Introduction

Technology is key to the future of higher education. Digital capabilities describe the application of technology to the core functions of an enterprise. EDUCAUSE uses maturity and deployment indices to track digital capabilities within higher education. Maturity indices measure the capability to deliver IT services and applications in a given area. They examine not just technical facets of progress but also dimensions such as culture, process, expertise, investment, and governance. They enable institutions to determine where they are and where they aspire to be. Deployment indices measure stages of deployment for specific technologies and services, which are aggregated to track progress by area. The maturity and deployment indices are based on contributions to the EDUCAUSE Core Data Service, an annual survey and benchmarking service open to all higher education institutions. This report on IT service management as a digital capability is part of a series that describes EDUCAUSE maturity and deployment indices and their current status in higher education.

IT service management (ITSM) is a strategic approach to IT service delivery that can work to improve IT service quality and balance the benefits, risk, and value of IT. ITSM is becoming more widespread in higher education as more and more IT organizations begin to adopt it to help align operations with institutional strategies and goals.

Successful ITSM implementations can serve to strengthen strategic alignment between IT and the institution, gain leadership buy-in, and manage continual improvement in services and operations. These practices are key to identifying and demonstrating the value of the functions of IT. Specific value areas for the IT service management framework of process and functions include the following:

- Enabling higher education mission outcomes
- Supporting business change and improvement
- Managing risk and improving compliance
- Improving service quality
- Optimizing value and resource investment
- Supporting effective IT governance
A central role of ITSM involves ensuring alignment between the services IT provides and the business goals of the institution. This aspect of IT service management involves building consensus between academic and administrative departments regarding the services and processes IT offers in order to provide an improved customer experience.

To help institutions better understand their progress with ITSM in higher education, EDUCAUSE developed a maturity index to measure and benchmark ITSM practices. By providing evidence regarding the current levels of IT service management development, identifying areas of strength and weakness, and formulating responses to complex issues that proactively move the proverbial needle in the desired direction, this index can help institutions engage in ITSM strategic planning and management. This report examines the status of college and university maturity and deployment in IT service management.
Highlights

- The IT service management maturity index consists of six dimensions: leadership, strategy, service design, service transition, service operation, and continual service improvement.

- The average score on the 5-point maturity scale for IT service management is 3.5, with scores across the dimensions ranging from 3.1 (service design) to 3.8 (service operation).

- More than half (53%) of colleges and universities have ITSM scores near the midpoint of the 5-point maturity scale. This is indicative of a “developing” status, wherein high-priority components of ITSM capabilities may be largely or fully achieved, while other components are still maturing. Active planning and strategic attention are under way.

- Service operation is the most advanced dimension: Nine in ten institutions have initiated or established processes to handle service interruptions, ensure coordinated problem resolution across the IT organization, and optimize access to services.

- Service design has the lowest average maturity: One-half of institutions are still in the “absent” or “initial” phases of identifying and defining IT services, assigning service owners, and providing services in accordance with users’ needs.

- ITSM maturity differs across institution types but not by institution size; community colleges and public master’s institutions tend to have higher maturity, while private master’s and doctoral (public and private) institutions tend to have lower maturity.
Advice

- Review the ECAR working group paper *Demonstrating Value Through IT Service Management in Higher Education* for advice and guidance around making the argument for and getting started on building an ITSM framework.

- Successful delivery of IT services is an institutional issue. Institutional and IT leaders who recognize this and take steps to ensure a collaborative process are in a better position to improve their institution’s IT service management capability.

- Reframe IT service management expenditures not as costs but as investments to showcase the value of the IT organization. Ensure that constituents, users, and providers have a clear understanding of IT service offerings.

- Create and implement an IT service catalog to communicate offerings, and use analytics and metrics to verify the efficacy of IT service offerings. Review the ECAR model service catalog paper for additional support in creating and making a service catalog available for use.

- Foster frequent communication about IT service management activities to promote transparency and a campus-wide view of the alignment of the institution’s strategy with operational goals. While schools might be doing IT service management on some levels, it is important to have formal awareness and intentional integration of these practices to build a culture of ITSM.

