.
- Full-custom mobile web 2: Develop new web-based services to recognize specific mobile devices and use device-specific features such as voice input and geolocation.
- Standardized mobile web: Adopt a standard framework for deploying online services to mobile devices, such as the UCLA Mobile Web Framework or Mobile Web OSP.
- Build native applications: Develop native applications for mobile devices in house.
- Buy native applications "off the shelf": Contract for the development of native applications for mobile devices.

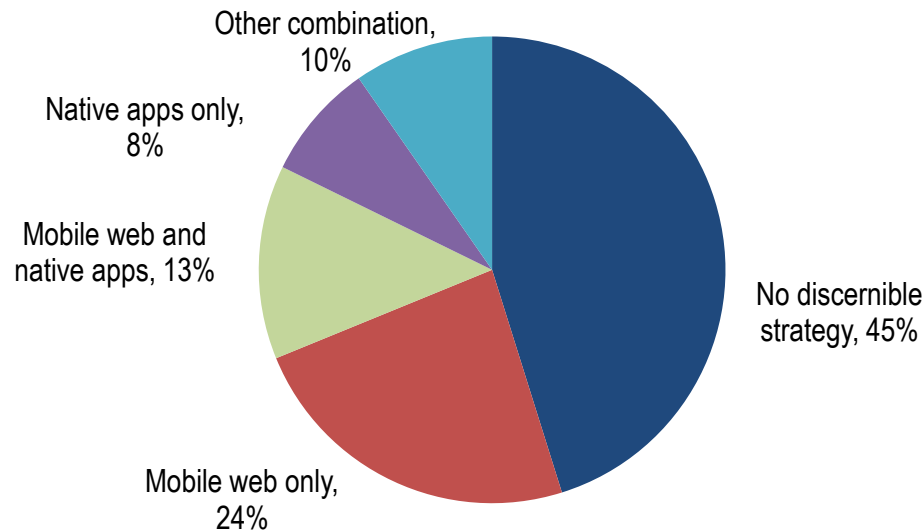
Most Activity is in Generic Mobile Web

Institutions Reporting Use of Mobile Strategies, by Carnegie Class (Multiple Responses Allowed)



Pattern of Inactivity is Reflected in Development Strategy

- When we organized development strategies into three groups—mobile web, native apps, and mobile frameworks—close to half of respondents appear not to be pursuing any of these strategies.
- Large percentages seem to be focusing on mobile web only or a combination of this and native apps.
- Adoption of mobile frameworks remains low.



A Balanced Approach to Development Strategy Appears to Lead to Progress

- Not surprisingly, institutions that appear to have intentionally adopted any strategy report greater progress.
- Institutions pursuing a mobile-development strategy that includes both mobile web elements and native apps report greater levels of progress than either those focused only on mobile web or only on native apps.

