ECAR working groups are where EDUCAUSE members come together to create solutions to today’s problems and provide insight into higher education IT’s tomorrow. Individuals at EDUCAUSE member institutions are invited to collaborate on projects that address core technology challenges and advance emerging technologies important to colleges and universities. More information can be found at the ECAR working groups website.

Introduction

Many higher education IT organizations have begun to adopt IT service management (ITSM) to help align operations with institutional strategies and goals. IT organizations play a key role in supporting core higher education functions by offering IT services to support the business and the mission of the institution. Further, IT is evolving from being the builder of things to the integrator of things. The recent commoditization of technology has transformed IT’s focus to delivering quality services. Accordingly, the management of IT services has changed toward innovating around delivery versus innovating around solutions. Additionally, service sustainability is increasingly recognized as a critical component of launching new services, and thus there is a renewed focus on the IT service life cycle (strategy, design, transition, operation, and continual improvement). IT is now being positioned as a service framework approach, as opposed to the traditional IT support and delivery method. ITSM backs this shift and helps IT departments address service goals, align with “the business,” and provide a better experience for customers—the ultimate goal.

Interest in ITSM in higher education has been growing over the past decade. Often this interest is direct—IT organizations specifically investigate ITSM and how a service management approach can benefit their institution. In some cases, higher education institutions are interested in the kinds of outcomes that ITSM can facilitate. IT organizations frequently start an ITSM journey as part of a service desk effort. Over time, many organizations find that their use of ITSM shifts from being only a service desk approach to an institution-wide service management approach to engage stakeholders across the enterprise. This can mean that ITSM is a bigger change than originally anticipated.

ITSM and IT Service Delivery

IT service management has its origins in ITIL, a series of books first published by the British government in the 1980s. ITIL is a framework for IT service management, and its most recent version outlines five phases of a service’s life cycle: service strategy, service design, service transition, service operation, and continual service improvement. Previous versions of ITIL defined two areas: service delivery and service support. The term “service delivery” is no longer formally defined in ITIL 2011 but is sometimes used to refer to portions of service design, service transition, and service operation.
Many IT organizations perform ITSM processes—for example, incident management (fixing things when they break) and change management (changing IT services)—without being aware that they are engaged in ITSM. However, with formal awareness and intentional integration of ITSM practices, organizations can better align their practice to the services they support. ITSM supports the shift to a more central and pivotal role for IT organizations in supporting core higher education functions and helps:

- Continuously realign IT to business goals
- Streamline operations
- Increase transparency
- Standardize core processes and controls
- Provide a structure for continuous improvement

But understanding what path to take to move to a service management approach can be difficult. This paper explores the motivations for why higher education IT organizations are moving to ITSM and shares examples of how ITSM has been applied in higher education IT organizations. While we expect that readers of this paper will have a general understanding of ITSM, the case studies presented here demonstrate how ITSM can be used to help solve existing problems so that the approaches represented here can be adapted for and adopted by your individual institution.

**Foundational ITSM Assumptions**

A large part of the value of IT service management is helping identify the value and functions of IT. The focus of ITSM as a practice has evolved as well, to cover not only the support of service but also the selection, design, implementation, and improvement of service. This expanded scope of service management makes it an organization-wide challenge.

There are several foundational ways of thinking about ITSM in higher education. We call these out here for you to review and consider whether your organization shares these mental models. If it does not, you may want to identify how to help your organization develop these mental models prior to implementing an ITSM approach.

- **IT provides services, not technologies.** We need a mechanism to convey to customers what IT does. Our customers don’t typically care how many servers we have or what technical protocols are available. By focusing on IT services, we are able to use a user-focused vocabulary for communicating with our users. In addition, this shift enables us to develop a stronger customer-service culture with IT staff (e.g., understanding that “e-mail” is not the same thing as “the Exchange servers”). A first step in service management, then, is to figure out what it is that you do (i.e., your services, often accomplished through the development of an IT service catalog) so you can effectively make this transition.
The benefits of IT services are defined by the customer. The purpose of a service is to bring a benefit to our IT customers. This requires a clear understanding of who the customer is for various services. ITSM encourages an approach that engages customers in decisions about which services to offer, how to improve those services, and how best to map them to university business needs.

IT services are successful when they balance benefits, cost, and risk. IT services should produce benefits that can be seen by service users. These benefits ought to justify the cost of providing the service. All IT services have risks, as well, and there is a cost to managing these risks. IT is more likely to be trusted with institutional resources when services are designed to balance cost and risk against the service’s perceived benefits.

IT improvements support one another. As one IT process improves, it can help other IT processes develop. For example, developing a change management process can reduce the number of break-fix incidents and also relieve the burden on project management. Further, improvements in areas such as project management, software development practices, and IT governance can also improve IT service quality.

ITSM is an ongoing activity, not a timed project. Projects have a start and end date. A core concept of ITSM is the importance of continuous improvement and the incorporation of an iterative process to meet customer needs, drive efficiency, and measure success. An ITSM program is not a one-and-done activity.

With a common set of understandings, we can learn from one another. The challenges faced at any one institution have likely been faced by others, and resources such as this paper, discussion lists, articles, and presentations can help us engage with and support each other. In addition, established IT frameworks such as ITIL exist to provide guideposts informing us as we address issues in our organization.

