



INFORMATION TECHNOLOGY 2011 SURVEY ANALYSIS

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Introduction

This report presents the results of the University's annual Information Technology survey for 2011. This year's survey focused on the future uses of information technology and the implications for IT support services. Past surveys have focused primarily on satisfaction with existing technology services. This feedback is greatly valued and we will continue to solicit feedback from constituents, especially when services change. However, the IT Vision@2015 planning process¹ presented a unique opportunity to ask campus participants about the future of technology at CSU Northridge. Since August of 2010, the University has been engaged in a broad-based conversation about how technology will support teaching and learning, research and operations in the future. These conversations will inform the development of a five-year vision for technology at CSU Northridge that will establish short-term and long-term goals and strategies to guide IT investment and technology adoption decisions.

To support IT Vision@2015, the 2011 surveys focused on the expectations of faculty, students and staff in anticipation of their future use of technology, how they would like to see important IT services delivered and how their priorities for technology support may evolve in the future. Survey questions about the future emerged from the discussions held with faculty and staff throughout the fall semester. Areas of inquiry included the use of technology in instruction, the use of technology to support collaboration across campus and between campuses, and the use of technology as a means of accessing administrative services.

The 2011 survey included two additional areas of inquiry. Students were asked about their access, ownership and use of personal and campus-provided computing devices. Many of these questions were also asked of students in 2010. A separate report on this data has been prepared by the Classroom Technology Committee. Finally, the survey included several questions related to present technology services. In particular, respondents were asked about their preferred method for accessing technology support and for storing their data. Faculty members were also asked about their satisfaction with the Faculty Technology Center and the impact of recent changes in classroom technology support.

Methodology

The Division of Information Technology administered and analyzed an online survey of faculty, students and staff during the spring semester. Tailored survey instruments were developed in collaboration with the University's IT governance and advisory committees. Surveys were distributed in February to a random sample of 10,000 students, and to all faculty and staff. Invitations to participate were sent by email, and the survey was completed online.

Surveys were completed by 1,687 students, 323 faculty, and 503 staff representing all of the academic and administrative divisions of the University. Response rates by population are summarized in Table 1.

Table 1: 2011 Survey Response Rates

| Population | Invited to Participate | Completed Surveys | Response Rate |
|------------|------------------------|-------------------|---------------|
| Students | 10,000 | 1,687 | 16.9% |
| Faculty | 2,059 | 323 | 15.7% |
| Staff | 2,028 | 503 | 24.8% |

Additional descriptions of survey respondents are presented in Appendix A.

¹ More information about the IT Vision@2015 can be found at the project web site at <http://www.csun.edu/it/vision@2015/>

Key Findings

The 2011 IT survey gathered perspectives on the future of University technology. Survey questions to students, faculty and staff were crafted to support IT Vision@2015. The Vision process is a year-long conversation about the ways in which the University uses and manages technology in addition to considering the ways technology may evolve in the next five years.

The survey results reveal that students, faculty and staff anticipate that the use of technology will continue to grow. They foresee increased use of technology in teaching and learning inside the classroom and in support of online learning. All three groups anticipated an increasing importance of technology services that support greater mobility and new modes of communication between colleagues and constituents. The majority anticipated that they will continue to prefer that the University provide (or arrange the provision of) technology services such as email, storage and hardware repair instead of enabling individual users to arrange for these services through a commercial provider of their own choice.

Students

- Respondents on average agreed (mean 4.21) that in three to five years students will expect the University to provide more technology support than today.
- In three to five years, respondents on average agreed (mean 4.18) that students will expect more technology to be used in their courses.
- 71% of respondents thought it likely or highly likely that in three to five years students will prefer to use their mobile devices to access the majority of student services.
- The services that students thought will become more important seem consistent with their expectations that more students will have devices capable of accessing the Internet that they can carry with them to campus (Table 5).

