

Key Findings

Spreading the Word: Messaging and Communications in Higher Education

Judith A. Pirani and Mark C. Sheehan

Today's higher education messaging and communications environments are a far cry from the staid days of fax machines and what has come to be known as "plain old telephone service" (or POTS). Nowadays, new forms of messaging and new ways of providing old ones are emerging all the time. The proliferation of increasingly sophisticated mobile devices offers new, feature-rich means for students, faculty, and staff to communicate and to access information on the fly. The emergence of Web 2.0 with its wikis, blogs, and social networking is transforming messaging mainstay e-mail into a multimodal and collaborative communication experience. Even the common desktop telephone is impacted, morphing into a multipurpose data network peripheral when institutions convert their telecommunications systems to voice over Internet Protocol (VoIP). And finally, the institutional communication and messaging environments now encompass a vital, growing element—emergency notification—as colleges and universities respond to the need to alert and guide their communities in times of crisis.

The changing messaging and communications landscape also affects the economics of messaging, resulting in growing scale, new sourcing options, and changing expectations about what institutions should do with their messaging capabilities. More and more institutional leaders are asking: When is it appropriate to outsource e-mail services? What services should be adapted for mobile device access? What mix of emergency notification services reaches the community and campus most effectively? Similarly, the IT organization finds itself addressing the technical, financial, and social implications of these questions' answers.

The desire to better understand these issues and their impacts provided the genesis for the EDUCAUSE Center for Applied Research (ECAR) study *Spreading the Word: Messaging and Communications in Higher Education*. The study offers guidance and direction by examining the institutional messaging and communications environment at large, as well as detailing current and anticipated practices in e-mail, landline telephony, mobile communications, and emergency communications, and how they fit with institutional strategies.

Methodology

Our research methodology included four major components: a literature review, a web-based quantitative survey, qualitative interviews, and case studies. The literature search helped identify and clarify issues, suggest hypotheses for testing, and provide supportive secondary evidence.

We designed and administered a web-based quantitative survey in July 2008 that explored how technologies for e-mail, calendaring, landline telephony, mobile communications, and emergency communications are used in higher education and where they fit in institutional strategies. The survey was distributed to institutional representatives (mostly senior IT leaders) at 1,694 EDUCAUSE member institutions. We received 351 responses, a 20.7% response rate. We supplemented the quantitative research with follow-up interviews with 37 senior IT leaders from a mix of institutions to gain deeper insights into findings from the quantitative analysis and to capture additional ideas and viewpoints.

Finally, we will publish three case studies. One, “Louisiana State University and A&M College: Optimizing Text Messaging and Other Emergency Notification Systems,” details that institution’s efforts to develop and refine its emergency notification systems (ENSs), most notably its text messaging service. A second, “University of Louisville: Fulfilling the Promise of VoIP,” investigates how UofL leveraged its VoIP implementation into a university-wide ENS. The third, “Massachusetts Institute Technology: Transforming the Campus Experience with the MIT Mobile Web,” details the development of MIT Mobile Web, that institution’s suite of mobile web-based applications.

Significant Findings

In *Spreading the Word: Messaging and Communications in Higher Education* we discovered a transitional messaging and communications environment, as IT organizations balance the diverging expectations and requirements of their faculty and staff members with those of their student populations. We found uneven levels of readiness to meet future requirements, with many institutions stepping up their efforts to enhance emergency notification abilities while lagging behind in the development of relevant applications and services for an increasingly mobile and collaborative constituency. In the following sections, we summarize and synthesize our findings about the institutional environment, e-mail, landline telephony, mobile communications, and emergency communications.

