2020 Information Technology Vision and Priorities
July 24, 2014

Information technology (IT) plays a large supporting role in most of our professional and personal activities. It is used to communicate, to register for classes, to document patient visits, to conduct research, and to provide instruction to learners across the world, as a few examples. Changes and improvements in information technology enable us to perform our jobs better and faster. For students this includes being able to view records of class lectures at any time of day. For faculty the improvements allow expanded teaching and scholarly activities, and can be tied with pedagogical changes to improve student success. For physicians the changes can enable improved collaborations with other physicians and increased access to data that can support patient care. For researchers it includes using technology to improve the speed by which data is acquired, stored and analyzed, and the speed by which researcher collaborations can be made.

At Saint Louis University, information technology is more than just a set of tools; it is a means of facilitating activities that directly support the Catholic, Jesuit mission of the University (http://www.slu.edu/mission-statement). When planning for the future, the Saint Louis University information technology vision supports excellence in teaching, research, health care and service to the community. The information technology vision, priorities, and resulting strategic plan focuses not only on improving academic, research, and medical operations, but they also support the pursuit of truth for the greater glory of God and for the service of humanity. This is what makes information technology different at Saint Louis University and differentiates how information technology resources and investments will be used for a greater purpose.

In developing a vision and set of priorities for information technology investments, it is first appropriate to provide an overview of the current state of information technology operations. The following is a high-level assessment of information technology operations at Saint Louis University as of the spring 2014.

- Most services such as email, Banner, the learning management system (Blackboard) and the electronic health records system (EPIC) are reliable with few unplanned outages. Most operational activities are reliable and are meeting the base needs of Saint Louis University students and employees.
• Although information technology products and services are seen as reliable, there is a perception that much of the technology is old and is not supportive of new technologies used by students, faculty, physicians, researchers, or staff.

• While information technology activities are largely driven by academic, clinical, research or administrative requests there is a need to better plan and align future information technology activities to the short-term and long-term objectives of each unit.

• The delivery of information technology uses a model that is traditional in nature. The current model includes policy, procedure, and information technology services that outline specific uses for information technology products and services. The model focuses on delineating between supported and unsupported devices, software, or other activities instead of creating a technology ecosystem that enables agility and flexibility. While the traditional model of information technology service delivery is common in most universities, the model is not sustainable with the ever-changing expectations of students, faculty, physicians, researchers, and staff, and with the changing landscape of technologies that are being used at Saint Louis University.

• The University has a wealth of data that can be used for decision making. New reporting tools are being implemented, although more work will need to be done in order for on-demand and dashboard reports to be available to constituents based on the types of information needed in their role.

The intention for the 2020 Information Technology Vision and Priorities document is to identify how information technology will change in the coming years. Typically these changes are not driven by an information technology division, but instead they reflect the changing needs of university constituents. In order to develop a 2020 vision for information technology at Saint Louis University it is prudent to first begin with how students, faculty, physicians, researchers, and staff see their activities changing in the coming years. The following are the major themes identified by each constituent and include one or more brief case studies.

Student Activities

• Increasing the development of leadership, organizational, and interpersonal skills through the promotion of extracurricular involvement, emphasizing community engagement on a local and global scale.

• Improving engagement in intellectual inquiry both in the classroom and outside in the greater community.

Case Studies

“Looking to the future, I would like seamless integration of everything I use and reliable/continuous connectivity with regards to phone and Internet service. I, much like the majority of my peers, do not have unique technology uses despite a heavy reliance upon technology in all of its various forms. In the future, I foresee students using technology in many of the same ways I use it now. Future generations will have inherent expectations of faster connectivity altogether, a seamless user interface, and ease of accessing whatever electronic material they desire. In a classroom environment, students will either 1) find their electronic devices to be too much of a distraction and revert to pen/paper notes, or 2) bring the most portable devices to class (i.e., tablets) to take notes. Students will likely want to
stream videos/other media/online games at higher quality and have the understanding that this capacity will be available within their University, both inside buildings and around campus in general. The ability of the WiFi infrastructure to handle this load will be assumed.

As students, we do not necessarily see our technology use changing dramatically between now and 2020. However, our expectations of how our technology will be supported are changing and will continue to change dramatically. We will be more reliant on our technology than ever before and we will need the appropriate support for this. As students, we will pay less attention to event flyers around campus and more attention to our email and Facebook events; we will always use a navigator app and never print directions; Google glasses, Samsung watches, and other trends involving portable technology integration will continue to rise. Taking all of these into consideration, students will need the appropriate infrastructure to support this trend of portable devices that provide instant connectivity to our academic, extracurricular, and social lives.”

