

Predicts 2019: Higher Education — Digital Transformation in Progress

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Expectations highlighting student success, ecosystem development and changing workforce requirements are driving higher education CIOs to consider and deploy alternative business models to keep pace and advance their institutions' digital ambitions.

Key Findings

- Relying solely on traditional education delivery models will not be financially sustainable for most institutions and will be a driving force for digital transformation.
- A growing number of mergers and acquisitions continues to highlight the shifts in priorities and expectations for postsecondary education, compelling leaders to consider new opportunities and partnerships to survive.
- Changing industry expectations are driving institutions to the use of alternative business models to remain viable in the nontraditional education market.
- CIOs are expecting transformational changes in institution models, but aren't sure how to develop operational plans that can support those while maintaining current business practices.

Recommendations

CIOs seeking to execute a digital strategy in education should:

- Educate stakeholders about the role of technology in business model transformation by identifying value propositions that are focused on improving student outcomes, optimizing operations, instituting performance-based funding and developing key partnerships.
- Design a technical architecture that supports a broad range of institutional plans and outcomes by introducing new and emerging technologies that can substantially change what is possible.
- Prepare for the impact of the “shadow” education sector and changing workforce development needs by prioritizing and implementing technology that enables collaboration with employers, just-in-time training, workplace learning and stackable digital credentialing.

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Strategic Planning Assumptions

- By the end of 2023, at least three-quarters of traditional higher education institutions will have adopted a new primary business model that accounts for the majority of their revenue.
- By 2023, lifelong education will surpass traditional one-time learning for at least 10% of institutions worldwide.

Analysis

What You Need to Know

The traditional business model of higher education is, in many ways, broken today.¹ Pressure continues to mount for institutions to be more responsive to a turbulent education market. Global demographic shifts, changing workforce requirements and the growing shadow education market, as well as the persistent stream of mergers, acquisitions and closures, are some of the driving forces calling for higher education to consider new ways to operate. According to the 2019 Gartner CIO Survey (see Note 1), the transformation is already underway. Forty-two percent of the respondents indicate they are in the process of changing business models, and another 7% say their institutions changed within the past two years.

Education CIOs must be open and supportive of new business opportunities that necessitate changes in business models that introduce revenue diversification, different academic delivery options and the development of reliable partnerships. New technologies, as well as new ways of looking at existing technologies, will enable education CIOs to support the digital optimization and digital transformation of higher education. Results from the CIO survey show that the role, use and adoption of new technologies in supporting these changes is clear — 86% of the respondents feel it

is very, or extremely, important for enabling new organizational business models. As past research indicates, a new approach conveys value in several ways:

- Threats to institutional revenue promote the deployment of digital business platform models that can better leverage the ecosystem and transform their institutions (see “Digital Business Platform Models in Higher Education”).
- The introduction and use of analytics will provide data that validates changing business models in support of successful student outcomes inside and outside of the academic learning environment (see “Practical Business Analytics Strategy for Higher Education”).
- Changes in the workplace focus on two key trends — shifts toward skills development and lifelong learning. These will require a new approach in strategy and delivery if institutions are to remain relevant for the future of work (see “The Future of Work Will Demand Changes to Higher Education”).
- More than half (59%) of higher education CIOs, according to the Gartner 2018 Gartner CIO Survey, expect to see transformational changes in their business models due to the addition of a digital medium component in the education ecosystem (see “Setting the Foundation for a Higher Education Ecosystem Model”).

The Strategic Planning Assumptions in our Predicts 2019 story focus on three critical strategic scenarios. These require attention if you will lead and deliver the technology your institution requires to survive the current market turbulence and advance the organization’s digital transformation. Higher education CIOs must see the changes coming that are highlighted in this year’s predictions and prepare their teams and their organizations to proactively influence strategy and operations and not just react.

Strategic Planning Assumptions

Strategic Planning Assumption: By the end of 2023, at least three-quarters of traditional higher education institutions will have adopted a new primary business model that accounts for the majority of their revenue.

Analysis by: Terri-Lynn Thayer and Glenda Morgan

Key Findings:

- Many colleges and universities across the globe are struggling financially. Competition in the sector is increasing, and the public perception of higher education as a valuable public good is waning.
- Business model pressure is evidence by a growing number of mergers, acquisitions and closures in multiple mature education markets.
- There has been growth in the shadow education sector, which by its very definition, is a sector built on new nontraditional business models. These entities have an entrepreneurial approach to disrupting the current tertiary and lifelong learning business models.

