



The University of Kansas Medical Center

2017 Annual Report of Information Resources at the University of Kansas Medical Center

Deliver Greater Business and Strategic Value

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Welcome to the 2017 IR Annual Report

Expanded expectations for IT is an overall guiding trend that shaped much of our strategic IT focus in 2017, and these changing expectations will continue to inform and guide us through 2018. Past IT expectations centered on efficient and effective management of IT services, systems, and infrastructure. The goal was optimized delivery models, and the measures were inward-facing IT outcomes, such as uptime and project completion (Scott & MacDorman, 2017).

Though optimized IT capabilities continue to be critical work, “information technology is a portfolio of investments designed to support achievement of the institution’s goals and objectives” (Grajek, 2018). IT expectations now recognize the opportunity for IT to deliver greater business and strategic value, which includes improving our university’s core-mission outcomes as well as expanding our capabilities in caring, healing, teaching, and discovering.

Our new state-of-art Health Education Building (HEB) is one example where IT investments helped KUMC dramatically improve learning and strategically differentiate ourselves from other medical universities. The HEB and the flipped pedagogies it enables would not be possible without a strong technology infrastructure and technical support system.

Meeting goals for increasing revenue and value will rely heavily on re-engaging people and businesses through their use of technology (Plummer, 2018).

Our new IT Change Management Process is another noteworthy achievement demonstrating business and strategic value. In our complex IT system, changes must be reviewed and communicated to minimize risk and disruption from unanticipated problems and dependencies. Using our ServiceNow system, we optimized our change management process around digitalization. Digitalization can transform processes by adding workflow automation, artificial intelligence, and analytics. Consequently, our change information now automatically flows through request, notification, review, approval, communication, and implementation.

In 2017, we also redesigned our IT Service Catalog around value-optimized delivery from our IT investments. Our primary goals included:

- Make it easier to find and access available IT services at KUMC
- Describe our services in understandable business terms, with limited IT jargon
- Explain the business value of our services to faculty, researchers, staff, and students

In the remainder of this report, you will hear from each IR area about their major activities, accomplishments, challenges, and plans. Our work required significant effort to manage and update existing technology and operations, but our work also included initiatives to help KUMC “improve lives and communities in Kansas and beyond through innovation in education, research, and health care”.

In closing, I’d like to challenge you to identify one significant difficulty faced in your area (e.g., cumbersome business process, labor-intensive management system, or poor communication tools) and start discussing that problem and possible technology solutions with our IR Project Management Office.

And, thank you again for another year of your continued support,

David M. Antonacci, PhD

Chief Information Officer

Associate Vice Chancellor for Information Resources

Teaching & Learning Technologies (TLT)

Director: Phil Wilhauk (pwilhauk@kumc.edu)

TLT supports the technologies which enrich and transform the teaching and learning experience at KUMC, both online and in the classroom. Services include scheduling, classroom support, media production, testing services, system administration, and instructional design. Supported systems include Blackboard, Adobe Connect, TLC, ExamSoft, and Panopto.

2017 was a transformative year for the teaching and learning experience at KUMC. The successful launch of the new Health Education Building (HEB) moved our campus to the forefront nationally in our ability to provide active learning classrooms. These are student-centered, technology-rich learning environments recognized as the top strategic technology for higher education in 2017 (Grajek, 2017a).

Unlike traditional lecture halls, learning studios in the HEB are flexible spaces designed to encourage collaboration and facilitate a “flipped classroom” approach to instruction.

In 2017, TLT scheduled 23,552 events in TLT-managed auditoriums, classrooms, and other learning spaces. (Up 10% from 2016)

Students in a flipped classroom environment report feeling more engaged, spending more time on task, and performing less multitasking behavior compared to lecture-based courses (McLean, Attardi, Faden, & Goldszmidt, 2016).

Each space offers wireless high-definition presentation systems and greatly enhanced “Bring Your Own Device” (BYOD) support. These capabilities are essential if we are to support changing instructional approaches, including those introduced by our School of Medicine’s new ACE curriculum.

To support our new School of Nursing campus in Salina, TLT expanded our capacity for interactive video conferencing. This service allows students and faculty at any campus to virtually participate in class as if they were all in the same room.

Towards the end of the year, TLT also launched a new Content Development Studio in the HEB. This facility offers a full-service professional-quality media production environment alongside a self-service studio for creating high-quality videos and podcasts to better enable flipped pedagogies.

In May, TLT successfully completed a major year-long project to migrate our Blackboard academic Learning Management System (LMS) to a Software-as-a-Service (SaaS) deployment model. This model gives us greatly reduced downtime for updates and access to the latest features sooner than in the past. It also positions us to eventually upgrade to Blackboard’s next-generation “Ultra” experience, promising streamlined workflows and a more intuitive user interface.

More than a year ago, TLT began exploring a new video content management system (VCMS) in order to provide KUMC with better options for creating, delivering, and tracking streaming media. In July, we achieved this goal with the launch of Panopto. Adoption of the new system has been rapid. Since going live, the KUMC community used Panopto to record over 2,000 hours and watch over 70,000 hours of video in a little over five months.

Key Activity Metrics for 2017

TLT also maintained our commitment to daily operational support in the context of increased demand for our services. In 2017, TLT:

- Scheduled 23,552 events in TLT-managed spaces (up 10% from 2016)
- Provided Media Tech support for 1,326 events (up 4% from 2016)
- Administered exams to 14,248 exam takers using ExamSoft (up 8% from 2016)
- Delivered 1,201 online courses in Blackboard (up 11% from 2016)
- Supported web conferences totaling 14,958 meeting minutes in Adobe Connect (up 106% from 2016)

Outlook for 2018

Technologies for improving the analysis of student data will be a key area of focus in teaching and learning (Brown, 2017). To this end, TLT will explore learning analytics in light of our institutional needs and priorities given available technologies. Additionally, TLT is planning several new projects for 2018.