Motivation for ITSM in Higher Education

ITSM is a framework of processes and functions that can work together to improve IT service quality and balance the benefits, risk, and value of IT. In this paper we present six specific value areas for ITSM:

1. Enables higher education mission outcomes
2. Supports business change and improvement
3. Manages risk and improves compliance
4. Improves service quality
5. Optimizes value and resource investment
6. Supports effective IT governance

ITSM improvements are most effective when they are rooted in addressing your organization’s particular situation and challenges.

Where ITSM Can Help

Some common issues can be indicators that formally introducing ITSM may be helpful. These problems are ones that you may not even realize could be solved with ITSM. They include:

- A lack of awareness of IT’s service offerings, by both customers and providers
- Disjointed processes and platforms
- Duplicate services and lack of prioritization
- Overall operational inefficiencies
- An incomplete financial picture
- General disconnect between IT and business goals
Enables Higher Education Mission Outcomes

IT staff often perform important technical work without understanding how that work connects to institutional goals. ITSM helps put technical work in context by showing how technical components work together to form an IT service. IT services, in turn, are described at a level that makes sense to the broader institutional community, and IT strategic goals can then address how those IT services might need to change or grow.

For example, IT service management can help administrators see that the IT services they support—for instance, collaboration services—are connected to institutional goals to build a distance learning program or greatly increase the number of faculty.

How ITSM Helps

- Clearly links IT work to the institutional strategic plan
- Makes clear that IT services should support the institutional mission
- Helps IT quantify and demonstrate the value of its services, allowing these services to support institutional missions through good stewardship and governance of resources
- Markets and presents IT services that are well communicated so that they are easy to understand, request, and consume in a way that links available services to where they are needed
- Ensures that the quality of IT services meets customer needs and expectations through collaboration and continual improvement
- Supports the development of business relationships with customers based on an accurate understanding of expectations, resulting in high customer satisfaction

Related Case Study

- Implementing Institution-Wide Service Management Planning

Supports Business Change and Improvement

Institutional improvements often include IT components. When IT components change, there is the risk that IT services might break or be more difficult to support. IT service management helps an organization review potential changes for risk and impact to help ensure that existing and new services are stable and manageable. Specifically, ITSM can help by creating processes to build, test, deploy, and review service changes. One phase of the IT service management life cycle, service transition, is focused on how to manage change and ensure that changes are implemented safely, efficiently, and in a way that is understood and can be well supported.

How ITSM Helps

- Creates repeatable and scalable processes—based on best practices—that facilitate, communicate, and ultimately simplify the impact of change
- Supports executive decision making during times of significant change by defining the business value of IT services
• Ensures that customers have access to and can use IT services when they are needed for organizational operations
• Enables IT to respond to business needs while maintaining the stability of existing services

Related Case Studies
• Improving IT Efficiency, Customer Service, and Self-Service
• Building a One-Stop Shop for IT
• Helping IT Work as a Whole
• Presenting a Unified IT Organization
• Promoting a Vision of “One IT”

Manages Risk and Improves Compliance
Every IT service comes with some risk. For example, credentials or data stores can be compromised. IT organizations need to be able to understand the risks to IT services and communicate those risks; institutions might conduct internal audits and security reviews to try to understand and manage risk. ITSM helps with risk management by identifying an organization’s services and then identifying, defining, planning for, and managing risks with these services. Four ITSM processes in particular—capacity management, availability management, IT security management, and IT service continuity management—are specifically focused on risk management. ITSM then enables campus discussions around risk and how it might be balanced against an IT service’s benefits.

How ITSM Helps
• Establishes controls to ensure production services are stable
• Proactively identifies problems (repeated IT issues)
• Creates sustainable and repeatable processes to control changes to IT service assets, enabling comprehensive management of resources
• Through the use of service level agreements, provides an opportunity for customers and system owners to be educated on their roles and responsibilities in managing risk and compliance
• Through consistent and efficient service management, allows risk and compliance managers to easily assess and understand risks to the organization
• Enables consistent service delivery and management built on standardized policy, standards, and procedures, which are the building blocks of a risk and compliance management program
• Serves as the foundation for understanding the technology environment of an organization and the building blocks for assessing and managing risk/compliance

Related Case Studies
• Applying Service Portfolio Management to Support IT Governance
• Using ITSM to Improve Audit Preparedness
• Helping IT Work as a Whole
Improves Service Quality

IT service management provides insights into—and improves—service quality by focusing on the customer’s experience with a service, rather than on the performance of individual technical components. ITSM not only helps connect services to customers more fluidly but also can help find simple changes that, once implemented in a service, greatly improve customers’ perceived value of the service.

How ITSM Helps

- Improves customer perceptions of IT and IT service delivery
- Minimizes service disruptions through quick restoration of IT services and elimination of foundational causes
- Provides easy-to-understand communications about IT services
- Ensures that the quality of IT services meets the needs and expectations of customers through collaboration and continual improvement
- Supports the development of business relationships with customers based on an accurate understanding of expectations, resulting in high customer satisfaction

Related Case Studies

- Improving IT Efficiency, Customer Service, and Self-Service
- Building a One-Stop Shop for IT
- Helping IT Work as a Whole
- Implementing Institution-Wide Service Management Planning
- Using ITSM Tools and Concepts Outside IT
- Bringing a Laser-Sharp Focus to the Most Common Issue from Students’ Perspective
- Making Users More Self-Sufficient and Improving the Service Desk Through Knowledge Management
- Promoting a Vision of “One IT”

Optimizes Value and Resource Investment

Institutions allocate a great deal of money to IT operations and investments. Without IT service management, it can be difficult for an institution to get a full picture of what is being spent or to fully realize what it is getting for the money—it sees bills for network hardware but not the overall service.