Attitudes About Cross-Institutional Collaborations

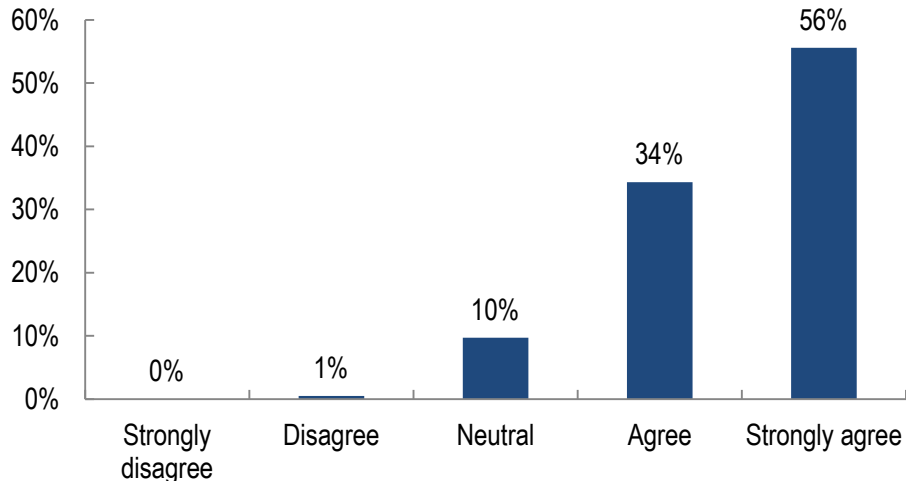
Q: Please indicate your agreement with each of the following statements about cross-institutional collaborations on IT solutions and services in higher education.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
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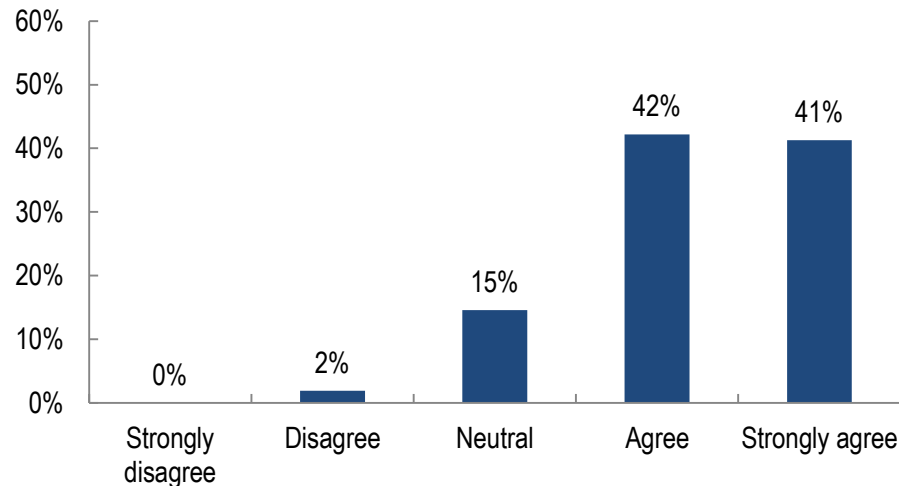
- I am personally in favor of cross-institutional IT collaborations.
- Cross-institutional IT collaborations would be a successful model for developing and maintaining higher education applications.
- Cross-institutional IT collaborations have the potential to save higher education significant sums of money.
- My institution might be willing to consider functional compromises required by cross-institutional IT collaborations if a strong case for savings could be made.
- Cross-institutional IT collaborations could never work for my institution because we have unique needs.
- Cross-institutional IT collaborations could never work for my institution because our institutional culture or leadership would oppose it.

Respondents Broadly Support Collaborations

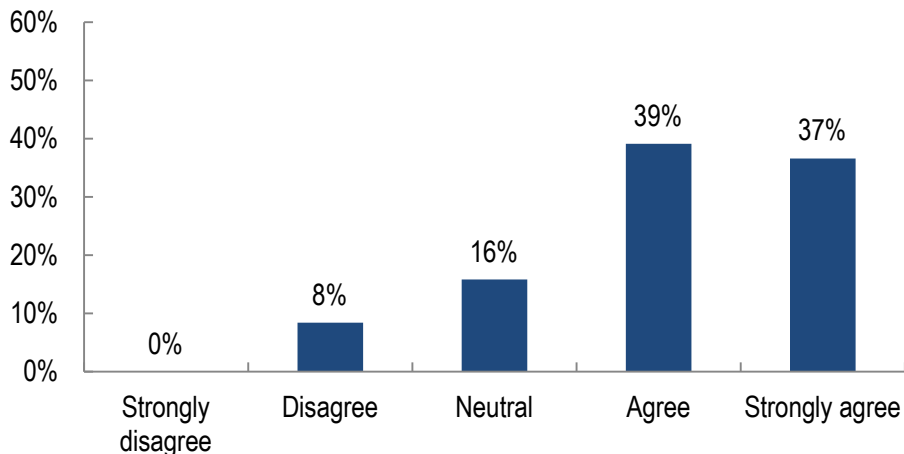
I am personally in favor of them. (n = 207)