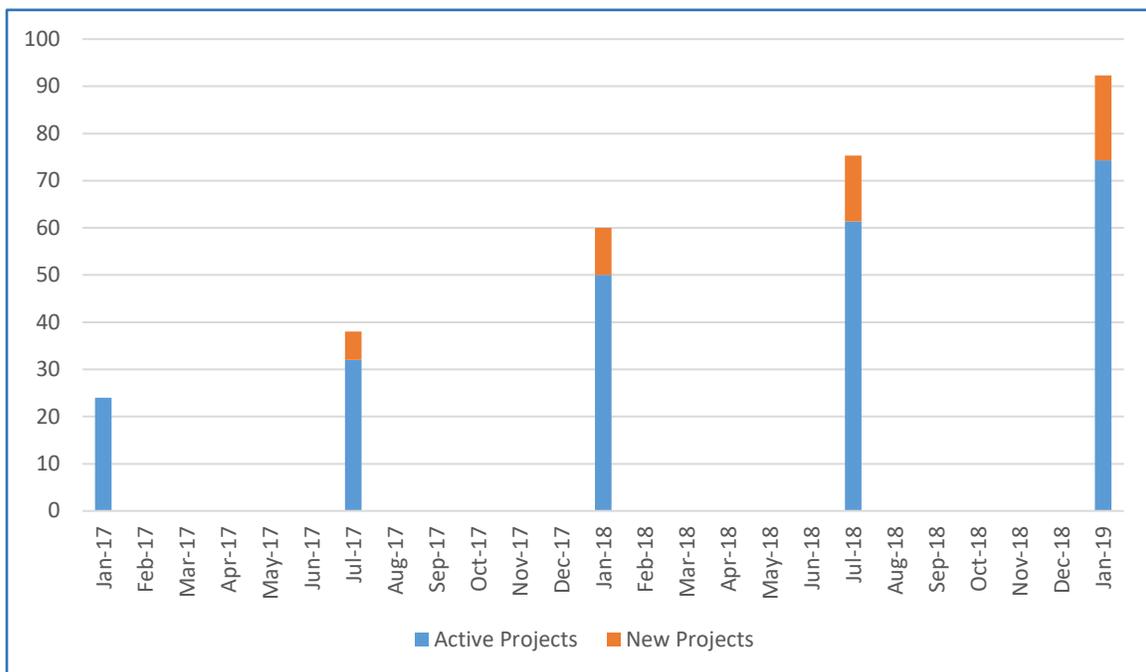
We expect to:

- Upgrade our high-stakes testing software to a next-generation platform, Exemplify
- Expand support for BYOD testing
- Introduce new resources to help faculty teach more effectively in active learning spaces and online
- Further expand our interactive video conferencing capabilities to meet anticipated growth
- Begin enhancing our older classrooms with technologies from the HEB, better enabling active learning in all our learning spaces
- Research and pilot emerging technology trends such as virtual or augmented reality, 3D printing, and the Internet of Things (IoT)

Project Management Office (PMO)

Director: Becca Grube (rgrube2@kumc.edu)

The Project Management Office (PMO) is comprised of a team of three, all of whom are new to the PMO in 2017, and who primarily manage projects closely associated with Information Resources and technology. A new [PMO intranet website](#) was created to communicate and advertise project management and business analysis services, including considerations pertaining to new project requests, to a wider audience. In July 2017, the PMO managed 32 projects and by January 2018, they were managing 50 projects in various departments, including Compliance, Facilities, Public Safety, and Research and in coordination with the University of Kansas Health System, with an average of 2.5 new project requests each week. The graph below illustrates the projected increase of KUMC projects being managed by January 2019.



Gartner forecasts IT project management will need to adapt its focus to keep up with rapid changes in technology and in business strategies (Hanford, 2015). In addition to coordinating teams, managing the scope of work to be completed, assigning tasks and deadlines, and providing project statuses to leadership and project owners, project managers will also need to reduce complexity where possible, drive change and innovation in the organization, and flexibly partner with the business units to accomplish success in the organization. As such, the PMO focused on several areas to improve consistency in project management and continuity of business processes, including:

- Gathering a Business Case for each new project request to address complexity, impact, and value of the project. The Business Case provides us a better understanding of what is needed by the business unit requesting the project.
- Documenting project processes, including:
 - Project intake process, to accelerate and standardize the review of new project requests
 - Vendor-hosted (or Cloud) application process, to address implementation, security concerns, on-going application management, and contract workflow in a nimble fashion

- Vendor selection process, to identify business needs and standardize request for procurement (RFP), ensuring the best solution is implemented for the best value
- Updating Business Continuity and Disaster Recovery Plans for Information Resources to ensure all data and systems can be recovered and restored in the least amount of time in the event of a serious incident or natural disaster.

Additionally, Information Resources recognizes each IT system requires someone who understands the business needs and processes addressed by, and can effectively manage, the technology solution. Consequently, the PMO created a document that identifies Application Administrator responsibilities, including access to, maintenance of, and communication about the technology solution. When new projects are requested that will result in the implementation of new IT systems, the PMO will help the project owner understand these responsibilities and identify an appropriate Application Administrator.