ITSM can help ensure that money being allocated to IT is accountable, can identify where funds may be needed, and can make visible how those funds translate into IT service outcomes. This can change the perceptions of IT from being a cost center to something that brings business or even transformational value.

How ITSM Helps

- Supports measurement of service value to improve IT organizational performance
- Manages institutional costs through appropriate prioritization and utilization of IT services and resources
- Demonstrates the real value of IT services through good stewardship and management of resources
Related Case Studies

- Improving IT Efficiency, Customer Service, and Self-Service
- Building a One-Stop Shop for IT
- Helping IT Work as a Whole
- Implementing Institution-Wide Service Management Planning
- Presenting a Unified IT Organization
- Using ITSM Tools and Concepts Outside IT
- Bringing a Laser-Sharp Focus to the Most Common Issue from Students' Perspective
- Making Users More Self-Sufficient and Improving the Service Desk Through Knowledge Management
- Promoting a Vision of “One IT”
- Applying Service Portfolio Management to Support IT Governance
- Using ITSM to Improve Audit Preparedness

Supports Effective IT Governance

IT service management helps provide a mechanism for institutional stakeholders to make meaningful decisions about service. IT governance groups can be presented with the costs, risks, and benefits for several options in designing an IT service and then decide which option to pursue. For example, IT governance could choose the anticipated time to restore service for a failure: a next-day option, a more expensive four-hour option, and a very expensive hot-standby option. Another place that IT governance can help is in balancing the IT investment in different service areas.

How ITSM Helps

- Identifies how services will be affected by projects in the IT project portfolio
- Presents IT service costs, risks, and benefits to IT governance
- Reports on the performance of IT services
- Reports on the demand for current and future IT services

Related Case Studies

- Applying Service Portfolio Management to Support IT Governance
- Using ITSM to Improve Audit Preparedness

ITSM in Higher Education: Case Studies

ITSM can help address organizational goals such as those listed above: enabling higher education mission outcomes, supporting business change and improvement, managing risk and improving compliance, improving service quality, optimizing value and resource investment, and supporting effective IT governance. However, each institution’s goals and needs will be different.

In this section, several case studies show how ITSM has been applied at different institutions. There is no one way to approach ITSM. The following case studies show how institutions addressed the problems at
hand using techniques from ITSM. As you read these studies, consider what value ITSM might provide your organization. One of the first challenges in pursuing IT service management is understanding your current situation to identify the parts of IT service management that best address your current challenges.

**Improving IT Efficiency, Customer Service, and Self-Service**

In 2014, Cal Poly Pomona University embarked on an undertaking to revamp its change management process. This was accomplished via conversion to ServiceNow, a software-as-a-service cloud solution based on the ITSM approach. This transition resulted in improved help desk operations, an increased percentage of successful changes, a single repository for recording all changes, and a convenient path toward process adoption and adherence. The tangible associated benefits from implementing ServiceNow include improved customer satisfaction via better communication, less service downtime, higher-quality service, better understanding of potential user impacts, and increased lead time for adequate impact analysis.

ServiceNow was implemented in the summer of 2014 to achieve the following:

- Implement ITIL standard practices to standardize processes and make them more repeatable
- Replace/consolidate existing incident and request ticketing systems as the institution was centralizing IT organizations and consolidating multiple ticketing systems
- Support ad hoc and standard reporting of evolving service metrics based on common data definitions and a flexible reporting interface
- Improve and simplify the ability to produce the reports
- Support trend analysis
- Reduce manual tracking
- Use a common tool to communicate with end users
- Enhance IT’s ability to systemically route requests/incidents

Since employing ServiceNow, the institution has realized several accomplishments worth highlighting. For example, the IT division has been able to successfully execute a new “bulk buy” process. Prior to ServiceNow, bulk buy orders were submitted manually via Excel spreadsheets. ServiceNow has enabled the development and use of an online purchase catalog and automated delivery workflow, with user notifications and asset tracking. This replaced manual submissions with an automated process, thereby reducing person-hours and simplifying order placement, execution, and asset tracking. Transition to ServiceNow also improved the execution of the change management process and associated change advisory board (CAB) function via conversion to ITIL change categories (e.g., normal, standard, and emergency). Providing the option for classifying changes as either “normal” or “standard” allows them to be systemically routed for different approval processes (not requiring full CAB approval), thus saving significant person-hours. Finally, ServiceNow facilitated the automatic routing of incident tickets, thereby enabling the direct routing of incidents to the appropriate resource group (who previously received e-mails about broken links and therefore had to manually create incident tickets for each instance). This allows for
quicker ticket resolution and lessens the workload of the service desk staff. This created significant savings in person-hours during a campus domain-name change, when all campus links were changed. Ultimately, expectations associated with the desired effort to consolidate fragmented tools and legacy systems—while automating service management processes—were exceeded.