- Level-set institutional ITSM capability efforts and spend time on the things that matter most. Don’t assume that achieving the greatest level of maturity is an appropriate goal for your institution. It is a perfectly reasonable business decision to want to be very mature in some categories but not as mature in others or to take a methodical approach to improving maturity over time. One size does not fit all.

- Understand how peer institutions are deploying ITSM processes and at what level. Use that information to gauge the right ITSM technology investments for your institution’s type and size.

- Understand and improve your institution’s ITSM strength by regularly assessing it: IT leaders can invite other institutional constituents, such as academic leadership and institutional technologists, to collaboratively complete the maturity and deployment assessments using the EDUCAUSE Benchmarking Service. The results can help institutional teams
  - identify their institution’s strengths and development needs relative to those of peers and to their own aspirations,
  - inform strategic planning for establishing an IT service management capability, and
  - provide metrics to track ongoing progress against the plan and relative to peers’.
**IT Service Management Maturity**

In 2016, 427 U.S.-based institutions reported on their IT service management maturity in the EDUCAUSE Core Data Service (CDS) survey. Respondents indicated their level of achievement on 30 statements about important practices for establishing IT service management processes. For reporting purposes, institutional maturity is classified into the following five categories:

1. **Absent:** Capability components are largely not achieved. Little to no planning is under way.

2. **Initial:** Capability components exist either latently or slightly. Early planning and discussions may be under way.

3. **Developing:** High-priority capability components may be largely or fully achieved, while other components are still maturing. Active planning and strategic attention are under way.

4. **Established:** Capability components have been developed but may not yet be incorporated into institutional culture and practices. Efforts to improve sustainability or scalability are under way.

5. **Optimized:** Capability components have been developed with an eye toward sustainability, adaptability, and scalability. Components are fully integrated into institutional practices and culture (and may be influencing both).

Figure 1 summarizes the status of ITSM maturity in higher education. The figure displays maturity scores for each of the six index dimensions, as well as a composite maturity score for overall maturity. The six dimensions are as follows:

- **Leadership:** The extent to which ITSM leadership promotes formal awareness and intentional integration of ITSM practices to build a culture of ITSM by fostering buy-in and consensus with the IT organization (central and distributed) around the ITSM framework that is aligned with the institutional business goals and objectives. Additionally, the extent to which IT service management has a defined and dedicated role to oversee the ITSM service portfolio and ensure committed support from the highest-ranking IT officer.

- **Strategy:** The extent to which the IT organization implements ITSM practices to ensure that IT initiatives are strategically aligned with business goals, decisions are based on strategic consensus from representative stakeholders, and the value of IT services is communicated and understood throughout the institution.

- **Service design:** The extent to which an ITSM approach to identifying, defining, standardizing, communicating, and evaluating services and
the return on investment for these services has been put into place. Additionally, the extent to which an IT service catalog is in place, published, and available.

- **Service transition**: The extent to which configuration items and dependencies among them are identified and managed, including changes that affect IT services that have sustainable and repeatable processes, and the extent to which user-facing implications are developed with appropriate consultation and are clearly communicated to constituents and users.

- **Service operation**: The extent to which the institution is prepared to support users' requests for and consumption of IT services, handle service disruptions and identify causes of the disruptions, and foster coordinated problem-resolution responses to IT service incidents, including identifying opportunities for service improvement.

- **Continual service improvement**: The extent to which an ITSM approach is used to implement continual improvement to services by focusing on customer needs and overall business value, done by conducting regular assessments of services and service quality with appropriate stakeholders.

The appendix provides a draft rubric with detailed definitions of all levels of maturity across the six dimensions.

![Figure 1. Current status of IT service management maturity](image-url)
Average scores for each of the dimensions that combine to create the composite maturity scale are shown in figure 1. Service operation is the most advanced dimension and service design is the least. Differences of at least 0.1 between any two dimension scores are considered statistically significant.

