The term digital transformation is becoming a hot buzzword across all industries. A Google search readily yields many articles and websites that describe a profound transformation characterized by the strategic integration of technology and business.
Digital Transformation and Enterprise IT

The Enterprisers Project: Digital transformation is “the integration of digital technology into all areas of a business resulting in fundamental changes to how businesses operate and how they deliver value to customers. Beyond that, it’s a cultural change that requires organizations to continually challenge the status quo, experiment often, and get comfortable with failure.”

i-SCOOP: “Digital transformation is the profound transformation of business and organizational activities, processes, competencies and models to fully leverage the changes and opportunities of a mix of digital technologies and their accelerating impact across society in a strategic and prioritized way, with present and future shifts in mind.”

Digital Business Global Executive Study and Research Project: “Maturing digital businesses are focused on integrating digital technologies, such as social, mobile, analytics and cloud, in the service of transforming how their businesses work. Less-mature digital businesses are focused on solving discrete business problems with individual digital technologies.”

What does this mean for higher education? More specifically, what effect will digital transformation have on the nature of enterprise IT in higher education?

Enterprise IT is a large, complex, and multifaceted function at colleges and universities. It includes the technology staff, services, and support associated with enterprise-wise systems and services, as well as their strategy, management, budgets, and policy. Enterprise IT also includes most of the systems and services that colleges and universities use to store and manage data and processes, regardless of whether they are hosted on campus, in the cloud, or through shared services. If there is a system with data and it needs to connect to other systems with data, then enterprise IT is probably involved. With an emphasis on core organizational business activities and a function as a data repository...
and integrator, enterprise IT is central to the success of higher education.

Management of these core organizational services goes beyond just taking care of the technology. For example, as higher education institutions move services into the cloud, the responsibility for managing those services remains with enterprise IT: contract management, vendor relations, deeper collaborations with functional and business units, and data integration issues. Colleges and universities are reporting increases in the number of roles associated with new service delivery models and decreases in roles associated with locally hosted services.

These trends are part of a movement toward next-generation enterprise IT, which is characterized by a transition away from siloed transactional enterprise systems and toward the adoption of a larger set of systems, usually from multiple vendors, each providing a different service critical to the institution. The result is a complex ecosystem of applications, architectures, and sourcing strategies. This approach uses a philosophy of closer alignment of institutional and IT strategy and goals to manage that ecosystem, and it requires a shift in IT role from technology provider to service provider. In this evolving environment, enterprise IT becomes mission-centric and client-focused, positioning the institution to integrate digital technology and data into all areas of the institution in a way that increases value across all aspects of the higher education mission.

Pinning down a precise definition for enterprise IT is complicated by the fact that what is considered to be enterprise IT may vary depending on the institution. Analytics and learning management systems are two areas that exemplify how enterprise IT services differ contingent on how they are managed at any given college or university. End user support for these services may fall under a different area. For example, if the LMS system (hardware, platform, application) is maintained on-site, management of the resource is likely to be an enterprise IT issue, but management of user support may belong to a different function: a separate unit within the IT organization, or a teaching and learning function outside of the IT organization, or an area at the decentralized level. Similarly, resource management for an analytics system may be an enterprise IT function, but user support for institutional decision-making may be shared across the IT organization, academic areas, business operations, and other functional units. Enterprise IT also includes the resources provided by the central IT organization—resources that enable decentralized areas and functional units to use central network resources to run their own IT shops. These resources may include authentication and access services, contract management, and/or the development of policies and guidelines for the use of enterprise and core IT resources.

One way to envision enterprise IT is to select a lens through which to view it. For example, the EDUCAUSE Enterprise IT Program focuses on five themes: (1) analytics and business intelligence; (2) sourcing strategies; (3) costs and funding; (4) business process management; and (5) technology strategy.

1. **Analytics and business intelligence.** Enterprise systems data should be considered a strategic institutional asset.
Data governance, data management, and data integration are key ingredients in supporting higher education’s growing need for reliable information. The expanding enterprise IT ecosystem brings with it an ever-increasing number of disparate data sources that need to be integrated and connected for analytics and business intelligence efforts to be successful. Complicating the picture is the ease with which functional departments may purchase and implement systems without involvement from the IT organization, resulting in the potential for a host of problems including siloed systems, lack of agreement on data definitions, uneven data security efforts, and unreliable information.

Despite the possible difficulties, this complex data ecosystem also presents an opportunity for those institutions that can align and integrate these rich data sources in a way that gives institutional leaders a powerful view into everything from student success initiatives to facilities management plans. In addition, as institutions begin to provide hyper-personalized experiences for students, data and analytics will provide the necessary foundation.