Faculty

- A majority of respondents (58%) agreed or strongly agreed that their needs for technology in the classroom in three to five years will significantly exceed what is available today.
- A slight majority (51%) agreed or strongly agreed that in this same time frame, they will increase the frequency of use of technology to incorporate guest lecturers into their courses.
- Three quarters of faculty believed it likely or highly likely that the majority of courses offered by the University will include an online component within three to five years.
- Faculty on average anticipate that all eight of the technology services included in their survey (access to a university-owned desktop or laptop computer, access to course software from my own computer, access to course software from on-campus computer labs, ability to store coursework files somewhere other than my computer or flash drive, @csun.edu email account, in-person support for technology questions, phone or chat support for technology questions, access to shared peripherals such as printers while on campus) will increase in importance in the next three to five years.
- The majority of faculty respondents agreed or strongly agreed they will need help to select technologies for their courses (66%) and to restructure their courses to take advantage of available technologies (68%).
- Among faculty familiar with the Faculty Technology Center (FTC), the majority agreed or strongly agreed that the types of services available are helpful, the staff is usually able to address problems and is knowledgeable of the technologies the faculty member uses.

Staff

- Among the changes we inquired about, staff thought it most likely that the University will need to use technology to create the capacity to deliver services to students without requiring them to come to campus. Nearly 68% of staff thought it likely or highly likely that the University will require this capacity within three to five years.
- On average, respondents thought it would be relatively more likely that social media sites will become an essential device for communicating with students and that video or chat conferencing will become a preferred method of communication among staff.
- Access to work software from the staff member's own computer received the highest mean change in importance followed closely by the ability to store files somewhere other than a computer hard drive or flash drive.

Implications for the IT Vision

Survey findings reinforce the qualitative discussions of the future that the IT Vision@2015 planning process has generated. Respondents' expectations for the future emphasize the importance of IT strategies to support greater mobility among technology users. Findings also suggest that the University prepare its technology infrastructure and instructional support services to enable a more extensive and varied use of classroom technologies and digital content. Creating scalable, efficient support models to assist faculty to integrate technology into their courses will also be a priority.

The anticipated adoption of mobile devices including tablets capable of accessing the Internet has substantial implications for technology and broader University services. Network infrastructure, information and security policies and support models must be prepared in the future for near universal ownership and use of these devices by faculty, students and staff on campus. Technology and administrative services must also prepare to meet student expectations to use their mobile devices to access student services and information.

Respondents' expectations that the importance of technologies and services will increase in the future are not surprising. Given their experiences of the last five years, it is difficult to imagine that technology will not be used to support more activities, more extensively. Given constrained resources, the University will need its IT governance structure to advise in setting clear priorities for services and service levels.

Respondents expressed an expectation that the University will continue to be the preferred provider for several technologies that are moving to become commodities (e.g., email, hardware repair and storage). We cannot tell from the survey data what issues or concerns led the majority to reach this conclusion. On the surface, one might think that offering more freedom of choice to individuals would be viewed positively. Perhaps lack of awareness of alternatives, concerns about data security, or uncertainty about the cost of alternative services weighed on respondents' minds. If we seek to change the way we provide these services in the future, it will require further discussion of the options and implications with constituents.

Future Use of Technology

In this section, we summarize responses we received from faculty, students and staff about how they anticipate the use of technology will evolve in the next three to five years.

Student Use of Technology

Overall, students expect the University to use and to support more technology in the future than today. Using a five point agreement scale, respondents on average agreed (mean 4.21) that in three to five years students will expect the University to provide more technology support than today. In the same time horizon, students on average also agreed (mean 4.18) that students will expect more technology to be used in their courses.

Respondents anticipated that future students will own devices capable of accessing the Internet and will want to use these devices to access a variety of services (Table 2). A significant majority of students (88%) believe it is likely or highly likely that within three to five years nearly all students will own a mobile device (e.g., netbook, iPad, or smartphone) capable of accessing the Internet. Given that slightly more than half of respondents (59%) reported owning a smartphone capable of accessing the internet today, it is not surprising that students would anticipate that ownership would become near universal within five years.

The majority of students also reported it likely or highly likely that future students will want to use their mobile devices to access CSUN services. In fact, 71% of respondents thought it likely or highly likely that in three to five years students will prefer to use their mobile devices to access the majority of student services. A slight majority (51%) thought it likely or highly likely that students will want to access student services through social networking sites as well.