- Most traditional institutions actually have many business models in play (see Note 2). They offer a multitude of value propositions to many different customers (segments), all of which often relying on the same capabilities and often without clear key performance indicators (KPIs) tied to the underlying financial model.
- Nearly half of the higher education respondents to the Gartner 2019 CIO Survey indicate that they have already adopted, or are in the process of, business model change. However, a fundamental business model change requires changing three of the four components of the model — value proposition, customers, capabilities and financial model. Gartner’s client inquiries indicate that many organizations have changed only one or two components. In most cases, they have simply added a new business model (e.g., online learning) rather than replacing the primary business model of the institution upon which the majority of the revenue is based.

Market Implications:

- Institutions that don’t implement new business models will be further stressed and will be more likely to face acquisition or closure. The flip side of this is that institutions that strategically use “acquisition” to deploy new business models will be more likely to achieve success.
- Institutions will be more inclined to look for efficiencies or tweaks to existing business models rather than transformational and disruptive (new and unproven) business models. These minor changes will often not substantially improve enrollment or revenue.
- The new business models adopted are likely to include some variant of the collaboration, orchestration, creation and matching types of business models enabled by technology platforms (see “Digital Business Platform Models in Higher Education”).
- Gartner expects to see more business models that include collaborations between the shadow and traditional education sectors, as well as between employer-based education and traditional institutions (see “The Future of Work Will Demand Changes to Higher Education”).
- There will be continued growth in the shadow education sector as the new market entrants search for the secret sauce to realize the tipping point to disruption of the traditional higher education business model.
- As institutions seek to understand and control revenue, program costs and outcomes, they will drive market demand for technology solutions that allow for better budgeting, cost accounting, pricing analysis and institutional analytics.
- The adoption of new business models in higher education will signal an inflection point as significant as the industrialization of higher education after World War II. It will be the means by which we usher in a new era of personalized, unbundled lifelong learning.

Recommendations:

- Determine the health of your existing business models by working with the president’s cabinet to specifically document your customers and the promises you are making to them relative to

the value they will receive. Document a clear understanding of the capabilities required to deliver that value, and the sustainability of the financial model underpinning that promise.

- Identify and explore new value proposition opportunities by evaluating unserved and underserved customers in both existing and adjacent markets. The opportunity presented by lifelong and workforce-related learning has tremendous potential here.
- Enable cost accounting initiatives by providing access to data and analytics tools and skills for effectively building a model that allows your institution to understand the true cost of individual programs — both academic and nonacademic such as sports — and outcomes.
- Identify and deploy software solutions that enable your institution to execute a more regular and consistent net revenue analysis of programs, since a one-time cost accounting exercise will fail to leverage the dynamic intelligence required to sustain your new programs.
- Identify new and emerging technologies that can substantially change what is possible. Specifically, this means deploying technologies such as artificial intelligence (AI) that can extend market reach, improve outcomes or reduce costs — thereby, substantially changing several of the four components of your business model (see “Top 10 Business Trends Impacting Higher Education in 2018” or “Hype Cycle for Education, 2018”).²

Related Research:

“Digital Business Platform Models in Higher Education”

“The Future of Work Will Demand Changes to Higher Education”

“Why Business Models Matter for CIOs”

“A CIO’s Guide to Gartner’s Digital Business Research”

“CIOs Must Leverage Both Business Models and Strategy”

Strategic Planning Assumption: By 2023, lifelong education will surpass one-time education for at least 10% of institutions worldwide.