Strategic Planning

Information Resources updated its original 2016 strategic plan (Appendix A: IR Strategy Map), and the PMO worked with the Organization Improvement Office (OIO) to better align projects with both KUMC and Information Resources' Strategic Plans. The focus of several of the strategic goals KUMC and IR share in common is to improve partnerships and core customer services to increase collaboration, communication, and transparency with our customers. As such, the PMO initiated several projects in 2017 that were foundational for KUMC and IR and demonstrated adoption of several strategic goals, including:

- Implementation of a new IT Service Catalog to be more intuitive and user-friendly, so KUMC faculty, staff, researchers, and students can easily find all IT services in one place
- Creation of a systematic way in ServiceNow to accommodate the project lifecycle, from new request through project completion
- Response to technology needs identified by researchers, also facilitated by the Organizational Improvement Office
- Identification and review of more than 200 legacy applications and databases to be updated and improved to ensure stable, supported, and improved functionality

Outlook for 2018

To further improve project management and assist KUMC and Information Resources reach their strategic goals, the PMO will:

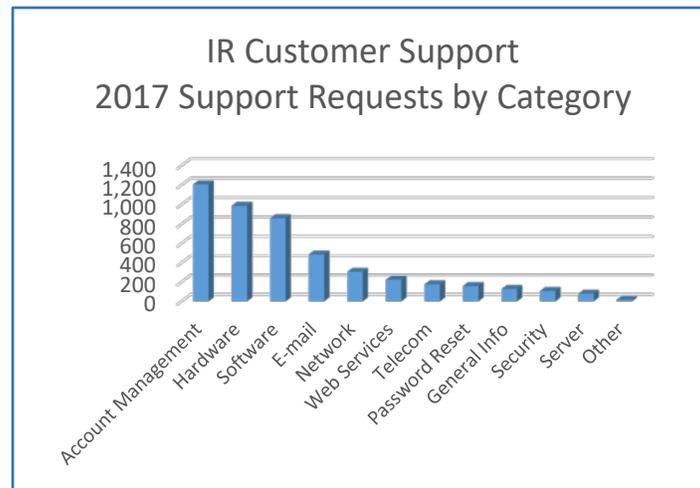
- Seek executive sponsorship for project requests. Having an Executive Sponsor who can make tough decisions quickly to move a project forward is a proven way to reach project goals in an effective and efficient manner. According to Project Management Institute (PMI), an actively engaged executive sponsor best understands the business need for the project and is the most effective driver, using their position and authority to clear roadblocks, make quick and effective decisions, and influence executive leadership (Project Management Institute, 2017).
- Develop a Lessons Learned process to be completed at the end of each project. Lessons Learned help not only the Project Management Office, but also all stakeholders and team members to identify and understand what worked and what didn't, thereby minimizing issues and maximizing opportunities for success in future projects. Lessons Learned also inform the creation of new, and revision of current, standard processes and procedures.

- Improve project management success across the organization. The PMO identified key project management concepts to share with a larger KUMC community, since many employees manage projects regardless of their job title. Providing an opportunity for all formal or informal project managers to network and share tips and tools increases project management success across the organization. Our first Project Management Lunch-and-Learn occurred on January 24, 2018 with additional, regularly scheduled sessions to come through 2018.

Customer Support

Director: Elam O'Renck (eorenick@kumc.edu)

For Customer Support, 2017 was a period of exciting growth and activity. Our Service Desk fielded 4,700 routine technical support requests that Customer Support resolved directly. And with the addition of three new team members, we improved our business value with the ability to provide services around procurement, asset management, and desktop support. Adding personnel was an especially welcome development in light of EDUCAUSE citing adequate staffing in a climate of shrinking IT budgets as one of the top 10 IT issues for higher education in 2017 (Grajek, 2017b).



Account management and related password issues, collectively, continue to be the commonest technical support requests at KUMC.

Keeping Software Up-to-date

As software code ages, hackers are more likely to exploit unpatched flaws to gain access to a computer system running that software and, in turn, any data stored on it. Keeping software patched can significantly guard against such attacks, and thus reduce downtime and wasted time and money.

In May, we implemented a regular software patching cycle for the most common third-party applications in use on university computers. There was an immediate, significant decrease in software security vulnerability on campus. With current staffing and technology assets, we achieved about a 25% decrease in vulnerability. For 2018, we will explore growing our team, so we have the resources to further reduce that footprint.

As reported in our 2016 annual report, we planned to develop a stable Windows 10 implementation to support university business in 2017. Windows 10 became the standard operating system for new PCs in May, and it is available now for anyone wanting to upgrade from Windows 7 on their current PC.

Improving Computer Asset Management and Procurement

Perhaps our biggest growth area in 2017 was creating positions and new processes around buying and tracking computer hardware and software assets. KUMC lacked a centralized inventory of its IT assets,

per a key finding of a recent audit. The ability to track hardware and software assets throughout their lifecycle will be of value to departments as they budget for future technology purchases.

Improving online documentation on the hardware and software purchasing process was also a priority for our new asset team, as part of our overall goal to improve the customer experience with Information Resources. New, illustrated web content gives helpful information on standard hardware and software offerings, as well as advice on the purchasing process.

Standards for printers have been set. We created a webpage listing models recommended for the most common use cases, to help customers more easily make informed decisions when selecting printer hardware. Likewise for Canon multifunction copiers, a separate page describes how to begin selecting the right device and procuring a lease.



Excerpts from the new hardware standards webpages

Printing Smarter and Reducing Waste

For the new school year starting in fall 2017, we introduced PaperCut, a printer management system that provides capabilities beyond iPrint, our current solution (to be retired mid-2018). Student printing in Dykes Library was first to benefit from two useful PaperCut features: A user print quota for library printers encourages economical use of printing resources, and thus helps keep printing affordable. Also, tap-and-go printing lets students release a print job at the printer of their choice by scanning their ID card at the printer. Tap-and-go also ensures documents with potentially sensitive information do not print unattended.