Many students also anticipated a shift from textbooks to electronic course materials in three to five years. Among responding students, 12% own an e-book reader today and about 40% of these students use their e-book reader for their coursework. In three to five years, 42% of respondents thought it likely or highly likely that students will prefer to use e-books rather than traditional textbooks. E-books are just one form of digital course material. Our survey did not ask students about their likely future preferences to use simulations, interactive web sites or other forms of digital course content.

Table 2: Future Student Use of Technology

| What is the likelihood the following will occur in the next 3-5 years? | N | Mean | Std. Deviation |
|-------------------------------------------------------------------------------------------------------------------|------|------|----------------|
| Nearly all students will own a mobile device (e.g., smartphone, iPad, netbook) capable of accessing the internet. | 1828 | 4.46 | 1.006 |
| Students will prefer to use their mobile devices to access most CSUN student services. | 1792 | 3.93 | 1.086 |
| Students will want to access CSUN student services through social networking sites such as Facebook. | 1751 | 3.49 | 1.189 |
| Students will prefer to use e-books rather than traditional printed textbooks. | 1766 | 3.23 | 1.264 |

Scale: 1 – highly unlikely, 2 – unlikely, 3 – neither likely or unlikely, 4 – likely, 5 – highly likely

Faculty Use of Technology

Faculty anticipate that technology will be prevalent in their teaching and research in the next three to five years. In research, a majority of faculty respondents (52%) agreed or strongly agreed that they will use technology to facilitate research collaborations with faculty at other institutions. A majority of respondents (58%) agreed or strongly agreed that their needs for technology in the classroom in three to five years will significantly exceed what is available today. A slight majority (51%) agreed or strongly agreed that in this same time frame they will increase the frequency of use of technology to incorporate guest lecturers into their courses. A smaller percentage of respondents (29%) agreed or strongly agreed that they would use technology to teach all or part of a course in collaboration with faculty at another institution.

Faculty saw online learning becoming more prevalent at the University. Three quarters of faculty respondents believed it likely or highly likely that the majority of courses offered by the University will include an online or web-enabled component within three to five years. This could include fully online courses as well as hybrid courses that meet both online and in-person.

The survey delved deeper into the future use of particular technologies in teaching and learning. Using a five point likelihood scale, respondents thought it was between neutral and likely that electronic course content would displace traditional textbooks in their courses. Faculty respondents provided similar assessments of the likelihood they would incorporate simulations into their teaching, require multi-media assignments and incorporate mobile devices into their teaching. Faculty thought it least likely that they would incorporate augmented reality (e.g., virtual worlds) into their teaching. Table 3 summarizes the mean likelihood reported by faculty.

Table 3: Future Use of Technology in Courses (Reported by Faculty)

| What is the likelihood that the following will occur at CSUN in the next 3 - 5 years? | N | Mean | Std. Deviation |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|----------------|
| The majority of CSUN courses will include an online component. | 330 | 4.02 | 1.083 |
| Electronic course content (e.g., e-books, interactive web-sites and materials) will displace textbooks as the primary course support material. | 318 | 3.58 | 1.245 |
| I will incorporate simulations into my teaching. | 299 | 3.47 | 1.270 |
| I will require students to incorporate multimedia (e.g., video, sound clips) in course assignments. | 323 | 3.29 | 1.364 |
| I will incorporate mobile computing devices (e.g., smartphones, iPads, and other tablet computers) into my teaching. | 317 | 3.11 | 1.332 |
| I will incorporate augmented reality (e.g., virtual worlds such as Second Life) into my teaching. | 283 | 2.17 | 1.136 |

Scale: 1 – highly unlikely, 2 – unlikely, 3 – neither likely or unlikely, 4 – likely, 5 – highly likely

Staff Use of Technology

Staff also anticipate technology use in the next three to five years to alter their work and the services that they provide. Among the changes we inquired about, staff thought it most likely that the University will need to use technology to create the capacity to deliver services to students without requiring them to come to campus. Nearly 68% of staff thought it likely or highly likely that the University will require this capacity within three to five years.