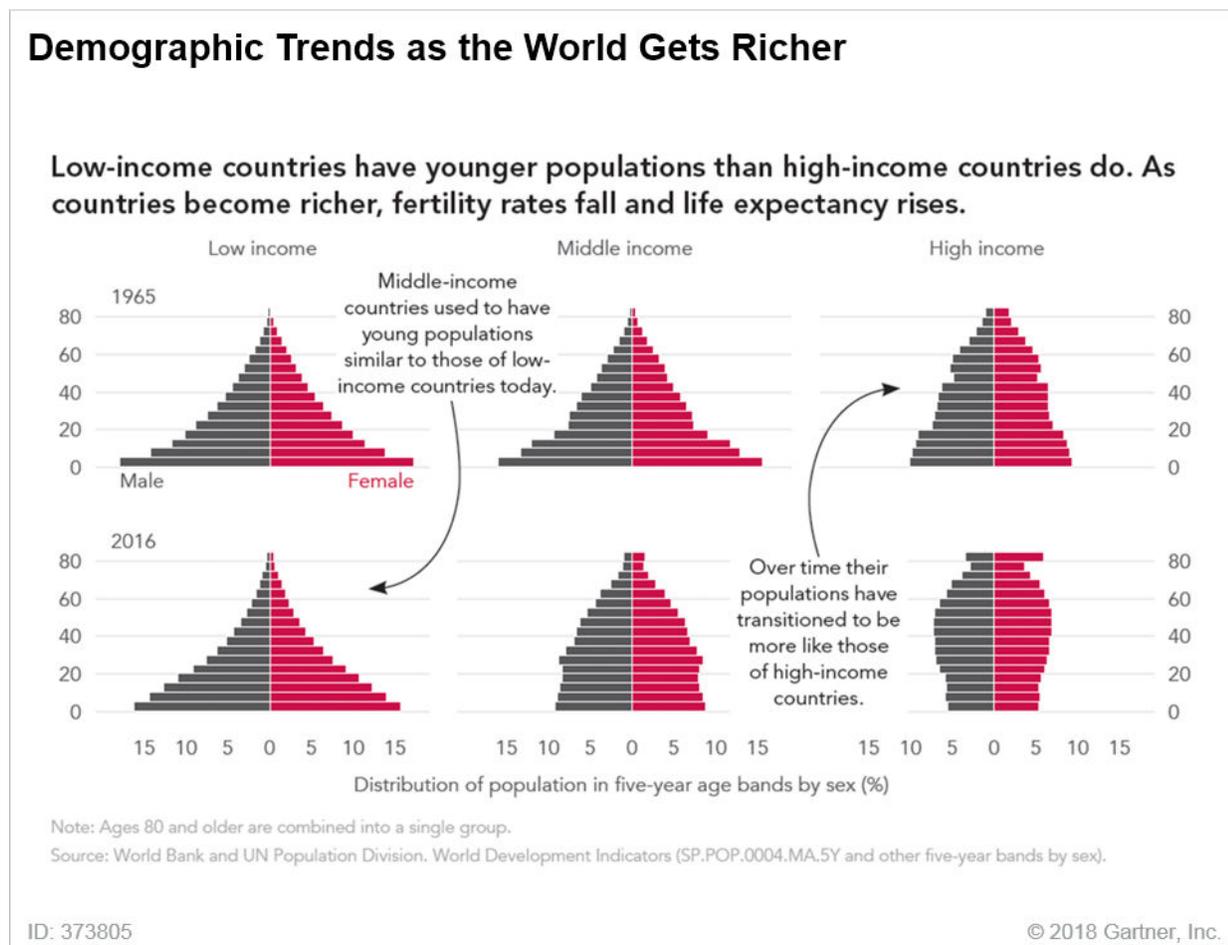
Analysis by: Jan-Martin Lowendahl

Key Findings:

- One-time education refers to students going through higher education only once or possibly twice. They attain a degree (associate, B.A., M.S. or Ph.D.) with the aim of entering the workplace — often with a general “career” in mind — and they don’t expect to return to formal education. The time spent between secondary education and tertiary education is not a factor. In this scenario, the student essentially has a maximum of two “careers” — one based on skills attained in secondary education and one based on skills attained in tertiary education. One-time education is highly demographic-sensitive.

- Lifelong education refers to students going through some kind of formal higher education more than once or twice during their careers. It is an approach where education is seen as a continuous process, and where multiple types of formal education are undertaken throughout an individual's career with the intention of changing careers or keeping up with changing skills needs within a career or occupation. The need to change careers/skill sets can be driven by globalization (outsourcing), social trends (environmental attitudes to food) or jobs being made obsolete by technology. Lifelong education is highly skills-sensitive.
- Two key trends will decide the fate of higher education in the decades to come:
 - Demographics: As countries progress from lower to higher income, the fertility rate goes down, and the cohorts of first-time students diminish³ (see Figure 1).
 - Technology: As the pace of change in technology increases, reskilling several times during a person's work life is increasingly likely.⁴
- Gartner predicts that in 2020, AI will become a positive net job motivator, creating 2.3 million jobs, while eliminating only 1.8 million jobs. This will lead to a need for 4.1 million relearners by 2020, unless there is the unlikely event of a "double coincidence of skills."⁵
- New workforce generations (Generation Z) are increasingly career hopping and looking for development opportunities.⁶ Future generations are expected to have an increasing number of careers and a need to reskill more often.