Getting the Message Out: Communications and the Institution

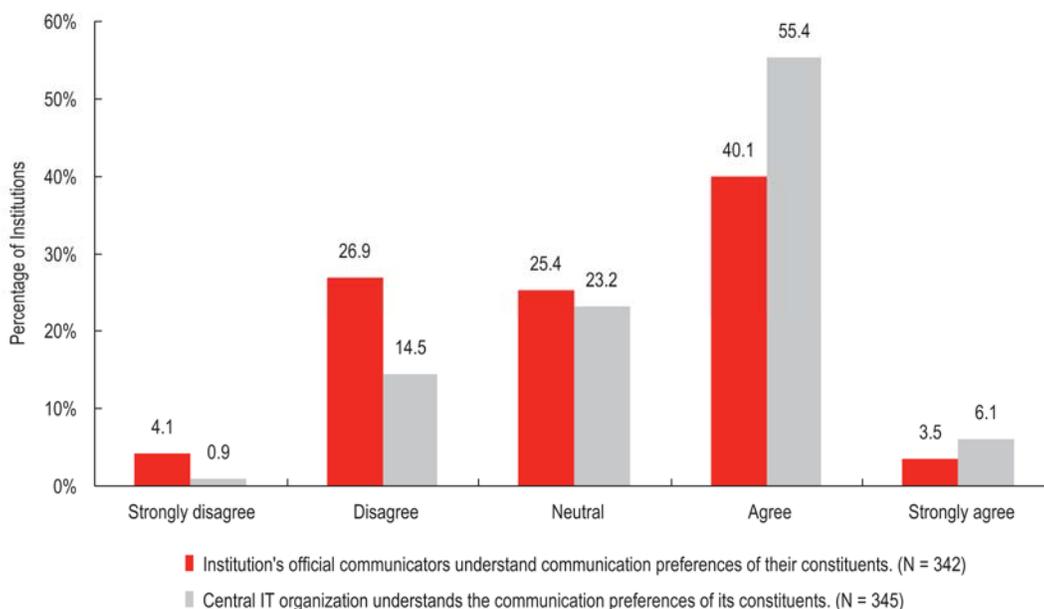
Communication is key to nearly everything, of course, and higher education is no exception. To better understand how institutions communicate electronically and their perceived satisfaction with their efforts, *Spreading the Word: Messaging and Communications in Higher Education* examined several characteristics of our survey respondent institutions: official communications, the infrastructure that supports them, and communicators’ awareness of their constituents’ communication technology preferences.

Survey respondents reported a mixed view of their institutions’ electronic communication efforts, agreeing that the institution’s electronically disseminated official information is accurate and timely,

but being somewhat less positive about those communications' other aspects: reaching intended recipients, and accomplishing communication goals.

Several factors produced more positive assessments. When asked if official communicators and the central IT organization understood the communication preferences of their constituents, most respondents were positive (see Figure 1). The institutions that evaluated most positively their understanding of these communication preferences also reported that they communicated the most successfully. Where agreement was stronger that the institution's messaging and communication infrastructure now meets the institution's needs and will meet them over the next three years, respondents reported a better understanding of the communication preferences of their constituents by both campus communicators and central IT. Where official communicators and central IT understand the communication preferences of faculty, staff, and students best, respondents were more likely to agree that electronically disseminated official information was timely, reached its intended recipients, and met its communication goals. Where the institution's pace of adoption of new messaging and communication technologies was fastest, respondents gave higher marks to all aspects of electronically disseminated official information.

Figure 1. Understanding of Constituents' Communication Preferences



Respondents generally felt that their current messaging and communications infrastructure was well positioned to meet their institution's needs; 6 in 10 respondents agreed or strongly agreed that this was the case. Looking outward presents a different view. Fewer than 45% said current infrastructure would meet those needs in three years.

Diverging Electronic Mail and Electronic Communications Environments

E-mail remains preeminent as the medium for official communications, but *Spreading the Word: Messaging and Communications in Higher Education* describes a growing divergence in respondent

institutions' electronic communications practices, as the faculty and staff members' environment evolves in a different direction from the student environment. The most striking example is in the explosive growth of outsourcing of the student e-mail environment, with nearly 2 in 10 respondents reporting that their primary student e-mail systems are now hosted by commercial providers (see Table 1). The story was very different for the primary faculty/staff e-mail system, with only 2.3% reporting that it is hosted commercially. Confidentiality of faculty/staff communications was a concern for institutions that otherwise might consider outsourcing of e-mail services for those constituencies, as were issues of control, security, and support. With students, fewer institutions appeared concerned about these issues.