As Table 4 illustrates, staff also thought it likely that technology will be incorporated into how they communicate with one another and the students, faculty and staff members they serve. On average, respondents thought it would be relatively more likely that social media sites will become an essential device for communicating with students and that video or chat conferencing will become a preferred method of communication among staff. Staff reported it less likely (mean close to neutral) that video or chat conferencing would become a preferred method of communications with recipients of services.

Table 4: Future Use of Technology in Services and Communication

| What is the likelihood that the following will occur at CSUN in the next 3 - 5 years? | N | Mean | Std. Deviation |
|---------------------------------------------------------------------------------------------------------------------------------------|----------|-------------|-----------------------|
| CSUN will require the capacity to deliver services to students without requiring them to come to campus. | 476 | 3.90 | 1.196 |
| Social media sites like Facebook or Twitter will be essential for communicating with students. | 465 | 3.68 | 1.176 |
| Video (chat or conferencing) will become the preferred way of communicating among professional colleagues. | 486 | 3.33 | 1.202 |
| Video (chat or conferencing) will become the preferred method of communicating with the students, faculty, and/or staff that I serve. | 476 | 2.92 | 1.220 |

Scale: 1 – highly unlikely, 2 – unlikely, 3 – neither likely or unlikely, 4 – likely, 5 – highly likely

Future IT Service Environment

Students, faculty and staff were asked to report the change in importance they anticipated in the next three to five years for several common technology services. Also, we sought to understand whether respondents might see some of these services as becoming commodity services they would prefer to receive from providers other than the University within the next three to five years.

Students and Future IT Services

Students were asked to evaluate the potential change in importance of seven technology services including email, storage, support, access to specialized course software, and access to peripherals. Students on average expected all seven to increase in importance. On a five point importance scale, mean responses ranged from a low of 3.46 for a storage alternative other than a local hard drive or flash drive to a high of 4.56 for access to course software from a student's own computer. A similarly high mean importance of 4.50 was reported by students for access to printers on campus. The services that students thought would become more important seemed consistent with their expectations that more students will have devices capable of accessing the internet that they could carry with them to campus (Table 5).

Table 5: Anticipated Change in Importance of IT Services (Reported by Students)

| How will the importance of the following CSUN services for students change in the next 3 - 5 years? | N | Mean | Std. Deviation |
|-----------------------------------------------------------------------------------------------------|------|------|----------------|
| Access to course software from my own computer | 1810 | 4.56 | 0.706 |
| Access to printers on campus | 1801 | 4.50 | 0.795 |
| Access to course software from on-campus computer labs | 1791 | 4.26 | 0.885 |
| CSUN email account (e.g., @my.csun.edu) | 1811 | 4.17 | 0.949 |
| Phone or chat support for technology questions | 1792 | 3.95 | 0.907 |
| In-person support for technology questions | 1772 | 3.72 | 1.048 |
| Store coursework files somewhere other than my computer or flash drive | 1664 | 3.46 | 1.098 |

Scale: 1- significantly less important, 2 – less important, 3 – neither more nor less important, 4 – more important, 5 – significantly more important

Most students anticipate that the University will remain the preferred provider for data storage, email, and hardware support. For each of these services, a greater percentage of respondents identified the University as their anticipated preferred provider over a commercial provider of the student's choice or an option that the service would no longer be important. The one exception was hardware support for mobile devices. Perhaps, owing to students' current reliance on cell phone providers to support their existing smartphone, a majority (54%) anticipate that a commercial provider will be the preferred option in the future for mobile device support. A quarter of respondents thought mobile device support should be a University provided service in the next three to five years.