Remaining network print queues will be migrated to PaperCut-managed servers throughout 2018.

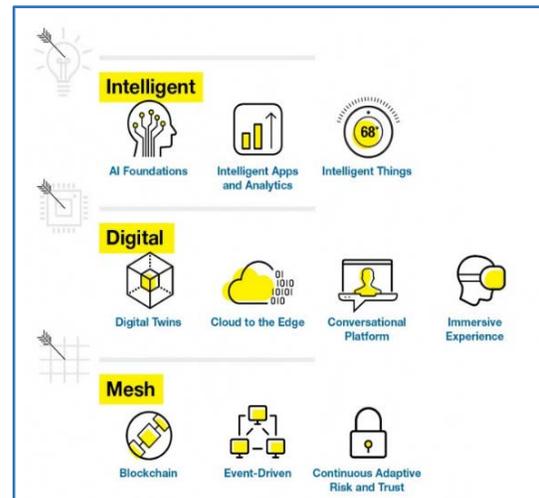
Administrative Systems

Director: Greg Smith (gsmith@kumc.edu)

Administrative Systems builds and maintains core systems for the university to administer personnel and the resources they utilize. This includes Human Capital Management and Financial Resources Management, Customer Services Management, and their related sub-systems. Substantial activities in these systems include on-boarding and off-boarding, payroll, time and labor, absence, benefits, budget, purchasing and procurement, accounts payable, billing and accounts receivable, travel expensing, asset management, grant management, general ledger, workflows, control and reporting, system security, and service requests and management.

Investments

“The Intelligent Digital Mesh” and “Going Digital” were major evolving IT trends in 2017 (Panetta, 2017). We invested in the “Going Digital” trend by re-imagining the IT change management process around digitalization in ServiceNow. The new change management process went live in May with digital approvals and automated workflow, offering us the opportunity to deliver change management like never before. The university still has many informal, manual, and paper-based processes on campus and the new change management process demonstrates a path for much needed campus-wide process improvement. Without ServiceNow or a similar product, our new optimized change management workflow would be too complicated and costly for past manual processing approaches.



Another investment made by Administrative Systems in partnership with the Project Management Office (PMO) and the Office of Organization Improvement (OIO) was the build out and launch of the new digital Project Portfolio Management (PPM) system in ServiceNow. The system provides a streamlined process for managing projects online from intake to completion, from idea to execution. The benefits include ideation by developing and communicating new ideas that support strategic initiatives, aligning resources with strategy by coordinating business needs and partnering with stakeholders, and working more efficiently with information that provides project and non-project workload insight to avoid project delays.

Key Activity in 2017

While we undertook the headline projects above, Administrative Systems continued to be engaged in many projects, both large and small, as well as providing daily operational services. In 2017, we:

- Completed 42 projects including:
 - Exciting new Accounts Payable functionality for capturing two-percent discounts for participating vendors when KUMC pays the invoice within fifteen days. The new program can result in providing more than \$300,000 in annual savings to the university over a five-year period.

- Innovation in our billing service created a better solution for using the centralized billing system to record the information for goods and services sold addressing an important audit finding.
- Upgrading our PeopleSoft Financials PeopleTools platform providing increased security with connected software platforms including Envision financial reporting and the KUMC Market Center.
- Advancing our ServiceNow system to new release levels in the spring and fall enabling KUMC to be on the highest release of the software throughout the year. Upgrading gave us access to the latest features including a promising new software asset module, brand new capability for each user to configure and receive text messages from the system, and improvements in mobile for our growing number of cell phone users.
- Resolved 732 issues.
- Finished 14 system upgrades.

Outlook for 2018

As innovative and busy as 2017 turned out to be, 2018 looks to be as remarkable for KUMC with major projects coming from multiple business areas. Possible replacement of all three PeopleSoft Enterprise systems (HR/Pay, Financials, and Grants) will be evaluated in the early months of 2018. This massive effort will involve data gathering, vendor demonstrations, building an RFP (request for proposal), vendor responses and evaluation, and vendor negotiations and selection. If a new cloud system is selected, we will undergo colossal change to implement a more unified system including thoughtful new strategies for digital input, throughput, and output; 3-click no touch user experiences; dashboards and key performance indicators; and built-in rules and the introduction of artificial intelligence. Enormous staff effort and expertise will be required to deliver a new system of this magnitude.

Within PeopleSoft, far-reaching projects delivering business value include:

- Automating the distribution of PeopleSoft Financial invoices and billing statements, replacing a laborious manual paper process with automation and digital email.
- Integrating PeopleSoft HCM system with Identity Management to create an automated exchange of identity data, removing time consuming manual processing and eliminating errors that occur with manual entry.
- Improving the resident hire and promotion process by replacing multiple points of data entry with a streamlined process for residents to enter data once and have the data propagate into other systems that required it.

Several investments for 2018 in ServiceNow are:

- Upgrading ServiceNow to the next release expands process improvements in IT Operations, Task Management, Service Management Reporting, Project Management, and Hardware and Software Asset Management.
- Delivering on IR's strategy for improving core customer services (Appendix A: IR Strategy Map) by focusing on customer needs, we will be creating new digital functionality for IT operations that will give us the capability to improve turnaround times for new computer configuration, computer re-imaging, and new printer set up.

- Connected to IR's strategic initiative for expanding mobile (Appendix A: IR Strategy Map), we will be growing the ServiceNow mobile platform by adding more apps and functionality giving our users better tools for working where ever they may be.