Figure 2 displays the maturity scores for the individual capability components that have been rolled up into each of the six IT service management maturity dimension scores shown in figure 1.
<table>
<thead>
<tr>
<th>Category</th>
<th>Item</th>
<th>Initial</th>
<th>Developing</th>
<th>Established</th>
<th>Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Service operation</strong></td>
<td>Disruption mitigation</td>
<td>3.7</td>
<td>3.7</td>
<td>3.8</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>Coordinated resolution</td>
<td>3.8</td>
<td>3.9</td>
<td></td>
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<td></td>
<td>Easy access to services</td>
<td>3.7</td>
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<td></td>
<td>Service request optimization</td>
<td>3.7</td>
<td>3.7</td>
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<td></td>
<td>Root cause analysis</td>
<td></td>
<td>3.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Leadership</strong></td>
<td>Committed support</td>
<td>3.3</td>
<td>3.3</td>
<td>4.2</td>
<td></td>
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<tr>
<td></td>
<td>IT organization buy-in</td>
<td>3.6</td>
<td>3.8</td>
<td></td>
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<tr>
<td></td>
<td>Defined role for ITSM</td>
<td>3.5</td>
<td>3.3</td>
<td></td>
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<tr>
<td></td>
<td>Institution-wide approach</td>
<td>3.0</td>
<td></td>
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<tr>
<td><strong>Strategy</strong></td>
<td>Aligned with goals</td>
<td>4.0</td>
<td>3.8</td>
<td></td>
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<tr>
<td></td>
<td>Services based on need</td>
<td>4.0</td>
<td>3.8</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Inst. input on IT strategic plan</td>
<td>3.5</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Cost-benefit of IT services</td>
<td>3.5</td>
<td></td>
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<td></td>
<td>Budget mapped to services</td>
<td>3.4</td>
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<tr>
<td></td>
<td>Service prioritization</td>
<td>3.4</td>
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<tr>
<td></td>
<td>Value understood throughout</td>
<td>3.2</td>
<td></td>
<td></td>
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<tr>
<td><strong>Continual service improvement</strong></td>
<td>Changes support business need</td>
<td>3.6</td>
<td></td>
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<td></td>
<td>Constituent needs gathered</td>
<td>3.5</td>
<td></td>
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<td></td>
<td>Regular assessments</td>
<td>3.1</td>
<td></td>
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<tr>
<td><strong>Service transition</strong></td>
<td>Design with constituents</td>
<td>3.5</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Change management</td>
<td>3.4</td>
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<td></td>
<td>Configuration items</td>
<td>3.3</td>
<td></td>
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<tr>
<td></td>
<td>Organizational knowledge shared</td>
<td>3.0</td>
<td></td>
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<tr>
<td><strong>Service design</strong></td>
<td>Defined services</td>
<td>3.5</td>
<td></td>
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<tr>
<td></td>
<td>Services available and accessible</td>
<td>3.5</td>
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<td></td>
<td>Assigned service owners</td>
<td>3.3</td>
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<tr>
<td></td>
<td>Consistent delivery</td>
<td>3.1</td>
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<tr>
<td></td>
<td>Services are understood</td>
<td>3.0</td>
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<td></td>
<td>Service catalog</td>
<td>2.7</td>
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<td></td>
<td>Metrics and analytics</td>
<td>2.6</td>
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**Figure 2. IT service management maturity index items and mean scores**
The ITSM maturity of individual institutions varies. Figure 3 shows a
distribution tightly grouped around the midpoint of the scale. No institutions
demonstrated the across-the-board strength to qualify as optimized, with all
capability components in place and sustainable, adaptable, and scalable. The
maturity of about 22% of institutions could be called established, with capability
components in place but not fully sustainable, scalable, or incorporated into
institutional culture and practices. The IT service management maturity of just
over half of institutions is developing, meaning active planning and strategic
attention are under way, high-priority components of capabilities may be in
place, and early versions of some capability components may be even more fully
developed. Less than one-quarter of institutions have achieved only a maturity
level of initial, with early planning and discussions under way and only partial or
latent existing capability components. Fewer than 1 in 50 institutions rated their
IT service management capability as absent, meaning that if they address the IT
service management at all, it is in an improvised, irregular way. (See the sidebar
“Institutional Differences in Maturity” to learn about which types of institutions
have higher and lower IT service management maturity scores.)

Figure 3. Distribution of IT service management maturity across institutions
Institutional Differences in Maturity

There are significant differences in composite IT service management maturity scores by Carnegie Classification ($p < 0.0001$) but not by institution size ($p = 0.20$). Community colleges and public master’s institutions tend to have higher maturity, while both private and public doctoral and private master’s institutions tend to have lower maturity.