Faculty and Future IT Services

On average, faculty anticipate that all eight of the technology services included in their survey (access to university-owned desktop or laptop computer, access to course software from my own computer, access to course software from on-campus computer labs, ability to store coursework files somewhere other than my computer or flash drive, CSUN email account, in-person support for technology questions, phone or chat support for technology questions, access to shared peripherals such as printers while on campus) would increase in importance in the next three to five years. Perhaps, because of a general expectation that they

would use more technology in teaching and research, faculty rated all eight as having a mean change in importance of 3.76 (between neutral and more important) or greater. The highest mean changes were anticipated for access to course software from the faculty member's own computer, phone or chat support for technology questions, and CSUN provided email. The lowest increase in importance were anticipated for access to course software from computer labs and access to a University owned computer (3.82) or shared peripherals (3.88).

Many faculty anticipated need for more extensive support to incorporate technology into their teaching. The majority of faculty respondents agreed or strongly agreed they will need help to select technologies for their courses (66%) and to restructure their courses to take advantage of available technologies (68%). Another 15% were neutral towards both statements and few disagreed. In light of these expectations, it will be important to develop a scalable, effective support model for faculty as they increase their use of technology.

Like students, faculty members saw the University as the preferred future provider of email, file storage and hardware support for laptops and desktops. Between 60% and 70% of respondents identified the University as preferred to a commercial provider of the faculty member's choice for each of these services. Faculty members were less certain as to the preferred future provider of hardware support for mobile devices. The largest portion (45%) chose the University followed by 29% who selected a commercial provider. The remainder thought the service would not be important (8%) or did not know (17%).

Staff and Future IT Services

Staff also reported an anticipated increase in importance for all the services that they were asked to evaluate (Table 6). There were only small differences in the mean change in importance anticipated across the services. Access to work software from the staff member's own computer received the highest mean change in importance followed closely by the ability to store files somewhere other than a computer hard drive or flash drive. Other services with mean importance greater than 4 (increase) included phone or chat support for technology questions, access to a university owned desktop or laptop, and a University email address.

Table 6: Anticipated Change in Importance for IT Services (Reported by Staff)

| How will the importance of the following CSUN services for staff change in the next 3 - 5 years? | N | Mean | Std. Deviation |
|--------------------------------------------------------------------------------------------------|-----|------|----------------|
| Access to work software from my own computer | 498 | 4.19 | 0.895 |
| Store work files somewhere other than my computer or flash drive | 475 | 4.12 | 0.965 |
| Phone or chat support for technology questions | 499 | 4.05 | 0.887 |
| Access to university-owned desktop or laptop computer | 493 | 4.05 | 1.008 |
| CSUN email account (e.g., @csun.edu) | 496 | 4.04 | 0.958 |
| Access to shared peripherals (such as printers) while on campus | 482 | 3.88 | 1.001 |
| In-person support for technology questions | 497 | 3.78 | 1.039 |

Scale: 1- significantly less important, 2 – less important, 3 – neither more nor less important, 4 – more important, 5 – significantly more important

Staff respondents' assessment regarding from whom they would prefer to obtain email, hardware support, storage and mobile device support was very similar to that of the faculty. A large majority anticipate that the University will be the preferred provider for all but mobile device hardware support.

Faculty Technology Center and Classroom Support

In addition to gleaning insights about the future, the faculty survey also inquired about satisfaction with very targeted areas of service. Specifically, the faculty survey asked for feedback regarding the Faculty Technology Center (FTC) and support for classroom technology.

Among faculty familiar with the FTC, the majority agreed or strongly agreed that the types of services available are helpful, the staff is usually able to address problems and is knowledgeable of the technologies the faculty member uses. Fewer than 8% disagreed or strongly disagreed with each of the three statements about FTC capabilities. Faculty members' mean responses were comparable to the 2010 survey results (Table 7).

Table 7: Assessment of FTC Capabilities

| Q: Please indicate your level of agreement with the following statements regarding the service you receive from the FTC | 2010 Mean* | 2011 Mean* (N = 257) |
|--------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------|
| The types of services available through the FTC are helpful to me. | 3.84 | 3.72 |
| The FTC staff is usually able to address my problem or question. | 3.85 | 3.81 |
| The FTC staff is knowledgeable about the technologies I need to use. | 3.85 | 3.72 |

*Scale: 1 – strongly disagree, 2 – disagree, 3 – neither agree nor disagree, 4 – agree, 5 – strongly agree

Faculty respondents were also asked to assess the impact on smart classroom service of a new classroom support phone number (X1500). The majority of respondents (61%) had not used the service or had no opinion. Among the 95 respondents that offered an assessment of the change, 37% said it had been a major improvement, 25% a minor improvement, and 23% reported service had neither improved nor declined. The remainder (15%) reported service had suffered a minor or major decline.