Internet Development (IDU)

Director: Karen Martinez (kmartinez3@kumc.edu)

Internet Development is responsible for the University of Kansas Medical Center's online presence, including the public website, the private intranet site, SharePoint, and custom websites. IDU also provides a document imaging and workflow solution (Perceptive Content) and an online event calendar (Trumba) for the campus.

In 2017, Internet Development focused on improving campus communication, collaboration, digitalization, automation, security, and process improvement. This was driven both by emerging IT trends and Information Resources' 2017 strategic projects (Appendix A: IR Strategy Map).

Transform University Work Tasks and Business Processes

Internet Development worked toward implementing Information Resources' strategic program to transform University work tasks and business processes with new digital workplace tools.

- Enabled School of Medicine to move their entire teaching curriculum to SharePoint Online, OneDrive for Business, Sway, OneNote, and Video (all Office 365).
- Created the Facilities Physical Plant Modification Request (PPMR) in SharePoint as an electronic form with automated workflow approvals and notifications.
- Moved 15 of School of Nursing's student paper forms into a SharePoint site. They are now electronic and have workflow approvals.
- Enabled the Police to use the document imaging solution for their employee performance reviews.
- Created a site in the intranet (SharePoint online platform) for School of Medicine residents to post cases for review, and ultimately publish to share knowledge among colleagues.
- Automated the process of creating a Medical Student Performance Evaluation (MSPE) (Dean's Letter) for 130 students, which saves staff many hours annually.
- Used our investigative and analysis skills to tease out the true process behind paper forms currently routed manually, and reinvented them as online forms to streamline processes. Most processes require several options, approvals, and notifications. Examples include the Tuition and Fee Payment Form for the Student Financial Accounting department and the Stipend Personnel Action Form for the Accounts Payable department.

Improve Core Customer Services by Focusing on Business Value and Customer Needs

Internet Development was integral to Information Resources' strategic project to retool our online presence and services catalog to create a faster path to reference materials and important services customers need.

- Built the IT Service Catalog, leveraging the SharePoint Online platform to specifications required by requestors. The new service catalog is located at <https://kumed.sharepoint.com/sites/mykumc/catalog/Pages/Technology.aspx>.
- Used the SharePoint Online platform to empower several units (i.e., HR, LAR, Purchasing, and IR) with intranet "bulletins" as a communications tool to replace "monthly newsletters", so messages are timelier.

- Expanded the successful CMS Lab program to include help for our existing web products, including the Content Management System (CMS), Intranet, and Trumba event calendar.

Manage Software Development and System Integration Needs

In 2017, Internet Development continued implementing Information Resources' strategic plan to manage our growing and increasingly complex software development and integration needs by evaluating our legacy systems and modernizing through upgrades, replacements, or shifts to cloud-based vendor systems. Examples include upgrading the IR Financials Reporting Tool, retiring the GAPs system as Student Health Services moved to a hosted application, and rewriting the Room Utilization application as a website. We've also implemented a process to annually review all of our systems and proactively plan for the future.

2017 Information Technology Trends

According to the EDUCAUSE Center for Analysis and Research, three of the top ten strategic technologies for higher education in 2017 are database encryption, application programming interfaces (APIs), and web-based applications that work on mobile devices (Grajek, 2017a).

- Worked with our database administrators and security team to implement an encrypted database server and created our first database there. Database encryption makes data unreadable without an encryption key, and protects sensitive data.
- Rolled out the new Intranet site in 2016, and have continued to move assets from the public site and former myKUMC site to the new private site. As part of this work, we have created application programming interfaces (APIs) to integrate on-premises data with our cloud-based Intranet site. An example of this type of integration is the Pay and Benefits page in the intranet, which displays data that originates in the on-premises PeopleSoft and Identity Management systems. Employees can find commonly-used information in one place instead of going to multiple systems.
- Continued effort to make our web-based applications work on mobile devices, which allows access to enterprise data from any device, in any location.

Outlook for 2018

In 2018, Internet Development plans to continue to mature our online presence, focusing on business value and customer needs. Maturing online is one of Gartner's top business trends in higher education for 2018 (Lowendahl, 2018). Key to success is working with others in Information Resources and the Health System to roll out all of Office 365 to the entire University. We expect it will enhance collaboration within the University and Health System, as well as with trusted outside partners. Geographic location will not be important.

We will also be working with our Communications department on a redesign of our public website, focusing on marketing and recruitment.

Enterprise Information Technology Architecture (EITA)

Director: Steve Selaya (sselaya@kumc.edu)

Associate Director: DeAnna Villarreal (dvillarr@kumc.edu)

EITA provides core infrastructure capabilities required by all campus information technology. This includes networking, servers, storage, telecommunications, and identity and network account management, as well as database and data services.

Telecommunications & Networking

Telecommunications & Networking teams invested a large portion of time in 2017 to completing the design, planning, and installation of voice and data/network services for three major building projects:

Our HEB has 20% of all campus network ports and wireless access points.

Health Education Building, Parking Garage #5, and the new Cambridge Hospital building. With the emphasis on mobility and increased use of technology in the learning and simulation environments, the Health Education Building project alone included the installation of more than 250 wireless access points and activation of more than 2000 wired network ports.

Key accomplishments during the 2017 calendar year:

- Installed 9 new telecommunication system gateways (used to connect remote locations to our telephone system) and more than 590 new telephone lines.
- Upgraded key components of our telephone and voicemail system, including a new web-based Avaya Call Management system improving the experience for those using the system.
- Completed the design, planning, and installation of the voice and network infrastructure for the new KUMC police dispatch center.
- Replaced our aging F5 network load balancing system with newer models. This system spreads server load and provides high availability for many of our core servers and applications, such as Microsoft Exchange and SharePoint.
- Completed the refresh of the components used to connect the Med Center to the Internet, increasing capacity and resiliency.
- Replaced aging Polycom Video Infrastructure equipment used by departments when placing video conference calls with multiple locations.
- Improved wireless network coverage in all university buildings.