Saint Louis University Student, Class of 2014

“I expect to walk into my dorm room and it will have a wall of glass. My glasses (eyeglasses) will allow me to interact with the built in screen in the glass so we won't have to bring any devices to school. If you don't have glasses you can interact with the glass by using your arm clock (watch). The wall will be your TV or any device you want.

You just download apps. The wall will have an automatic shade that lets in light or blocks it out. The room will have a virtual assistant (like Siri) so you can get help doing your homework. But, the virtual assistant won't take over my life -- I will go to class and eat on campus.”

Sixth Grade Student

Academic Activities

- Increasing the availability of flexible formats related to the delivery of instruction in order to support a diverse set of learners including traditional undergraduate students, graduate students, and adult learners.
- Equipping faculty with the tools and support to meet their individual needs for teaching, while ensuring the tools themselves are known by and accessible to educators.

Case Studies

“It seems clear that becoming technologically savvy is one of the important elements necessary to a successful career in the modern business world. Related to schools of business, this seems applicable in two ways. First, school of business Deans need to continually examine their curriculums to assure that graduates have a proficiency in the technological tools that are being utilized in cutting-edge industries. Second, school of business Deans need to examine their own use of technology so that they remain at the front end of an ever-increasingly competitive educational environment.”
Office of the Dean, School of Business

“Faculty will stress learning as doing in their fields to ensure that students become multi-literate. New technologies bring new media for knowledge retrieval and communication, and, in turn, provide new meaning-making resources. Faculty will need to model to students how they themselves navigate multiple modes of representation of meanings, as well as the media used for their dissemination, and provide students with opportunities for deep engagement with the resources available.”

Faculty Member, Madrid Campus

Medical Activities

- Accessing the increasingly complex and complicated information required to guide clinical decisions for patients and the teams taking care of them and seamlessly capture outcome data needed to drive continuous quality improvement.
- Improving the clinical-research interface in order to facilitate the clinical translational enterprise, opening up all clinical data to intellectual inquiry.
- Anticipating and aligning with an ever-changing compliance landscape and regulatory environment through processes developed to foster efficient and effective patient care that protects personal health information and institutional integrity.

Case Study

“Most nights, I walk between 3.8 and 5.2 miles. It takes about an hour and 15 minutes. My heart rate averages around 125 beats per minute; it spikes at about 145 during the steep, uphill grade.

I know this with precision because I walk with a fancy pedometer and a heart rate sensor that capture and store my workout information. My doctor doesn’t know it at all — at least not today. Someday soon, though, I’ll upload information like that to a computer in his office.

I don’t expect my doctor to spend his nights manipulating data or pouring over my workout records. But I do expect that someone on his team will run that data through a sophisticated algorithm that will stratify his patients by their risk score.

I’ve got an arthritic knee, and a few extra pounds. But compared to his sickest patients, I’m in great shape. Knowing that I work out most nights — documenting that my heart is strong and my knee is being put through its paces — means that my doctor can feel comfortable focusing his scarce resources on other patients with more complex problems. That’s where the technology gets really interesting.

He has a few patients with congestive heart failure. They’ll be using “smart” scales every morning to weigh themselves. The data will be transmitted to the doctor’s office, where it will
automatically be flagged if they’ve had significant overnight weight gain that could signal further deterioration of their heart. Those patients will need immediate attention.

Data from “smart” pill containers will flag patients with hypertension who haven’t taken their medications as ordered, or diabetics who haven’t taken insulin. Those patients will get a computerized or telephone reminder. If they still don’t comply, they may get a visit from a case worker. They’ll get the same thing if they don’t fill their scripts or show up for a scheduled appointment.

All that “extra” data would be overwhelming to any individual physician. But by 2020, my doctor will be leading a care team of other professionals with specialized roles that he coordinates. It may seem paradoxical, but this has the potential to free my physician to do what he’s spent so much time and effort learning how to do: Taking care of his patients.

I like that idea. I think my doctor will, too.”

SLUCare Patient

Research Activities

- Building a research environment that is more collaborative with entities that are both internal and external to the University.
- Developing more effective processes that support the development and initiation of successful grant applications.
- Configuring a research environment that enables the institution and its faculty to be agile in responding to research discoveries and opportunities.
- Ensuring that the information systems that are critical to the research enterprise operate at levels of security that are acceptable to funding agencies with appropriate levels of data protection.

Case Study

“In 2020, the sharing of large research databases between researchers would be facilitated by Internet 2, which will provide .edu to .edu connectivity without competing for bandwidth with, e.g., Netflix streaming and will circumvent the eventual loss of net neutrality. Cloud storage and access will be facile.