The differences in maturity among institution types may make it particularly interesting to compare a single institution’s maturity scores with those of selected peer institutions. A personalized benchmarking experience may bring a better understanding of the practices that contribute to maturing an IT service management initiative. For readers who want to better understand IT service management maturity within their particular institutional demographic, EDUCAUSE has introduced a new service to enable institutions to compare their IT service management maturity with that of peers. The EDUCAUSE Benchmarking Service is available for IT service management and seven other areas.
Conclusions and Recommendations

As the focus of IT service management shifts from providing technologies to providing services, implementing ITSM practices and developing an ITSM culture can help emphasize customer and business needs. A mature ITSM program can demonstrate the value of the IT organization by relating the services provided to the benefits received by the institution at large. Through strategic leadership and implementation of an IT service management program, institutions can manage the quality and perception of the services offered by the IT organization and use feedback from stakeholders and constituents to improve those services.

The EDUCAUSE ITSM maturity index can help IT leaders assess and document the state of IT service management at their institution. An institution’s maturity scores are evidence of current practices, enabling a comparison with aspirational or peer practices. Assessing ITSM maturity will also give the institution baseline metrics from which to gauge progress in maturity over time. Gone are the days of basing decisions on information generated exclusively from human advisors, common sense, intuition, and past experiences. Using benchmarking results to influence and persuade the institution’s decision makers is an exemplary way to start or reinvigorate an institutional IT service management strategy.

Acknowledgments

Much credit and many thanks are owed to Susan Grajek, Leah Lang, Karen Wetzel, Kate Roesch, and Gregory Dobbin, who all contributed substantial advice, effort, and expertise to this report.
Appendix

Table 1 displays a provisional rubric of the six dimensions and their characteristics at each level of the scale. This rubric is based on a retrospective of 30 items in the maturity index and responses to them, but subject-matter experts have not validated the results.

Table 1. IT service management maturity dimensions and levels rubric (draft version)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Absent</th>
<th>Initial</th>
<th>Developing</th>
<th>Established</th>
<th>Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>ITSM is not part of the highest-ranking IT officer’s portfolio, nor is it among the institution’s stated priorities. The value of ITSM is not well understood. Any discussions about ITSM are at preliminary stages, potentially starting with the service desk.</td>
<td>Initial discussions about the role and value of ITSM programs have begun. ITSM initiatives are limited to specific IT organizational services. ITSM programs may be under consideration or in the early planning stages but are not yet funded or announced.</td>
<td>The institution has identified ITSM as a priority but has not yet identified goals or leadership. The value proposition for an ITSM program is gaining traction.</td>
<td>ITSM has a leader who is able to dedicate some time to ITSM. The institution has recognized the transition from technology provider to service provider. The context of the technologies and services the IT organization provides is understood and buy-in is achieved.</td>
<td>ITSM is a highly visible and clear priority for institutional leadership. The ITSM program has a dedicated leader. ITSM is treated as an investment in the institution’s future and as an approach to providing quality service with continuous improvement.</td>
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</table>

Cont’d
The extent to which the IT organization implements ITSM practices to ensure that IT initiatives are strategically aligned with business goals, decisions are based on strategic consensus from representative stakeholders, and the value of IT services is communicated and understood throughout the institution.

### Service design
The extent to which an ITSM approach to identifying, defining, standardizing, communicating, and evaluating services and the return on investment for these services has been put into place. Additionally, the extent to which an IT service catalog is in place, published, and available.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Absent</th>
<th>Initial</th>
<th>Developing</th>
<th>Established</th>
<th>Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategy</strong></td>
<td>The institution has no formal ITSM structure to help align IT initiatives with operational goals. Discussions about ITSM are based on service-desk functions and on costs rather than the returns on investment. Additionally, these conversations do not necessarily include stakeholders' or constituents' needs.</td>
<td>Awareness of the value and importance of a formalized ITSM program is increasing. Efforts may be under way to plan formalized ITSM structures. Stakeholders and constituents have been consulted, perhaps informally, to start defining goals and value propositions.</td>
<td>Formalized IT service management structures are in their initial stages. Discussions are underway to evaluate IT initiatives and their alignment with operational goals. Stakeholders and constituents are consulted, and the value of IT services is starting to be understood in the context of service provision over technology provision.</td>
<td>There is a formal and strategic alignment of IT initiatives with operational goals. Goals have been defined and vetted by stakeholders and constituents. The value of providing services rather than technologies and a &quot;service desk&quot; mentality has been established, and the return on investment is understood.</td>
<td>The institution has a formal IT strategy and structures in place. IT initiatives are strategically aligned with operational goals. ITSM has been designed and implemented, and goals have been determined based on consensus of stakeholders and constituents. The value of IT service management and of IT services is widely recognized and understood throughout the institution.</td>
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## Service transition