Lessons Learned

- Effective ITSM solutions are available that provide end-to-end support for both ITIL processes and infrastructure.
- Adoption of an ITSM solution can result in increased efficiency, cost avoidance, and an improved customer experience.
- This particular ITSM solution, ServiceNow, is not an intuitive tool. New users normally require one-on-one training to attain proficiency, as the GUI does not facilitate ease of use. It was important to assign dedicated resources to learn how to effectively set up and implement the modules employed.
- To maximize the capabilities offered by ServiceNow and tailor it to best fit our needs, a significant level of customization was required. For each such instance, the cost of the customization was weighed against its expected benefit. In cases where proposed customization projects were not anticipated to yield a significant return, the ServiceNow tool was not modified.

For more information, see Review: ServiceNow for Service Catalogue.

Building a One-Stop Shop for IT

In 2009, in order to save on costs and resources, Pace University began looking for a way to consolidate two separate ticketing systems being used by ITS and facilities management. The institution found opportunities for other areas of the university to also take advantage of an ITSM tool that would truly provide a one-stop shop for reporting and tracking issues and/or requests. Pace concluded that a combined ticketing system would bring about efficiencies and benefits by:

- Providing a centralized system for end users to report issues or request services
- Allowing end users and university departments to track their ticket status online, thereby encouraging accountability for the department and staff servicing the requests
- Creating new standard methods for reporting and providing different university areas with a more efficient way to acquire data and metrics about their tickets, which was an improvement over manual methods such as e-mail or phone calls
- Offering support staff the ability to move ticket requests between department areas within the system in order to complete different portions of a request and to add update notes to communicate with other support staff and the end user on ticket status

The university ticket system, Web Help Desk, was implemented in 2010. The process to achieve our one-stop shop required several discussions with the stakeholders from various departments. The goal of those discussions was to discover their processes, workflows, and business. It was important to
understand the details of their business in order to develop workflows within the ticketing system. The benefits obtained from this initiative are multilayered. Requests have been easily viewed and shared between areas, not only within ITS but also in areas such as the office of student assistance, facilities and management, and human resources. The system has provided the opportunity for different areas to generate requests using e-mail, in addition to offering the ability for end users to update and/or comment on reported issues or request either through e-mail or by logging in to the system. The option to check on status, comment, and track historical work on requests has assisted in alleviating the need to call ITS help desk for updates. As part of the efforts to implement a change management process, the university created a Change Advisory Board process through the system, which allows for an approval process for change requests made within ITS. Additionally, the creation of automated workflows that can be routed directly to areas upon ticket submission has helped increase efficiency in response time.

Lessons Learned

The creation of a one-stop shop has greatly improved the method by which areas outside IT manage and handle numerous requests from students, faculty, and staff. Following are some lessons learned:

- As areas are always changing the services offered, the work to maintain the ticketing system is a continuous and ever-evolving process requiring diligent communication between ITS and areas using the system.
- The first iteration of the IT service catalog was completed in 2015. To improve the process from an end-user point of view, Pace is now looking at how the catalog correlates with what is currently in the ticketing system for ITS requests. The creation of a catalog is extremely useful in informing decisions for workflow improvements of request types and categories.
- The management of the system cannot be easily performed by one person. It is critical to have a knowledgeable team that understands, manages, and develops the system’s methods and processes.
- The department technicians using the system required more training than was initially provided. Pace is working on developing an onboard training process for new technicians to better understand the functionality and features of the system.

For more information, see the Web Help Desk.

Helping IT Work as a Whole

Carnegie Mellon University (CMU) replaced several incident management tools with a centralized service management tool—without adding full-time staff—using a matrixed approach to process or technical resources. Matrix management (borrowing or allocating a percentage of staff members’ time while leaving them embedded in their domain) proved to be effective. While matrix management is not preferred, advantages include local evangelism, different perspectives on business process, and leveraging available staffing resources.

CMU’s central IT organization (Computing Services) needed to replace its help desk ticket tracking system. After several attempts to evaluate and replace the previous system, it was eventually determined that a more holistic approach was needed to accommodate other teams within Computing Services, who were all using disparate tools.
To effectively migrate IT from three ticketing systems into one unified ITSM tool, CMU embraced an ITIL process–oriented approach and established internal governance for a selection of ITIL processes. The institution deployed ServiceNow’s incident, knowledge, and problem modules during its initial rollout. The help desk and desktop support organizations, as well as the service teams they escalated to, were all included as users in the original deployment. During this rollout, developers and systems administrators were borrowed from the infrastructure systems and application teams. This project eliminated two of the three ticketing systems in use.

Process owners were selected from management, including incident (client operations), problem (unified communications), and knowledge (web and communications). In addition, a senior architect who also oversees the infrastructure storage and virtualization team participated in the project on both technical work and in helping make architectural decisions. Lastly, an outside contractor was brought in who is knowledgeable in ServiceNow, ITSM, and higher education. CMU did not attempt to fully adopt all of ITIL, instead selecting the processes necessary to operate.

After the initial ServiceNow deployment, a smaller follow-on project continued to migrate infrastructure services teams out of a third system. Over time, a few staff positions that became available were repurposed, using a blend of full-time staff and matrix staff to support and develop CMU’s ServiceNow implementation.