Table 1. Host for Primary Student E-Mail System (N = 342)

Host	Percentage of Institutions
The central IT organization	77.2%
A commercial provider	19.0%
Another academic institution	2.6%
Another organization at the institution (school, college, center)	0.9%
Other	0.3%

On average, respondents predicted little change over the next three years in the importance of institutionally provided e-mail systems for faculty and staff but predicted that the importance for students would decrease somewhat, presumably because many respondents anticipate outsourcing those systems in that timeframe.

Another difference is the adoption of alternative communication technologies. Significant numbers of respondents felt that text messaging, RSS feeds, and social networking channels would do very little to reduce e-mail use for faculty and staff, but more than half expected SMS text messaging and social networking to result in decreased e-mail use among students in the next three years. Only about a third of respondents thought the third, less-interactive alternative that we asked about—RSS feeds—would have such an effect.

State of infrastructure and satisfaction with institutional e-mail services appear to go hand in hand. Majorities of respondents agreed or strongly agreed that faculty, staff, and even students are satisfied with institutional e-mail services. That satisfaction was greater both at institutions whose messaging and communication infrastructure was reported adequate to meet the institution's needs now and in three years and among institutions that characterized themselves as early adopters of new messaging and communication technologies. So it appears that some attention to "keeping up" with the expectations set by non-institutional e-mail providers pays off. Students, in particular, appeared sensitive to the currency of the messaging and communications environment.

Interestingly, respondents' e-mail environments are generally not tightly regulated. Fewer than half of institutions have written e-discovery policies in place, and fewer than half have e-records management policies for faculty/staff e-mail. Only a quarter have both e-discovery and e-records policies in place. Where e-records management policies are in place for faculty/staff e-mail, fewer than half of respondents said enforcement was consistent. E-records management policies for

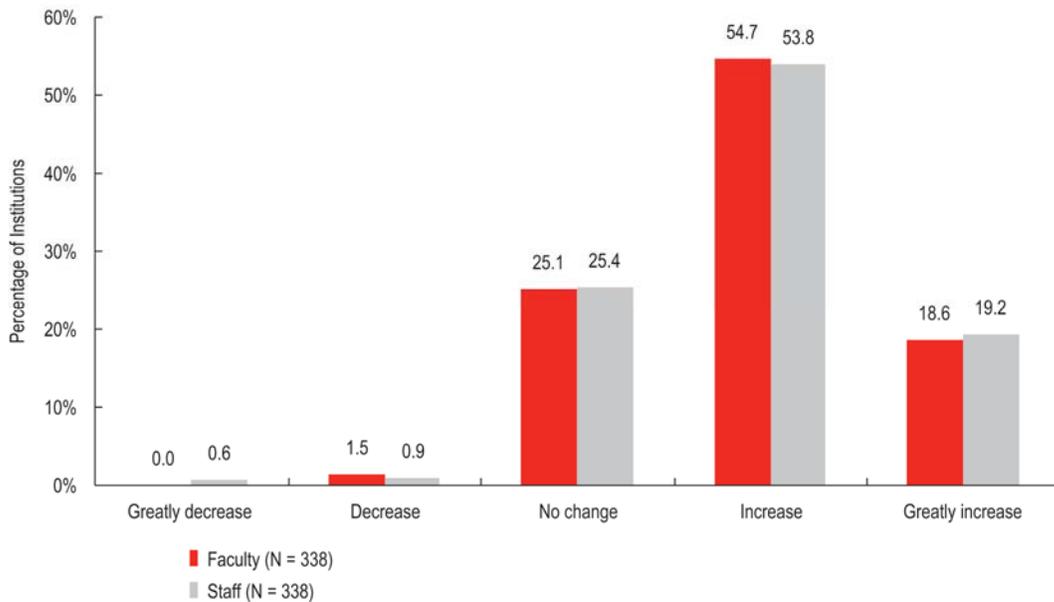
student e-mail are even rarer, with only a quarter of respondent institutions having one in place. Enforcement is better than for faculty/staff e-mail, with two-thirds of respondents saying it was somewhat consistent or very consistent. It will probably become clearer in time what the institution's real liability is in these matters; we hope the cost of that lesson will not be too high.

Telephone Services: VoIP's Ascent, Residence Hall Service's Decline

For the foreseeable future, the desktop telephone is likely to remain a ubiquitous office communication tool, as two-thirds of respondents agreed or strongly agreed that the landline telephone service the institution provides to faculty and staff will be financially sustainable over the next three years. Half said demand for faculty/staff landline telephone services would not change in that timeframe; a sixth said it would increase.