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<tr>
<th>Dimension</th>
<th>Absent</th>
<th>Initial</th>
<th>Developing</th>
<th>Established</th>
<th>Optimized</th>
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<tbody>
<tr>
<td></td>
<td>The institution has no processes or frameworks in place to identify or manage configuration items or dependencies among them. Management of these services is still dealt with as service-desk operations. Change management and change management processes are not developed and likely negatively affect constituents and users.</td>
<td>Some IT service management processes are emerging within the institution. Efforts are under way to develop these processes into institutional processes and frameworks to address configuration items and dependencies as well as change management.</td>
<td>Institutional processes and frameworks for IT service management are in their initial stages. Dependencies among configuration items have been identified, and management strategies are being developed. Change management and user support and access are also being addressed and communicated to constituents and users.</td>
<td>Dependencies among configuration items are identified and managed and also address change management. Processes are in place and are being evaluated to ensure they are sustainable and repeatable. User-facing implications and constituent needs are considered and addressed, and solutions are clearly communicated.</td>
<td>The institution has efficient IT service management processes and frameworks in place to address dependencies among configuration items. Change management processes are in place and are sustainable and repeatable. Constituents and users are regularly consulted on appropriate timing and are advised about changes to IT services.</td>
</tr>
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</table>

## Service operation

|                     | There is no formalized institution-wide plan to support user requests, handle service interruptions, or identify root causes or solutions. IT service management practices have sporadic support and are not considered mission critical in terms of IT service support. Problem resolution occurs on an ad hoc basis, and incident analysis does not lead to ideas for service improvement. | Discussions are under way about implementing a formal institution-wide plan to support user requests, handle service interruptions, and identify root causes or solutions. Reliability and support for IT services varies across services and support areas. The institution is beginning to discuss ways to manage services and responses with an eye toward identifying opportunities for service improvement and quality control. | The institution is planning and/or piloting a formal institution-wide plan to support user requests, handle service interruptions, and identify root causes or solutions. Plans are in place to systematically identify root causes of service interruptions and coordinated responses in order to enable continuous service improvement. | The institution's formal institution-wide plan to support user requests, handle service interruptions, and identify root causes or solutions is integrated into some or most of an IT service management program. Formal procedures for identifying root causes of service interruptions and coordinated responses are developed, and opportunities for service improvements are being tracked. | An established, formalized, and ongoing institution-wide plan to support user requests, handle service interruptions, and identify root causes or solutions exists, and the plan is regularly tested to ensure its effectiveness. |

Cont'd
Continual service improvement

The extent to which an ITSM approach is used to implement continual improvement to services by focusing on customer needs and overall business value, done by conducting regular assessments of services and service quality with appropriate stakeholders.

Absent
The institution does not regularly assess service quality with stakeholders. Constituent needs and expectations are not incorporated systematically, if at all, into service improvement efforts or changes related to dynamic business needs.

Initial
Discussions are under way related to assessing service quality and involving constituents in conversations related to service improvement and change management.

Developing
The institution has developed preliminary plans to regularly assess service quality. Formal plans are being developed to involve constituents and users in development of improvement and change management roadmaps.

Established
A formal assessment plan to evaluate service quality and improvement efficacy is in place. Constituents’ needs are considered and incorporated into formal policies about service improvement and changes to services based on business needs.

Optimized
An established and formalized plan to regularly evaluate and assess service quality and improvement uses constituent and user feedback in a systematic and transparent way. Constituent needs and expectations are explicitly understood and regularly incorporated into service improvement and change management efforts.

Notes

1. The term IT service management is defined in the ITIL Glossary and Abbreviations.
2. Demonstrating Value Through IT Service Management in Higher Education.
3. Ibid.