Lessons Learned

- While dedicated IT staff resources are generally preferred, using time from available staff members can be a relatively agile way to make progress. It also gives organizations an opportunity to understand skills and workload before hiring dedicated staff.
- Farming out governance to multiple departments for decision making can lead to processes that meet broader organizational goals and objectives while evangelizing those changes.
- Although focusing on business process first is important, there is an overhead cost to technology customizations. Sometimes it’s more cost effective for business process to adapt to technology.

For more information, see Carnegie Mellon Computing Services.

Implementing Institution-Wide Service Management Planning

The changing funding environment for public higher education has created a need to look at new ways to offer services. Students, faculty, staff, and other affiliates started working together to develop a shared future vision for Marshall University. The campus effort aims to examine every opportunity to improve needed services, eliminate outmoded services, cut costs, and increase revenues.

An initiative called Marshall 20/20—a strategic planning process initiated by the president and driven by the senior leadership—looked at the service portfolio and identified cost-reduction strategies related to reducing duplication of efforts, centralized printing, business process improvements, and centralized coordination of IT services across campus. The focus is on addressing some of the “pain points” and structural obstacles to delivering top-notch services to students, faculty, and staff.
One work group was tasked with addressing Marshall’s service portfolio, which includes all activity in support of the university’s mission other than instruction, including student services, auxiliaries, human resources, purchasing, communications and marketing, travel, instructional technology, printing, mail services, and so forth. The service portfolio review was a university-wide analysis of how these services align with the university’s mission, how much they cost, and how they could be provided more efficiently.

Rapid-response teams were selected from among employees representing different areas at the university, including faculty and IT. These teams engaged the entire Marshall community in evaluating the university’s services (not just technology) and making recommendations for improvements. Major initiatives coming out of this were the creation of a shared-services model for common business and IT operations and a centralized project and portfolio management process.

**Lessons Learned**

- Marshall leadership recognized that some reorganization and retraining will be necessary to improve efficiencies and increase revenue.
- Leveraging the talents and knowledge of people from across the university helped IT evaluate the university’s services, make recommendations for improvements, and implement solutions.
- Including representatives from different areas on campus provided diversity in approaches to problem solving and improved communication.

For more information, see [Marshall 20/20](#).

**Presenting a Unified IT Organization**

University of Florida Information Technology (UFIT) created unified processes for handling service requests and incidents across the division. In addition, it consolidated multiple toolsets into a single service management platform that allows leadership to measure and manage service management holistically. Team members from across the division helped build the process to ensure that all viewpoints were heard and considered.

UFIT had long been viewed as multiple, separate organizations with inconsistent processes and tools that led to poor experiences by the customer and little ability by leadership to measure and manage IT across the university. This led to an initiative to introduce ITIL and service management practices to UFIT and its distributed IT partners.

Designed to improve the quality of technology services and support for campus, the new IT service management initiative aims to increase the efficiency and consistency of services provided to faculty, students, staff, and the greater University of Florida community. This was based on three principles:
• One customer view
• One process used across UFIT
• One tool to better automate cross-IT workflow and provide transparency

With these three principles in mind, UFIT started with division-wide meeting groups to understand each area’s processes and gather requirements for the new toolset. A consultant was brought in to help evaluate toolsets based on the requirements that were gathered. Based on input from the consultant, a tool was selected and implemented based on the process guides. During the implementation, compare/contrast guides were created for current tools relative to the new toolset.

**Lessons Learned**

• Organizational change is very difficult; for it to be effective, consistent top-down support is necessary.
• Each institution will need to choose processes that best fit the IT organization’s goals.
• Keep people informed but not overwhelmed with too much information. Get started with basic metrics that all understand and agree on.
• Ensure that the initiative is about the process and not about the tool, and make incremental changes to the tool as needs arise.
• Ensure that the resources necessary for staff and user adoption of new tools are available. UFIT’s ITSM solution, Cherwell, is not an easy-to-use tool. The division had to assign dedicated resources to learn how to effectively set up and implement the modules employed. New users normally require one-on-one training to attain proficiency, as the GUI does not facilitate ease of use.

For more information, see [University of Florida, Information Technology Service Management](#).

**Using ITSM Tools and Concepts Outside IT**

The University of Florida Information Technology (UFIT) extended service management principles and Cherwell ITSM suite to several shared-service centers (fiscal, human resources, and sponsored programs) that allow the areas to move from e-mail and paper to a more streamlined workflow that enhances the level of service by allowing them to focus on their core competencies.

The primary drivers were to increase efficiency—most requests were handled via e-mail and paper—and consistency—different people had their own shortcuts or processes. An additional benefit was the ability to create accurate and timely reports to track progress and understand volume, trends, and so forth.

UFIT worked with external groups in planning sessions to better understand the existing processes for the various organizations. The entire process was documented via Visio, with a focus on where the process and tool would intersect. Most groups used e-mail as their “workflow system,” and so they needed to adapt from their e-mail system. Because these shared-service centers followed similar workflows for their respective areas on campus, templates were used to reduce the setup time. Prior to going live, documentation and training were created to help staff over the last hump of going to a new toolset and workflow.

**ITSM Strategic Value Areas**

- Improves Service Quality
- Optimizes Value and Resource Investment
Lessons Learned

- Shared-service customers have a relatively high level of engagement but are much less demanding in terms of deploying releases after the go-live.
- UFIT planned to create a parent tenant and clone other tenants from it, but each shared-service center had its own desire for customizations that resulted in the proposed parent-tenant process not being used.
- Rather than taking the vendor’s word as gospel with a new offering, an institution should have a detailed list of deliverables for verification.
- Overall effectiveness is obtained by learning about the nuances of the business processes and discussing how Cherwell can (and cannot) help.