Server & Storage Infrastructure

The Server & Storage team completed the migration of all research, departmental shares, and home folders to the Isilon Network Attached Storage system during the first half of the 2017 calendar year. Installed in 2016, the storage system was purchased to meet the ever growing storage and archival needs of our researchers, faculty, and support staff. The system also provides redundancy for disaster recovery purposes and quick point-in-time file restores when accidental deletions or overwrites occur.

The team also worked with Facilities Management, Honeywell, and our virtual infrastructure vendor to replace and optimize the server and storage environment for the Medical Center's security camera

system, Digital Video Manager (DVM). This work also increased the capacity of the DVM system to provide the increase in cameras needed for the new Parking Garage (PG-5) and Health Education Building.

Key accomplishments during the 2017 calendar year:

- Expanded and upgraded our virtual server environment to support the growing number of KUMC hosted servers.
- Replaced slowed and aging fiber channel storage infrastructure components.
- Within the KUMC police network, migrated server storage off the older Storage Area Network technology and installed new servers for Police dispatch.
- Deployed an new integrated disk array for Medical Informatics.
- Deployed new server infrastructure for the Panopto lecture capture system, the new video capture and management system that went live during the opening of the Health Education Building.
- Within the Linux environment, fine-tuned customer configuration channels within our centralized systems management tool (Spacewalk), a system which plays an important role in reducing security vulnerabilities and making sure the Universities Linux systems are up to date. Also, upgraded many SUSE Linux servers from SUSE 11 to SUSE 12, allowing Linux server administrators to take advantage of new innovative changes of the newer operating system.
- Worked with Hospital IT to deploy the server infrastructure needed for the newly combined Active Directory authentication domain which will be used to provide a common user experience when logging into resources within the University and Hospital environments.

Identity & Data Services

The Identity & Data Services team invested a large portion of 2017 documenting and improving manual and automated network account management processes and procedures. The team also worked with the Hospital Identity & Access Management team gathering requirements, building, and testing the new shared Authentication Domain and integration with the Hospitals new Identity Management solution. In 2017, the team also saw the return of a key employee who left in 2016, as well as added a new DBA (Database Administrator) position.

Key accomplishments during the 2017 calendar year:

- Automated the enablement of employee network accounts based on the employees start date.
- Implemented and improved employee and student account processes and data quality improvements to ensure network accounts are appropriately created and terminated in a timely fashion.
- Implemented Single-Sign-On on many new applications.
- Created a draft Data Administration policy.
- Installed a new SQL Server with encryption, securing our database environment for high risk data.
- Improved the process of sending student badge photos to OASIS and KU Lawrence.

Outlook for the 2018 calendar year

In 2018, we will continue our focus on improving processes and automation in each area as well as availability of our infrastructure to meet the needs of our students and employees. We have worked hard over the years to provide a redundant and highly available network on campus and will be extending that availability to our Internet connectivity as we see key systems (e.g. Blackboard Learning Management System) move off campus to a hosted or cloud environment.

Some of items we will be working on for 2018:

- Work with the Health System to test and implement softphones, giving employees options outside of physical phones for their telecommunications needs.
- Work with HR and Administrative Systems to automate the creation, modification, and expiration of KUMC employee network accounts as the information is entered into PeopleSoft HR system. This change will significantly reduce the time it takes to provide new employees with their network account, as well as timely updates to the account.
- Replacement of the telecom billing and management system (Mysoft).
- Replacement of aging servers and continue to fine tune and improve our virtual server and storage infrastructure.
- Evaluate the move from SUSE to RedHat as the main Linux Enterprise Operating system to help meet the needs of our Linux server administrators.
- Move our enterprise Microsoft SQL Cluster infrastructure.
- Continue work on Data Administration initiatives.
- Implement improved automated account management processes as the Health System goes live with their new Identity Management system and the new shared authentication domain.
- Upgrade key components of our Single-Sign-On environment.
- Upgrade of the University Identity Management software environment.

A.R. Dykes Library

Director: Crystal Cameron-Vedros (Cvedros@kumc.edu)

Assistant Director: Erich Kessler (ekessler3@kumc.edu)

Assistant Director: Heather Collins (hcollins@kumc.edu)

The A.R. Dykes library staff is comprised of three units: Content and Access, Research and Learning, and User Services. Each unit provides resources, instruction, and service points for our patrons. We serve all schools, institutions, and centers at KUMC. We also have a local, regional, and national presence with other medical center libraries, and with our colleagues on the Lawrence, Wichita, and Salina campuses. Some terms that describe librarians are connector, teacher, concierge, and detective.

Content and Access Highlights

The Library collaborated with KU-L digital initiative librarians to integrate an open-access digital object finder API using the Unpaywall API into our libraries' electronic journals holdings. When searching our KUMC e-journal finder, users will be able to view and open articles/manuscripts that are located in valid open-access sites, such as university repositories that have been hard to find. This opens up more access to full-text research outside of restricted pay-to-view publisher sites.