Figure 1. Demographic Trends as the World Gets Richer



Source: Gartner (December 2018)

Market Implications:

- Scaling education for a global need of reskilling via lifelong education will outweigh the current need for one-time education. Higher education institutions that want to increase their relevance for the modern economy will have to change their business models to deliver lifelong education.
- The need for lifelong education will likely further differentiate the education ecosystem. Some institutions will focus more on curricula of general learning, articulating this as their value proposition (mostly one-time education). At the same time, others will focus more on providing education about specific skills (mostly lifelong education).
- Shifting to a business model that supports lifelong education will require a much more modular approach to creating, delivering and assessing education in order to keep pace with changing skills needs. Some institutions — such as Southern New Hampshire University (SNHU) — have as a goal being able to create a custom made “B2B” education in 45 days.⁷ Achieving this

modularity and speed of change will require substantial culture change that not all institutions will be able to make.

- Other “startup/greenfield” market actors such as Udacity and Codecademy (and even Lynda.com) may be more suited to fill the niche of lifelong education, even if they too need to constantly tweak their business models. But if traditional higher education relinquishes a role in lifelong education, it will have to accept resizing its “clothes” to the diminishing cohorts focusing on one-time education, as can be seen by pure demographics.
- Some of the characteristics that make these external lifelong education providers attractive to learners are things such as:
 - Real-world, project-based learning
 - Extensive use of mentors and coaches
 - A strong emphasis on collaboration and teamwork
 - Creative funding approaches such as use of Income Share Agreements (ISAs)
 - Payment from the employers that hire the learners rather than from the learners upfront
- Several countries are already discussing how to facilitate lifelong education for their citizens (e.g., Sweden and the U.K.). Most notably, Singapore has already implemented a lifelong learning “credit account” for its citizens with the sum of S\$500 (\$360), available from when they turn 25, to nudge them to purchase further education or training.

Recommendations:

Higher education CIOs need to help build the digital ecosystem that can support lifelong education at scale by:

- Acquiring predictive analytics capabilities that allow institutions to identify and target working individuals who are susceptible to a learning opportunity. Such triggers can include simple factors such as sudden unemployment or more sophisticated algorithms that detect change in interests on Facebook, or lack of promotion on LinkedIn. Suggestions are:
 - Learn from retail to analyze prospective lifelong learning behavior.⁸
 - Leverage the relationship with alumnus to offer pop-up courses.
 - Invest in technologies that analyze student skills and suggest where there are skills gaps, and suggest specific courses and learning opportunities to address those gaps. Some of these capabilities are already in the market, but they need to be extended to all students and also to alumni.
- Acquire capabilities to predict skills shortages in order to shorten planning cycles for new course/skills/competency modules. Suggestions are:
 - Use sources such as LinkedIn (Economic Graph), Burning Glass Technologies and TalentNeuron to predict/plan skills needs.

- Engage in a digital credential ecosystem with, for example, requirement badges and Open Badge v2.0, which allow employer endorsement.
- Partner with companies and governments to build talent exchange platforms that organize and manage education and learning credentials, as well as catalyze skills matching.
- Build flexible education delivery — such as competency-based education delivered by Western Governors University (WGU) or “trees of knowledge” delivered by Sunlands — that enable a more modular approach through unbundling of content creation, content delivery, mentoring and assessment. On the production side, this means a need to overcome culture barriers by creating fully online recruitment and onboarding processes to engage full- and part-time employees into any of the above roles.
- Create the structures and workflow necessary to be able to support anyplace, anytime learning in a scalable fashion. Explore the use of tools such as AI-driven conversational interfaces to help achieve this scale.