For more information, see University of Florida Business Center.

Bringing a Laser-Sharp Focus to the Most Common IT Issue

Marshall University has found that only certain areas in technology services cause the majority of issues for students and employees. To be efficient and effective in addressing service quality, the university’s IT staff used the 80/20 rule to focus on the larger issues first.

Every semester, the service desk identifies problem categories, along with reporting the number of calls/e-mails/tickets for each of them. Along with infrastructure and application staff, they then identify the top issue for that semester and work together to resolve it.

As an example, one semester the top issue was logging on to wireless with 802.1x using certificates. Everyone worked together to review the process, update the technology, and communicate with students until this activity was no longer a top problem. The following semester the top problem was password reset. By developing a custom password recovery portal, the number of password resets was reduced by more than half. The next semester the issue was connecting gaming devices in the residence halls, and IT staff were able to resolve the issue fully.

Lessons Learned

- By focusing on the top issue, all efforts are directed in the most effective way while reducing distractions.
- Focusing on one area at a time without multitasking makes group efforts more focused and provides better outcomes.
- Teamwork and collaboration between all IT teams, including the front-facing service desk and the back-end infrastructure teams, provides successful solutions.

For more information, see Services Portfolio or Service Catalog & Fees.
Making Users More Self-Sufficient and Improving the Service Desk Through Knowledge Management

Facing an ever-increasing demand for support, the University of Maryland Baltimore County’s Division of Information Technology (DoIT) decided to utilize knowledge management to provide users with the information needed to solve frequent questions and problems. By encouraging users to help themselves with available documentation, support staff can dedicate their time to assisting users with more-complex problems and focusing on proactive efforts to improve IT services.

DoIT resolves around 25,000 support requests each year, a quarter of the campus’s support requests overall. With the number of support requests rising each year, DoIT needed to find a way to meet the increasing demands for support while maintaining its current number of staff and without sacrificing its current level of service.

In 2011, DoIT’s Technology Support Center, responsible for providing tier-1 support for the campus, began curating a knowledge base of answers to its most frequently asked questions. These FAQs featured step-by-step instructions as well as screencasts to show and tell the user how to resolve the issue. The format provided users with 24/7 access to answers that could previously only be obtained by direct involvement from support staff. Student employees at the Technology Support Center were encouraged to suggest FAQ articles as an acceptable, initial resolution while giving users the option to reopen the request if necessary.

Lessons Learned

- Users are receptive to using self-support methods, reducing the need for phone support by 30% and ticket volume by 3%.
- Knowledge management gives student employees the information and confidence to resolve support requests without assistance from full-time staff, reducing costs and training time.
- Users are often far more receptive to being provided a link to an article that is likely to resolve their request than IT staff might think. Although users can always reopen the request for further assistance, most requests remain closed after sending the link.

For more information, see Using FAQs to Help Users Help Themselves.

Promoting a Vision of “One IT”

ITSM is primarily being leveraged at Pennsylvania State University to unify a fractured IT (even within central IT) across the enterprise, including customer experience and unified workflow (e.g., ticket exchange). The idea is to transform the way the institution collectively manages IT services and to truly become “One IT” for the sake of overall alignment, effectiveness, efficiency, customer ease, and value to the business/mission of the university.

Penn State began with a deliberate, resourced “IT Transformation” (ITX) program that identified processes, roles, tools, and overall objectives. To start, a consulting firm was hired to help guide the direction of the initiative and provide ITIL/ITSM expertise (and training). As part of this effort, the university identified 11 ITSM processes to implement at the start: incident management, change management,
service request fulfillment, service catalog, service portfolio, project portfolio, resource portfolio, problem management, knowledge management, asset and configuration management, and project management. These span the ITIL service life cycle: service strategy, service design, service transition, service operation, and continual service improvement.

The result was the development of a “subscription model” in which five PSU IT organizations (two administrative units, one academic unit, and two campuses) are being transitioned onto a unifying platform, staggering subscribers from process to process, while allowing other subscribers to be added as staggered resources become available. To do so, Penn State created a formal service management office (SMO) to provide ongoing service management support (from onboarding to process stewardship to tool maintenance) and created and filled formal roles: service owners, service managers, process owners, process managers, and (for large units) process liaisons. The institution also created business relationship manager (BRM) roles to help us focus on correlating our services with customer needs and overall value to the business.

Lessons Learned

- Formal ITSM is complex and difficult, especially in more fractured/decentralized IT environments.
- The university didn’t start with the IT service catalog but should have.
- Appointing service owners across fractured/decentralized IT can be a challenge, given that territorialism is often a natural human response. But it does force service strategy to be consistent across a specific business service, and that’s a very good thing.
- Service management tools are still evolving, and need to continue evolving, especially with respect to integration with other tools (e.g., billing systems). Rethinking financial models may be required to optimize service provisioning and the associated toolset.
- ITSM helps establish a focus on customer needs and interactions, and in this way it will flex much of a staff’s soft skills. Ensuring that IT staff soft skills are adequate is a must.
- Portfolio management is the Holy Grail of ITSM. An institution must aspire to get to the point where it has complete service, project, and resource awareness and transparency. Although this is incredibly difficult to accomplish in the typical, highly fractured higher education environment, not getting there is to fall short of realizing the full value of ITSM.