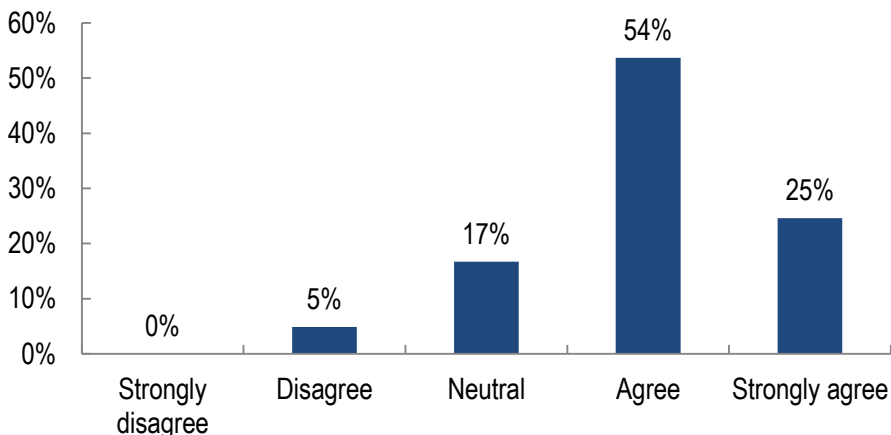
They would be a successful model. (n = 206)



They could save higher education money. (n = 202)

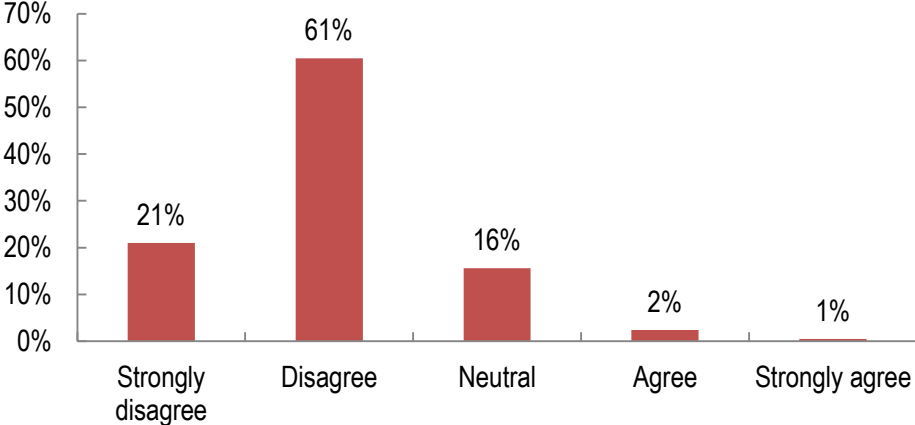


We might accept compromises to save money. (n = 203)

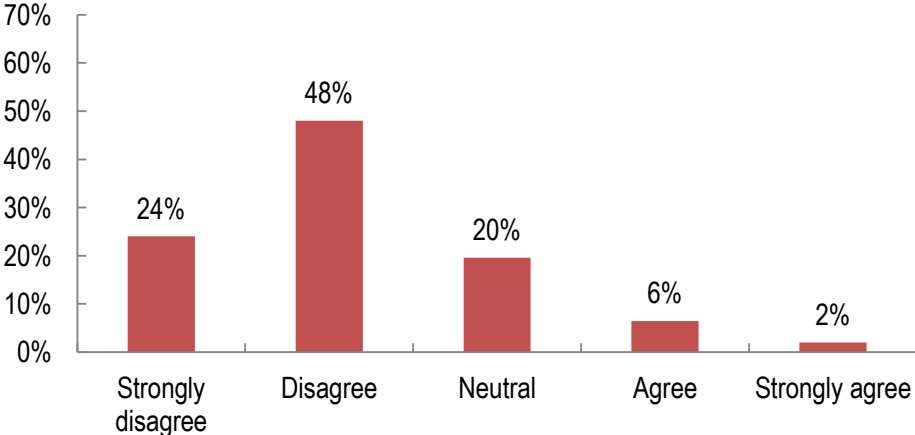


Few Institutions See Local Circumstances as Obstacles to Collaborations

Could not work here: we have unique needs. (n = 205)