But how that desktop telephone connects to the telecommunication network is likely to change as more and more institutions replace their separate copper telephone wiring plant and private branch exchange (PBX) systems with VoIP, an alternative based on the data network. Nearly three-quarters of respondents anticipate VoIP's importance to faculty and staff to increase or greatly increase in the next three years (see Figure 2). About a sixth of respondents, overall, have completed their adoption of VoIP, and another third have work under way. Just 1 institution in 10 reported no plans to adopt the technology for faculty and staff.

Figure 2. Anticipated Change in Importance of VoIP-Based Landline Telephony for Faculty and Staff in the Next Three Years



Interestingly, completed VoIP projects have not always involved total replacement of the legacy PBX system. Of the one-sixth of respondent institutions that have completed work on their VoIP projects, only about half reported that all desksets now use VoIP. Where the project is still under way, a mean of just a bit more than half of desksets have been converted.

VoIP plays a much smaller role in the provision of telephone services to residential students. Many institutions with student housing do not plan a VoIP upgrade to their residence hall telephone service. Among the 288 respondent institutions that have residential students, 78.1% are not planning or are just considering a VoIP implementation for residential student landline telephony. Another 10.4% are just in the planning stage. The remaining 11.4% have projects under way or completed. This is less than one-fourth the percentage of institutions with VoIP projects under way or completed for faculty and staff. When we consider this lack of investment in residence hall telephony, along with the decision of many institutions to remove all or most telephone infrastructure from campus residence halls, we find at least circumstantial evidence to support what we already know: that mobile telephony is the ascendant voice communication technology for students, whether residential or not.

Mobile Devices and Services: Questionable Readiness to Meet Growing Demand

As mobile communication becomes more commonplace, *Spreading the Word: Messaging and Communications in Higher Education* peers into this phenomenon, reporting on the institutional support and provision of campus services for text messaging and handheld mobile communication devices.

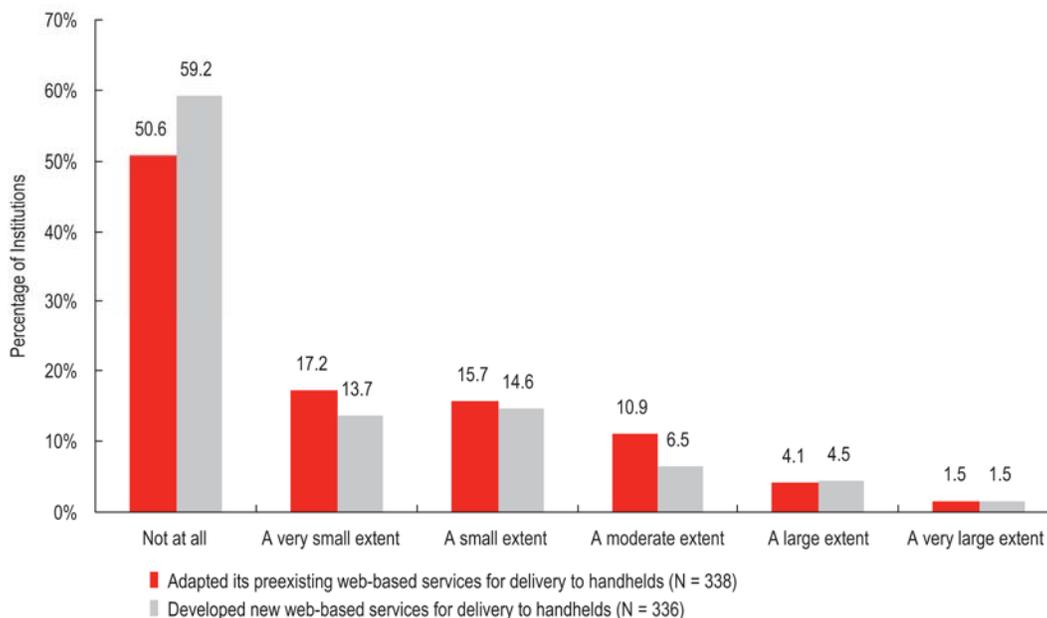
Mobile devices are in nearly everyone's hands now, and survey responses point to their growing role in higher education. Eight in 10 respondents said they anticipate an increase or great increase in demand for institutional financial support of faculty-staff mobile communication services in the next three years, and nearly two-thirds of respondents agreed that web-enabled handheld devices such as BlackBerry, iPhone, and Treo will be essential tools for the higher education professional in three years. Three-quarters of respondents agreed at some level that their ubiquity will cause the institution to make significant changes to online services in that timeframe.