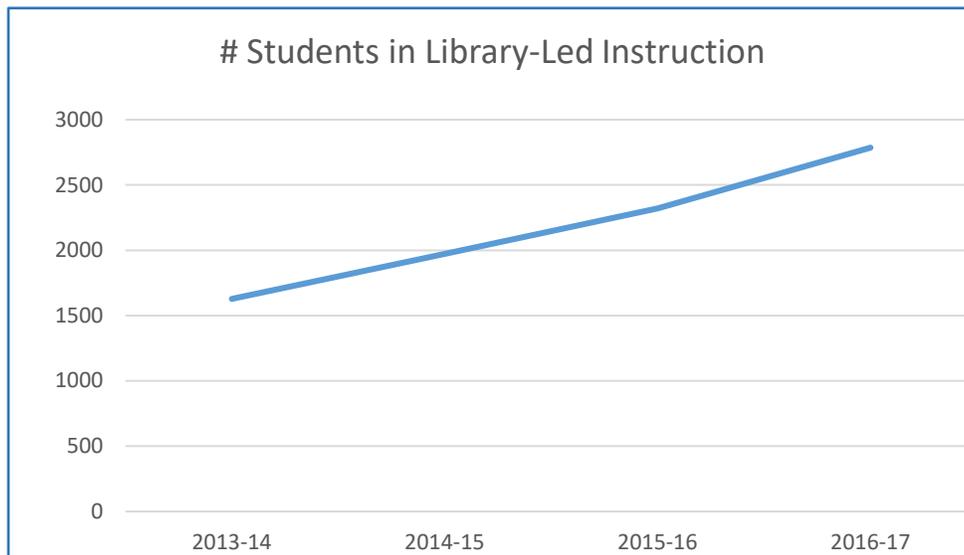
- We implemented enhanced technical tools for librarians to statistically analyze and assess usage of library electronic journals and databases and to record research and reference consultations/transactions. This data informs budgeting, collection development, library research instruction, and staffing decisions.
- With our librarian colleagues at KU-L, we started collaborating in SharePoint Online for communication and document space pertaining to four large journal packages jointly licensed by KU-L and KUMC libraries which are up for site-wide negotiations.
- In order to display citations to Interprofessional Education (IPE) grant-funded research that has resulted in published articles, we implemented an automated script so IPE faculty can compile and display journal citations on their websites.

Research and Learning Highlights

Research and Learning (R&L) librarians serve as liaisons to the schools of Health Professions, Medicine, and Nursing. They participate in faculty meetings, co-author systematic reviews and other publications, and partner with faculty to implement new methods and programs that provide discovery of research output. One example is developing processes to include Doctorate of Nursing Practice capstone papers into the ProQuest Thesis and Dissertations database and into the KU ScholarWorks digital repository.

As instructors embedded within each school, the librarian liaisons taught 79 modules and consulted with faculty regarding integrating information literacy components in 28 other courses. The impact of this interprofessional collaboration, as well as faculty/staff development programs, resulted in 2,982 learners receiving this specialized instruction. Collaborations with K-State and 11 other libraries across the nation resulted in continued development of digital information literacy instruction modules for the New Literacies Alliance. All three schools at KUMC use these award-winning lessons that enable faculty and librarians to ensure all students are competent in staying current with the fast-paced changes in the health information landscape. Additionally, a scholarly report on librarian's roles and contributions to competency-based medical education was delivered at the Association of American Medical Colleges

2017 annual meeting. Academic administrators continued to collaborate with the R&L liaisons in bringing about these impactful outcomes.



Regarding open access, all librarians worked to support the scholarly communication activities of our faculty, staff, and students. We continued to promote the benefits of open access publishing. We all worked 1:1 and in group sessions to provide information on evaluating journals and publishers and comparing various resources for journal impact and author metrics. We continued to jointly administer KU's One University Open Access Author fund, provided with support from KUMC and KU-L Vice Chancellors of Research and KU's Office of the Provost. This KU One University OA fund is one of 51 academic institutions across the nation who provide funding support to affiliated authors to encourage publishing in valid open access journals.

We also presented on current trends in scholarly research and publishing at the Research & Discovery Grand Rounds sponsored by the KUMC Research Institute, and we participated in the Faculty Research Day and Academic Research Day events.

User Services Highlights

Our User Services library staff manages the library building from 7 am to 11 pm seven days/week, and conducts a handoff to KUMC security guards for overnight service. The staff provides library reference assistance via face-to-face, email, phone, and virtual chat. With the help of IR Customer Support, User Services implemented a new printing/copier system in which the staff administers copy allowance accounts and front-line technical trouble shooting. The User Services staff is also our event planning team and works with Student Services to host our annual hot dog lunch and pancake breakfast for our students. They also market and implement numerous other programs in conjunction with departments across campus, such as the P & T favorite book display, the KUMC Alumni authored books display, the One Book all-campus event, and the landscaping/library



garden planting and tea party. They are a creative group and are open to all ideas that connect the library to our campus initiatives.

Outlook for 2018

Strategic investments for librarians and staff will center on increased information literacy instruction, specialized faculty research support, and expanding use of assessment tools and evaluation scales to measure usage, gather statistics, and enhance reference and research services. A focus will be on analysis of the methods in which constituents seek assistance: Online instant chat, walk-in, individual and small group in-depth consultations, etc. Increased library resources and librarian staffing nationwide are anticipated to be directed towards teaching, learning, and specialized faculty research support (Wolff-Eisenberg, 2017). Specifically, we plan to propose librarian positions for data management, clinical librarianship, translational librarianship, and scholarly communication work.

We will continue to reduce our print journal collection by systematically adding more digital archives to replace physical paper volumes. Current content is predominantly licensed for online access and available remotely to all authorized KUMC faculty, staff, students, and researchers.

Additionally, the National Institute of Health's "All of Us" campaign is partnering with regional medical libraries and public libraries. Kansas City will be a launch site. Our outreach activities with this national campaign—to enlist one million individuals to contribute their health data—aligns well with KUMC's vision to lead the nation in caring, healing, teaching, and discovering.