2. **Sourcing strategies.** A college or university’s sourcing strategy needs to be appropriate to the institution’s culture, resources, and expertise in support of the overall institutional strategy. When developing a sourcing strategy in support of the institutional mission, IT leaders should plan for a balance of on-premises services, shared services, and cloud services as appropriate for the institution’s current goals and resources, while also preparing for a future in which on-premises solutions are the exception rather than the rule. Resources may need to shift as a strategy is implemented. Vendor management and negotiation skills will be needed for managing the increase in contractual relationships. Skills in enterprise architecture and data integration will become more important. And budgets and funding may need to change to allow for periodic subscription-like payments instead of the one-time funding that new enterprise systems require. These strategies should also consider the shifting role of the IT organization. With the booming prevalence of cloud services and the increasing availability of niche solutions, the IT organization needs to act as a partner and broker for technology services and solutions—instead of simply as a provider and supporter of technology. IT leaders should consider the relationship between the mission-focused, client-centric philosophy of enterprise IT and the central IT organization’s role in institution-wide sourcing strategies and decisions.

3. **Costs and funding.** Technology is expensive. Enterprise systems can be extremely so. Technology also pervades almost every aspect of higher education, so it’s important to be able to understand and communicate about these costs. But the conversation needs to go beyond just the cost of technology. Across the enterprise, institutional leaders are trying to make the best decisions they can about resources, investments, and progress toward goals. The enterprise IT leader needs to be able to communicate clearly and effectively about the value that enterprise technology brings to the institution. The conversation must move beyond “What does it cost?” and ask “What impact does it have on the institution’s goals?” The system migrations characteristic of a move to next-generation enterprise IT present an opportunity for IT leaders to communicate more clearly—with both institutional leaders and colleagues—about the costs of and funding for enterprise IT services by showing the connection to specific institutional goals.

4. **Business process management.** The basic enterprise resource planning (ERP) systems that make up the backbone of enterprise IT do not typically differentiate one college or university from another, and it is important to frame enterprise decision-making with this in mind. Streamlining processes to create efficiencies may result...
in resources that can be reallocated to other mission-critical and differentiating functions. We must continue to look at ways to optimize business processes, and we must emphasize the importance of working in partnership across the institution for business process change. Any business process redesign effort needs to be monitored and maintained if it is going to have long-term success. So we must also consider the ongoing change-management practices required to ensure success for business process redesign efforts in the next-generation environment.

5. Technology strategy. The IT environment increasingly includes a mix of cloud and on-premises services, all generating and using data that is critical to daily institutional operations and to long-term decision-making capabilities. Managing this hybrid environment and ensuring that this data is managed and integrated properly are, together, the foundation of next-generation enterprise IT. How can leaders develop an enterprise IT strategy that enables this next-generation approach? They should develop a technology strategy that firmly anchors the work of the IT organization within the institutional mission and goals, with a highlight on the role of data governance and the need for cross-enterprise communication and collaboration. Doing so requires a deeper understanding of institutional culture and business unit needs than ever before. And because this involves an ever-expanding set of systems and applications, data integration and data governance efforts are critical, along with the ability to be flexible and nimble enough to adapt to disparate data sources as they emerge.

As enterprise IT evolves into its next generation, enterprise IT strategy needs to evolve as well.

Next-generation enterprise IT is characterized by a movement away from modular transactional systems and toward an environment made up of multiple interconnected systems, bringing with it new technology requirements. The IT ecosystem is shifting to one that includes a mix of cloud and on-premises solutions and services, all of which generate data that is critical to the institution, both for short-term decision-making and for long-term planning and prediction. As an institution’s need for this critical information increases, data integration, data management, and data governance are increasingly in the forefront of enterprise IT. Developing an enterprise IT strategy that addresses the increasing importance of data while also aligning IT work with the institutional mission and goals is an important step in preparing the college/university for taking advantage of the data-related benefits of next-generation enterprise IT.

This evolution of enterprise IT thinking can be seen as an opportunity for the IT organization to act as a strategic partner within the institution, going beyond the delivery of technologies and services to the integration of technology throughout the institution, adding value in a direct relationship with mission and goals. This work requires that IT staff develop a deeper understanding of business unit needs and institutional culture in order to position the enterprise IT strategy to fully support and enable the institution.

The digital transformation ahead will reshape and evolve next-generation enterprise IT. The digital transformation approach uses a philosophy of closer alignment of institutional and IT strategies and goals to manage the sprawling enterprise IT ecosystem consisting of systems from multiple vendors, with some of those systems in the cloud and some on the premises. A hallmark of digital transformation is that it is driven by strategy, not by technology. Cultural shifts are required, and change management becomes more important than ever. The role of the IT organization thus moves beyond that of technology and service provider and becomes that of transforming partner. A focus on the value that technology brings to institutional strategy and goals results in a symbiotic relationship in which technology not only serves but also shapes strategic ambitions. In this evolving environment, information technology becomes mission-centric and client-focused, positioning the college or university to integrate digital technology into every area of the institution in a way that increases value across all aspects of the higher education mission.