Conclusion

The 2011 survey results confirm the importance students, faculty, and staff place on technology and validate that their expectations of technology is becoming more integral to their work. The results also suggest that the University has the opportunity and the challenge to explore how mobile technologies, social media and other recent innovations will alter the way that information is accessed and analyzed, services are experienced, and collaborations are sustained. Capitalizing on these opportunities efficiently and within available resources will challenge the University. It will necessitate being strategic about the technologies and services adopted and flexible about how services are provided. It also requires careful consideration about when to tailor a service to meet unique needs and when to adopt a more common solution in order to have resources available to invest in other priorities. The IT Vision@2015 process informed by these survey results will identify frameworks and priorities that will guide these decisions.

Appendix A – Overview of Respondents

Note: Due to rounding, some tables total more than 100%.

Staff Respondents by Division (N = 579)

| Division | Percent |
|----------------------------|---------|
| Academic Affairs | 32.5% |
| Administration and Finance | 25.9% |
| Associated Students | 3.3% |
| Student Affairs | 15.9% |
| University Advancement | 4.0% |
| Information Technology | 10.7% |
| University Corporation | 4.2% |
| University Student Union | 2.8% |
| President's Office | .9% |

Faculty Respondents by College (N = 366)

| College | Percent |
|----------------------------------------------------|---------|
| Mike Curb College of Arts, Media and Communication | 11.8% |
| Business and Economics | 9.3% |
| Michael D. Eisner College of Education | 14.2% |
| Engineering and Computer Science | 5.2% |
| Health and Human Development | 13.4% |
| Humanities | 12.8% |
| Science and Mathematics | 12.3% |
| Social and Behavioral Sciences | 12.8% |
| Tseng College of Extended Learning | 1.6% |
| Oviatt Library | 2.5% |
| Other | 4.1% |

Student Respondents by College (N = 1977)

| College | Percent |
|----------------------------------------------------|---------|
| Mike Curb College of Arts, Media and Communication | 14.6% |
| Business and Economics | 16.5% |
| Michael D. Eisner College of Education | 7.2% |
| Engineering and Computer Science | 7.8% |
| Health and Human Development | 13.7% |
| Humanities | 7.0% |
| Science and Mathematics | 7.5% |
| Social and Behavioral Sciences | 19.7% |
| Tseng College of Extended Learning | 0.53% |
| Undeclared major | 3.9% |
| Don't Know | 2.3% |

Appendix B – Additional Data Tables

Primary File Storage Solution

| Solution | Students (N = 1707) | Faculty (N = 328) | Staff (N = 503) |
|-----------------------------------------------------------------|--------------------------------|------------------------------|----------------------------|
| I use CSUN file storage (e.g., Udrive) | 9.0% | 16.5% | 59.8% |
| I use another file storage service (e.g., Google docs, Dropbox) | 20.4% | 16.5% | 3.0% |
| I don't store my files anywhere other than my desktop or laptop | 58.6% | 44.2% | 25.5% |
| Other | 12.1% | 22.9% | 11.7% |

Preferred Method of Receiving Technical Support at CSUN (Check all that apply)

| Method | Students (N = 1707) | Faculty (N = 323) | Staff (N = 503) |
|---------------------------------------|--------------------------------|------------------------------|----------------------------|
| Phone | 48.2% | 70.0% | 64.6% |
| Email | 66.1% | 63.8% | 54.5% |
| Chat | 39.7% | 30.3% | 38.2% |
| In-person (walk-in center) | 59.8% | 67.2% | 59.6% |
| Self-help online guides and tutorials | 31.7% | 48.0% | 35.0% |
| Other | 0.8% | 3.1% | 3.6% |