For more information, see IT Transformation.

Applying Service Portfolio Management to Support IT Governance

Virginia Tech University Libraries’ IT Services department created a service portfolio and IT governance group to give library administration more visibility and control over IT’s direction. This led to IT’s being seen as a partner with the libraries and helped administrators understand the resource implications of IT-related decisions. It also helped IT get answers to important service-related questions such as which e-mail applications and services to support and how much time to invest in security training.
Someone must make decisions about how to allocate IT resources. Without IT governance or chargeback, IT often becomes “the department of no” because the decision falls to IT about what opportunities to pursue. IT governance is a complex topic. Its fundamental purpose is to help an organization balance the cost, risk, and benefit of IT’s services. IT producers (the IT department) can speak best to the cost; IT consumers (users) can speak best to the benefit.

The University Libraries at Virginia Tech built an IT governance group to heighten library management’s sense of ownership over IT resources and to ensure that IT was actually doing what the organization most needed. The IT governance group could also be presented with high-level questions about how IT services should be designed and supported.

Specifically, University Libraries IT Services wanted help understanding the future direction for its IT services: Which services were the most important, which services were the least important, and when were services so important that managers would advocate for increased IT staffing and resources?

Several key ingredients were necessary for the creation of this group:

- **Pressing IT decisions** that library management agreed were bigger than what the IT director should decide. For example, each library area had been responsible for replacing its own computers. One initial decision was whether to centralize this process and, with that centralization, move the associated money from these areas to IT.

- **High-value meetings.** IT governance members are usually the most-senior members of an organization—they are very busy, and their time is precious. It is extremely important to structure meetings so that people who want to prepare ahead of time can do so and that people in the meeting feel like the meeting is worth their time.

- **Careful framing of topics.** IT ought not to go to IT governance with decisions already made. Instead, for any problem discussed, there should already be possible solutions identified, and the solutions should stand the test of time. IT governance, especially at the beginning, is as much changing how management thinks about IT as it is making decisions. Ideas introduced in 2014 will be taking root in 2016–17.

Separately, IT Services built a “lines of service” catalog. (This is what the ECAR service catalog paper refers to as “service categories.”) The intention of this catalog was to provide a high-level view of what IT Services does. This catalog was built by meeting with IT governance members one-on-one to hear what IT did for their area and using those interviews—plus IT team meetings—to build language that was then validated by reviewing it with IT governance members. This catalog was used several times in the IT governance meeting as a whole:

- **For each service, decide whether to invest, maintain, minimize, or eliminate that service.** The IT governance group identified several services, such as “administrative process support” and “colocation” that they wanted to minimize or eliminate and other services, such as “information transfer services” and “digital collections and repositories,” in which they wanted to invest. This discussion also helped identify a missing service, “multimedia services.” From these conversations a net-new multimedia technician position was created and funded.

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**ITSM Strategic Value Areas**

- Manages Risk and Improves Compliance
- Optimizes Value and Resource Investment
- Supports Effective IT Governance
**Reframe major IT investment decisions in terms of impact on service levels.** For example, a significant capital investment in network storage could be framed as an improvement to the “file hosting” service level—higher-capacity disk, higher-availability disk, with better IT service continuity management due to site-to-site replication and hourly snapshotting for file recovery. Using the language of the service portfolio and service categories helps IT remember to underscore the service-level improvements for this spending and gives IT governance groups a way to independently verify that they are getting value for the money.

**Lessons Learned**

- Don’t be afraid to get started and ask for feedback. The first version of Virginia Tech’s IT service portfolio was not very good, but something was needed to get started. This led, after nine months, to a second version that started to be useful.
- Don’t put a lot of effort into IT services that people don’t want. Service portfolio management is a good way to validate which services people want.
- IT governance group members are typically senior-level staff, and they are very effective. Show them that IT governance is a way for them to get their priorities addressed, and they will buy into it. This, in turn, can help IT get the resources it needs.
- Show IT governance groups that action is taken based on their decisions.

**Using ITSM to Improve Audit Preparedness**

One university uses IT service management to maintain an accurate and effective inventory of assets for both operational maturity and security risk management efforts. At this university, campus leaders are acutely aware of the impact of IT. Information security—especially cybersecurity—and the associated risks to the institution for any failures or weaknesses in this area have raised the stakes for IT. Given the potential impact of a service outage or data breach from any such failures, the university demands regular audits as part of its risk management approach, and IT is responsible for responding to the audit findings through risk management and risk mitigation.

Asset and configuration management ideas from ITSM are foundational to the development of technical controls and risk management processes—such as vulnerability management, risk mitigation, information governance, and compliance—and have been a particular focus in many of these audits. One resulting recommendation was for IT to have a complete picture of its assets and the dependencies between assets, because you can’t manage and secure what you don’t know about or don’t have control over.

As a result, IT identified a multiphase approach to establish a centralized database of asset and configuration information that can be used for maturing operational processes and for the development of a risk management response. In the first phase, IT borrowed from existing best practices and third-party experiences to develop a single, centralized database structure, referred to by ITIL as a configuration management database (CMDB).