These are highlights of the trends and activities that are shaping the A.R. Dykes library's purpose, role, and relevance to KUMC.

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Appendix A: IR Strategy Map

IR Department Strategy: *Partners in Progress*

BUSINESS STRATEGY	PEOPLE 	INFRASTRUCTURE 	SERVICES & SOLUTIONS 	DATA 																																																																																																		
STRATEGIC OBJECTIVES	<ul style="list-style-type: none"> Develop and support a world-class workforce. Cultivate partnerships that fuel innovation. 	<ul style="list-style-type: none"> Provide network and secure storage options that meet customer needs. Create and maintain a secure IT environment. Provide flexible access to our infrastructure. 	<ul style="list-style-type: none"> Align to institutional mission, vision, and goals to drive customer success. Provide leadership and guidance, in addition to technical direction and implementation support. Match delivery systems to customer needs and expectations. 	<ul style="list-style-type: none"> Use data and information to drive innovation and to improve performance. 																																																																																																		
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IT PROGRAMS/ PROJECTS PEOPLE  INFRASTRUCTURE  SERVICES & SOLUTIONS  DATA 	<table border="1"> <thead> <tr> <th data-bbox="365 674 511 716">7/17</th> <th data-bbox="511 674 625 716">1/18</th> <th data-bbox="625 674 852 716">7/18</th> <th data-bbox="852 674 1063 716">1/19</th> <th data-bbox="1063 674 1177 716">7/19</th> <th data-bbox="1177 674 1323 716">1/20</th> <th data-bbox="1323 674 1421 716">7/20</th> </tr> </thead> <tbody> <tr> <td colspan="7" data-bbox="365 716 1421 758"> Communicate mission, vision, and strategic priorities in team and 1:1 meetings. Model and expect supporting behaviors. </td> </tr> <tr> <td colspan="7" data-bbox="365 758 1421 936"> Develop and implement a talent management plan to ensure IR staff can meet our growing and changing campus technology needs, including individual development plans for all IR staff members. </td> </tr> <tr> <td colspan="7" data-bbox="365 936 1421 1020"> Improve partnerships, alignment, and accountability—including areas where IR is also a customer. Identify key customers and get to know them well. </td> </tr> <tr> <td colspan="7" data-bbox="365 1020 1421 1104"> Increase our current network capacity; develop and implement a plan for managing our large bandwidth growth (35% annual) and future network needs. </td> </tr> <tr> <td colspan="7" data-bbox="365 1104 1421 1188"> Develop and implement a plan for managing our large data storage growth (50% annual) and changing future storage needs. </td> </tr> <tr> <td colspan="7" data-bbox="365 1188 1421 1272"> Implement Office 365 and related technologies, to transform university work tasks and business processes with new digital workplace tools. </td> </tr> <tr> <td colspan="7" data-bbox="365 1272 1421 1430"> Develop and implement an intake process for incidents, service requests, and less-structured tasks and projects, including prioritization and resource allocation. </td> </tr> <tr> <td colspan="7" data-bbox="365 1430 1421 1472"> Improve core customer services by focusing on business value and customer needs. </td> </tr> <tr> <td colspan="7" data-bbox="365 1472 1421 1556"> Develop and implement a plan for managing our growing and increasingly complex software development and systems integration needs. </td> </tr> <tr> <td colspan="7" data-bbox="365 1556 1421 1640"> Expand automation and integration using ITSM tools for project management, hardware and software asset management and optimization, service requests, reports, and analytics. </td> </tr> <tr> <td colspan="7" data-bbox="365 1640 1421 1682"> Develop and implement a mobile strategy. </td> </tr> <tr> <td colspan="7" data-bbox="365 1682 1421 1766"> Develop and implement a data management plan to optimize university access to and value from our data. </td> </tr> <tr> <td colspan="7" data-bbox="365 1766 1421 1850"> Pilot several analytics projects for IR services. </td> </tr> </tbody> </table>				7/17	1/18	7/18	1/19	7/19	1/20	7/20	Communicate mission, vision, and strategic priorities in team and 1:1 meetings. Model and expect supporting behaviors.							Develop and implement a talent management plan to ensure IR staff can meet our growing and changing campus technology needs, including individual development plans for all IR staff members.							Improve partnerships, alignment, and accountability—including areas where IR is also a customer. Identify key customers and get to know them well.							Increase our current network capacity; develop and implement a plan for managing our large bandwidth growth (35% annual) and future network needs.							Develop and implement a plan for managing our large data storage growth (50% annual) and changing future storage needs.							Implement Office 365 and related technologies, to transform university work tasks and business processes with new digital workplace tools.							Develop and implement an intake process for incidents, service requests, and less-structured tasks and projects, including prioritization and resource allocation.							Improve core customer services by focusing on business value and customer needs.							Develop and implement a plan for managing our growing and increasingly complex software development and systems integration needs.							Expand automation and integration using ITSM tools for project management, hardware and software asset management and optimization, service requests, reports, and analytics.							Develop and implement a mobile strategy.							Develop and implement a data management plan to optimize university access to and value from our data.							Pilot several analytics projects for IR services.						
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METRICS	<ul style="list-style-type: none"> Customer satisfaction Employee engagement Staff turnover Training dollars/IR employee 	<ul style="list-style-type: none"> Security audit performance Available storage Access points/coverage HEB issues/complaints 	<ul style="list-style-type: none"> Revenue growth IR inclusion on grants Front-end consult vs back-end fixes Needs met with current solutions 	<ul style="list-style-type: none"> Report of activities supporting the strategic objectives 																																																																																																		