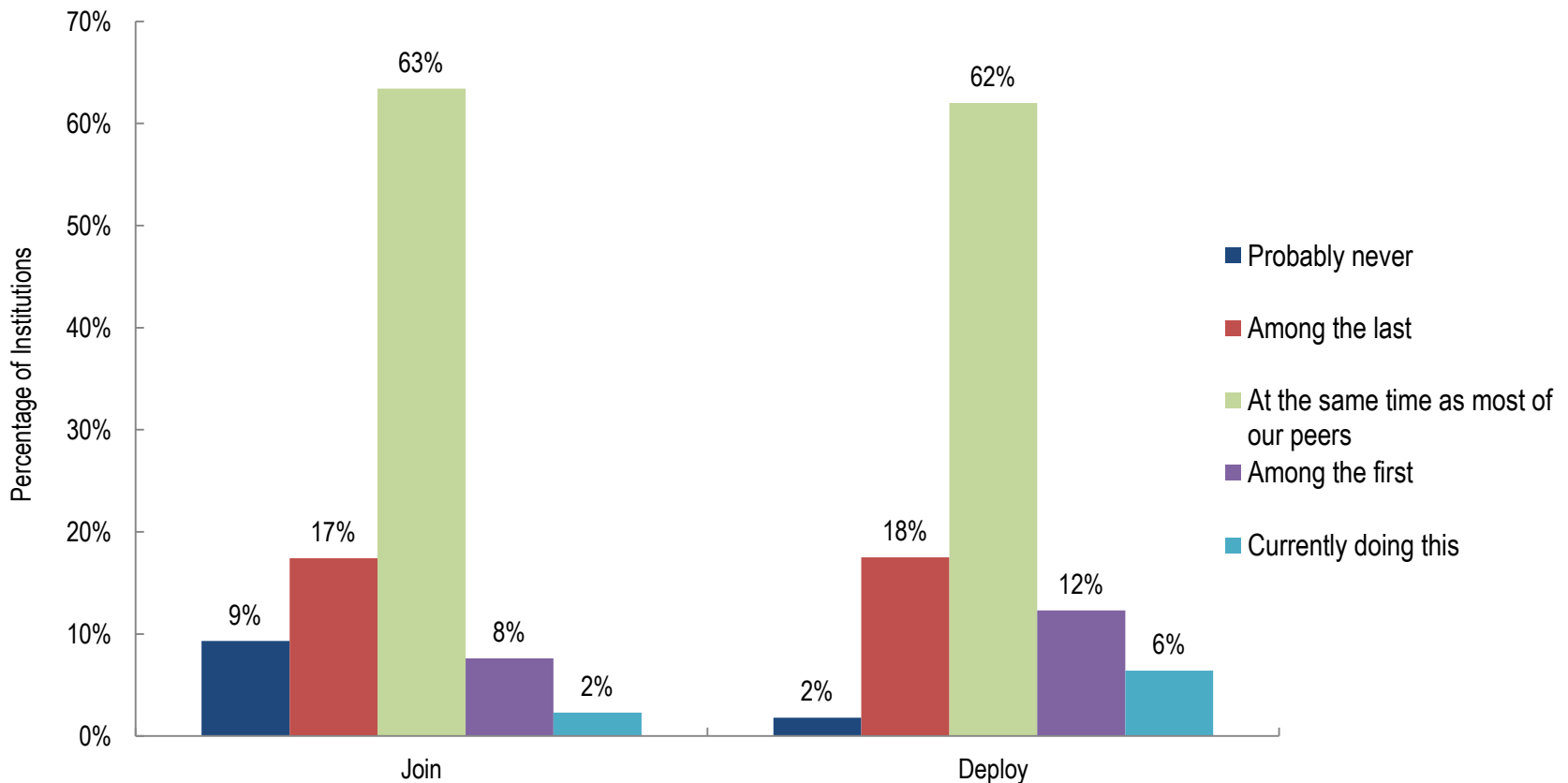


Could not work here: cultural opposition. (n = 204)



Most Respondents Are Mainstream Collaborators

- Asked when they would likely join a consortium or deploy its solutions, nearly two-thirds said “when their peers do.”
- Few institutions are currently active in collaborations.



For more information:

Mobile IT in Higher Education, 2011

<http://www.educause.edu/library/ERS1104>

Gregory Dobbin, Editor/Project Manager, EDUCAUSE (gdobbin@educause.edu)

Eden Dahlstrom, Senior Research Analyst, ECAR (edahlstrom@educause.edu)

Mark C. Sheehan, Senior Research Analyst, ECAR (*retired*)