But despite the universal recognition of mobile device's growing impact, our research revealed a troubling lack of preparation by higher education to handle growing demand for mobile services in a number of ways. First, whereas it is all but universally expected that the institution, and the central IT organization in particular, will provide landline telephone service to faculty and staff, only about half of institutions have a process in place to provide mobile communication services to those constituents, mostly by subsidizing or paying outright for services. Even among institutions that do that, relatively few faculty and staff are served in this way: Only about 1 institution in 10 reported doing so for more than 10% of faculty or more than 25% of staff. The institution's support for mobile communications for students is of a different sort. For that constituency, at around a third of respondent institutions, support comes in the form of agreements with mobile communication carriers to provide discounted prices to students for mobile services and devices.

Second, despite text messaging's popularity for many higher education students, at least for casual communications, institutions have been slow to introduce service offerings for official non-emergency communications. Of our respondent institutions, only 1 in 7 reported using text messaging to communicate with students; slightly fewer use it to communicate with faculty and staff. Fully two-thirds of institutions said they have adapted none of their preexisting online services for delivery via text messaging. Most of the rest have adapted them to only a small or very small extent.

Finally, we found that only half of respondent institutions have adapted any preexisting online services for handhelds. The numbers were worse for the development of new services; with 6 in 10 respondents saying they had developed no new ones (see Figure 3). Of the institutions saying they had a strategic plan for IT, only 4 in 10 said that plan identified mobile communications as an area of importance. And only 1 in 10 of all respondents said their institution had a documented strategy of any sort for making key institutional web services available via handheld devices.

Figure 3. Extent to Which Institution Has Adapted or Developed Web-Based Services for Delivery to Handheld Devices



Institutions that are further ahead in this effort often share a number of characteristics. More often than others, they described themselves as early adopters of new messaging and communication technologies in general, have adapted more preexisting online services for text messaging, and express stronger agreement that the handheld device is now essential and will be so in three years. They tended more often to report a documented strategy for providing web services to handheld devices, agree that their executive leadership understands the implications of doing that, and report that mobile communications is specifically identified as an area of importance in the IT strategic plan.

Crisis Communications: Meeting an Escalating Institutional Priority

Institutions commonly support the technical needs of students, faculty, and staff members for routine communications, but recent natural and man-made emergencies have created a new communications priority at many institutions: crisis communications. *Spreading the Word: Messaging and Communications in Higher Education* details institutions' preparations for such communications by looking at the communication channels institutions have chosen, the robustness of the systems those channels make up, the extent to which the systems are integrated, the institution's processes for managing emergency notifications, and respondents' assessment of their overall preparedness.

While some institutions clearly have gaps in their preparations to communicate during a crisis, our research shows that most have taken an organized, inclusive approach to planning and preparing for the worst and are confident in the robustness of the systems they have put in place.

Planning is an essential first step in preparing to communicate during a crisis, and three-quarters of our respondent institutions have risen to that challenge either by developing a stand-alone crisis communication plan or, more commonly, including crisis communication planning in their overall emergency response plans. Of those without a plan, most reported that one is under development. Three-quarters of respondents agreed or strongly agreed that their executive leadership places a high priority on crisis communication planning.

Nearly all respondents reported that their institution has a crisis communication team and an officer to lead it. For nearly a third of institutions the leader was situated in the public affairs office, but leaders also frequently come from the emergency services organization or the office of the president/chancellor. Central IT leadership of that group was very rare. Signaling the value of teamwork, where the institution's crisis communication team is made up of representatives from a larger number of campus organizations, respondents said the institution is better prepared to notify constituents of an emergency and—what would appear to be the most difficult crisis communication challenge—to communicate with external stakeholders.