The second phase has focused on the implementation of four areas of emphasis to populate and manage data in the CMDB: discovery of what we already own, procurement of new assets, request fulfillment.
(which creates new logical assets), and operational management. The first three are possible sources of data used to populate the CMDB. To address these sources, the institution is developing an asset discovery process (now on the second attempt at using a tool to auto-discover assets, which is still better than consolidating the 20+ separate inventory lists across IT) and a procurement process to capture asset information as part of the existing financial purchasing process and is implementing an asset creation workflow from requests generated through the online service catalog that had been established previously.

Assets in the CMDB must be used and managed with a mature incident/change/configuration process to keep them up to date. IT has prioritized the development of formal change management and configuration management policies, along with standard operating procedures to aid in compliance.

**Lessons Learned**

- The team responsible for creating the CMDB structure and building the associated processes is not the data owner and cannot populate the CMDB without the buy-in and commitment of the entire organization.
- ITSM provides the rationale, structure, and guidance for mapping the effective operational connections (incident, change, configuration, etc.) to the data and showing the organization the value of a mature approach.
- The very difficult work of consistent documentation of resources is not high on anyone's list of things to do, and only the eventual outputs of a mature asset and configuration process hold any interest for campus leaders. The ability to get through the early stages of a program like this that has few quick wins requires dedicated leadership and support from executives in order to maintain focus.

**Getting Started: First Steps**

IT service management can enable mission outcomes, support change, manage risk, improve quality, optimize value, and support IT governance. However, as seen in the case studies, each institution’s approach to IT service management will be different depending on its needs.

These common first steps to implementing IT service management can help your institution:

- **Understand your current situation.** What are your organization’s goals? Who are the key stakeholders and what do they care about? What are your current pain points? Use this understanding to identify the portions of IT service management that would be most helpful.
- **Review the “Foundational ITSM Assumptions” section and determine the extent to which your stakeholders agree with those assumptions.** For example, employees might not understand who your customers are or agree on what constitutes an IT service. By reviewing these assumptions, you can identify themes to address in your communications and training sessions.
- **Make sure the key people who will be conducting or leading the improvement have an understanding of IT service management.** This could take the form of ITIL training, ITIL simulations, site visits or calls with other institutions, joining the EDUCAUSE ITSM constituent group, attending service management conferences or EDUCAUSE conferences that address service management, hiring a consultant to help with custom training, or delivering internal training.
• **Break improvements into small pieces that will deliver value.** If you’re introducing a new process such as change management, you may be able to begin using this process for one type of change to deliver value while building out the larger process. An ITSM tool implementation could be phased, adding modules over time as the organization matures.

• **Communicate the value of these small wins to stakeholders as you go, and celebrate successes.** Make sure you document and report back on the ways in which your ITSM program or effort is providing positive value for your organization. Did ITSM help your IT organization reduce the overall number of tickets last semester? What did you accomplish with that additional capacity? Did the CIO use the service catalog to showcase projects and staffing to senior executives at your institution? How did you convert the senior-level support into new opportunities for the campus community?

• **Remember that IT service management is an ongoing effort rather than a time-bound project or program.** There will always be room for improvement. It can be frustrating to see that things are not as good as they could be; keep in mind that having a vision for how the organization could improve is the necessary beginning of any improvement.

These steps, along with the discipline of organizational change management, such as John Kotter’s eight-step organizational change model, can also help in implementing any process improvement.

### Conclusion

The focus on IT service management has been steadily increasing over the past several years. As noted in the April 2015 ECAR research report *IT Service Delivery in Higher Education*, “IT service delivery is in a transitional stage; it is undergoing a shift from the management of technologies to the management of services.”

ITSM is more than just ticket management and the way a service desk operates. It requires the institution to transition to service-based versus technology-based thinking. It is a way of putting the technical components of IT into context for how they help the institution in the form of services, bringing to the forefront the question, What are our services, and what benefits do they bring to our customers?

ITSM can bring a variety of benefits to an organization, and there’s no single way for all institutions to approach service management. By understanding your organization’s current state and challenges you can find the best value of IT service management for your organization. This paper outlines six ITSM value areas and presents accompanying case studies that highlight various ways that colleges and universities have used service management to meet their organizational goals and serve as models for how you might approach and address local problems. However, ITSM is a whole discipline, and this paper is meant to simply provide a first step in helping you understand what ITSM can do for higher education. This paper is just one of many resources that should be consulted; others include the EDUCAUSE ITSM constituent group, the ECAR working group paper *The Higher Education IT Service Catalog: A Working Model for Comparison and Collaboration*, ITIL, the EDUCAUSE library of ITSM resources, as well as other sources mentioned in this paper. Future work will be needed to detail how to address specific value areas and provide additional guidance, including how to resource ITSM in higher education.
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Notes

1. As a result of this increased interest, ECAR began a series of reports on The Changing Face of IT Service Delivery in Higher Education in 2015.

2. ECAR released The Higher Education IT Service Catalog: A Working Model for Comparison and Collaboration in 2015, which could be used as a starting point. The model also allows for comparison among institutions.

3. See, for instance, the EDUCAUSE ITSM Constituent Group and its associated wiki site.
4. These value areas pull from "The Key Benefits of ITIL" but have been updated and changed to reflect ITSM values specific to higher education.

5. The terms change management and change advisory board are defined in ITIL Glossary and Abbreviations.