Increasingly, researchers will use webinars to learn about new research developments, in place of seminars and travel to scientific meetings.

Information Technology Services (ITS) will centralize and maintain current databases on the names of researchers with specialized knowledge of research technologies. ITS will be proactive in providing hardware and software tools—send out requests to identify resource needs and create an active ongoing dialog between research faculty/research cores/research centers. A liaison member of ITS will focus its expertise to streamline the eRS grant submission site, to customize and simplify the ActivityInsight reporting tool, with faculty to
develop individualized websites, and with departments to record and archive departmental seminars and Grand Rounds presentations.”

Researcher

Staff Activities

- Improvements in administrative processes that will enable activities to be completed more efficiently and effectively.
- Increased utilization of job-related self-directed online learning modules that will raise the efficiency of the staff.
- Increased efficiencies through the usage of online collaboration tools, and online processes that enable anytime, anywhere access to University resources.

Case Studies

“I hope that there will be more electronic processes, to cut down on paperwork.”

Staff Member

“I see the workplace in 2020 as being even more automated than it is today. I see more meetings being held via Skype or WebEx to cut down on costs of bringing individuals to meetings.

I imagine there will be a greater reduction in actual “paper” work and most work will be saved and viewed via tablets with no physical copies being printed. As sustainability is more at the forefront, paper use will be reduced.”

Staff Member

“In the coming years Development Officers need immediate access to data. They often get last-minute appointments with donors/prospects and need to get information from SLU’s central database related to the person they will meet. Following the meeting, they need tools to help them get information they’ve obtained during their meeting back into the central database. All of this must happen seamlessly. The less time front line fundraisers spend manipulating technology, the more time they can spend moving relationships toward solicitation.

Annual Giving staff work to engage and solicit large numbers of individuals at one time. There is no such thing as "one size fits all approach" for fundraising. Annual Giving staff needs tools to help them segment groups by their various demographics. Once the different groupings have been determined they have to send targeted messaging in a manner that is conducive to each group. For instance, BOLDS (Billikens Of the Last Decade) prefer to receive information digitally whereas older alumni still respond to traditional postal mail. Moving toward 2020, the ability to pull and analyze data, quickly and accurately, will be extremely important.
Donors of today are much more savvy than in the past. They want to know more about how their gift is being used. This requires us to become better integrated with systems and technologies in other divisions of the University. A donor may want information on the student receiving funds from their scholarship gift, or information about how their endowment gift is invested, or to know more about a faculty member’s research they are funding. It will become increasingly important to develop systems that share data quickly and accurately."

Development Officer

With the proliferation of information technology products and services, there has not been a more important time to utilize technology in order to support and enhance University activities as a trusted partner to University constituents.

The information technology vision for 2020 includes the following statements:

1. By 2020 Information Technology Services (ITS) will have developed an information technology ecosystem that enables flexible use of technologies while adhering to the appropriate regulatory or compliance requirements. Students, faculty, physicians, researchers, staff, and other constituents will be able to use the technologies they need, and will be able to use these technologies in a secure and compliant manner.

2. By 2020 Information Technology Services will better understand the short-term and long-term goals of academic, medical, research, and administrative units. ITS will allocate resources and information technology investments in direct alignment to these goals. The ITS division’s success in this area will be assessed through the development of key performance metrics, improvements in IT Governance, and increases in transparency of ITS operations.

3. By 2020 Information Technology Services will be perceived as a trusted partner that can work collaboratively with students, employees, and administrators to design and implement innovative solutions to both challenges and opportunities. ITS insight regarding processes and available technology solutions will enable conversations that are not information technology focused, but instead focus on topics such as student success, patient care, and research.

In support of the above vision, the following priorities are in place to guide operational and strategic technology planning efforts moving forward through 2020. The priorities will be used to develop information technology tactical and operational plans that align with the vision and the set of priorities while aligning to financial, resource or other constraints.

1. Teaching & Learning Environment – Implement technologies that improve student engagement, learning, and outcomes while remaining transparent to the educational experience.
2. Use of Data – Strengthen the use of data to support the operational and strategic needs of academic, medical, research, and administrative units. Develop an environment that enables data-based decision making.

3. Architecture – Create an information technology ecosystem that directly meets the diverse needs of students, faculty, physicians, researchers, and staff. Promote and support the use of University provided and non-University provided devices that are being used by students, employees, and patients while maintaining security and compliance of University resources.

4. Operational Excellence – Ensure that the information technology environment that supports student, academic, medical, research, and administrative activities are continually meeting the needs of University constituents. Enhance IT governance, reporting, and communication regarding information technology performance and quality of products and services available to the University.