We asked our respondents about their confidence in each of 11 ENS channels and about the performance of those channels in their most recent test. The channels were

- e-mail,
- automated telephone messaging,
- human-mediated telephone trees,
- SMS text messaging,
- dedicated emergency websites,
- outdoor public-address systems,
- indoor public-address systems,
- instant messaging,
- LAN-based pop-ups,
- RSS feeds, and
- social networking websites.

For each of the 11 channels, we found that at least two-thirds of its users tested it at least occasionally, and, while the average user's level of confidence in peak-load performance was rated "high" only for the e-mail channel, for 7 of the 11 channels, actual performance during the most recent test averaged "good" or better. Where performance of the channel was better, confidence in it was higher, and vice versa.

Most institutions aggregate to some extent a selection of emergency communication channels into an ENS, typically using 4 to 7 of the channels we asked about. Four of the six most common ENS channels—e-mail, SMS text messaging, dedicated emergency websites, and outdoor public-address systems—were also the channels in which mean confidence was highest.

Just over 4 in 10 of the institutions we surveyed have acquired an integrated emergency notification system (IENS) provided by a commercial entity. Confidence that delivery of notifications will be accurate and timely was higher where the institution has an IENS (see Table 2), although having an IENS made no meaningful difference in the number of ENS channels an institution reported using. Institutions with an IENS gave, on average, more positive responses about their preparedness in the event of a crisis to communicate with first-responders, notify constituents, communicate internally, and communicate with external stakeholders.

Table 2. Confidence That Delivery of Emergency Notifications Will Be Accurate, by Existence of an IENS

Existence of an IENS	Confidence That Delivery of Emergency Notifications Will Be Accurate		
	Mean*	N	Std. Deviation
No	3.62	193	0.967
Yes	4.11	138	0.843
Total	3.82	331	0.948

*Scale: 1 = very low, 2 = low, 3 = neither low nor high, 4 = high, 5 = very high

Overall, confidence that the institution’s emergency notifications would reach their intended recipients (accurate delivery) was a bit stronger than confidence that notifications would be received in time for the recipient to take appropriate action (timely delivery). Confidence in accurate and timely delivery was higher where respondents agreed that messaging and communication infrastructure meets the institution’s needs, where a written crisis communication plan is in place, where more ENS channels are in use, and where the ENS is tested more frequently. The existence of an institutional crisis communication plan and executive leadership that places high priority on crisis communication appears to make a significant difference in respondents’ sense of preparedness to communicate in an emergency.

Among the infrastructure elements that underlie crisis communications are the campus telephone and data networks, the local electrical grid, and local mobile telephone service. Loss of availability of any of these items could cripple the institution’s ENS and its other crisis communication procedures. When asked about each of these four infrastructure elements specifically, respondents were most confident that crisis communication procedures would function effectively if campus telephone service was unavailable, and they were least confident that those procedures could be effective if local mobile telephone service was unavailable. Confidence that the delivery of emergency notifications would be accurate and timely was higher where the institution was more confident that it could weather outages in each of the four infrastructure elements. And confidence that it could weather those outages was higher where respondents agreed that the institution’s executive leadership placed high priority on crisis communications.

Conclusion

In *Spreading the Word: Messaging and Communications in Higher Education*, respondent institutions reported that they were well-positioned to handle the burgeoning demands of emergency notification. Institutions typically have recognized the need, instituted plans, and implemented some emergency notification capability.

However, the study points to the need to recognize and understand the differing requirements of central IT's faculty/staff constituents and the student population and to address them accordingly. Collaboration and mobility are the new operatives for the student population, and to remain attractive to prospective students, institutions will have to create a communications and messaging environment that features those aspects of Web 2.0 as well as offer a robust mobile communications infrastructure and services to accommodate students' growing dependence upon their mobile devices. Any initiatives will have to accommodate many faculty and staff members' more traditional communication patterns, requiring a balance between the old and new—at least in the short term.

Judith A. Pirani and Mark C. Sheehan are Fellows with the EDUCAUSE Center for Applied Research.

A copy of the full study referenced above will be available via subscription or purchase through the EDUCAUSE Center for Applied Research (www.educause.edu/ecar).