Related Research:

“Predictions for the Higher Education ‘Business Model’ Landscape in 2025 and Beyond Will Help CIOs Plan Now”

“Setting the Foundation for a Higher Education Ecosystem Model”

“Creating Competitive Advantage by Mastering Higher Education Ecosystem Models”

“Eight Ways Ecosystems Supercharge Business Models”

“The Future of Work Will Demand Changes to Higher Education”

Replay Prediction

The replay prediction is a prediction from a previously published report that is so significant that it is being republished here.

Strategic Planning Assumption: By the end of 2022, at least one-third of very small institutions (fewer than 1,000 students) in the U.S. will close, merge or be acquired.

Analysis by: Terri-Lynn Thayer and Glenda Morgan

Key Findings:

- There are approximately more than 4,400 institutions of higher education in the U.S. More than 40% of four-year institutions are very small, with fewer than 1,000 students, and more than 60% of two-year institutions have fewer than 2,000 students.⁹
- By 2020, there will be one million fewer 18-year-olds in the U.S. than in 2013.¹⁰

- U.S. college enrollments began declining in 2012 and have continued that trend for 11 consecutive terms. College enrollments declined 1.5% in spring 2017, compared to spring 2016.¹¹
- Very small nonprofit institutions are highly tuition-dependent and often have low endowments. They are, therefore, at the greatest financial risk. Nearly one-third of small colleges operated with a budget deficit in 2016.¹²
- From 2014 through 2015, the U.S. Department of Education designated 187 institutions with failing [financial responsibility composite scores](#). Most of these institutions are small, and this score could result in a loss of access to federal financial aid.¹³
- Despite being tuition-dependent, many institutions have employed “tuition discounting” to combat declining applications and enrollment.¹⁴ A 2016 survey conducted by the National Association of College and University Business Officers (NACUBO) reported an average estimated discount rate of 49.1% for first-time, full-time students — an historic high.¹⁵ This business practice has further weakened the financial stability of these institutions and is unsustainable.

Market Implications:

- Institutional consolidation will strengthen acquiring institutions, thus making them more competitive. It will necessitate that the acquiring institution find synergies, which will involve expense reduction, including decreasing administrative overhead, program eliminations and staff reductions.
- Systems and technology standardization and data conversions will be required to merge institutional data and standardize business practices. In some cases, this will provide the opportunity — and fuel the desire — to implement new systems to better manage the joint larger, and likely more complex, institution.
- Private investors and employers will see value in partnering with, and eventually acquiring, niche institutions to fill specific needs — such as hospitals acquiring nursing schools or technology companies acquiring technology-focused institutions.
- Many closures and M&A events will be driven by dire financial circumstances. However, a portion of these events will be driven by strategic initiatives to grow and acquire new capabilities, acquire physical facilities in proximate geography, grow programs and gain students.

Justification:

Mergers and acquisitions (M&As) are actively stirring the market, and we have not seen any indication that this activity will diminish anytime soon. More than 100 different types of institutions have merged, closed or been acquired since 2016,¹⁶ and more are anticipated over the next few years. As mentioned earlier, global demographic shifts, changing workforce requirements and the growing shadow education arena all play a part in the reshaping of the market. Although the impact

of these changes is uncertain, those most ready to adjust will have the advantage. This replay provides reason to continue to monitor the ongoing merger, acquisition and closure activity. It emphasizes the significance of the changes and the actions you can take to be well-positioned to succeed.

Recommendations:

- Higher education CIOs at very small institutions that may be on the path to closure must present to their institutional leadership and board accurate and timely information about where technology may help the institution avoid closure. Examples include increasing revenue through online programs or retaining more students through student success initiatives powered by analytics and CRM.
- Higher education CIOs at institutions that are now, or soon may become, acquisition targets need to prepare transparent and detailed reviews of the technology landscape and status. This will help the buyers (acquiring institution) predicate the deal on realistic goals and objectives relative to the achievable benefits and likely difficulties.
- Higher education CIOs at institutions that are acquiring another should be key members of the team throughout the process, from initial screening and candidate evaluation through execution of the acquisition. They should take a lead role in assessing the merger synergies and the IT work and costs associated with achieving them.
- All higher education CIOs should be aware of their institutions' position in the marketplace and prepare a mental playbook to be used in the event their institutions enter into closure, merger or acquisition activities. M&A activity is still nascent in higher education, so it is not expected that the higher education CIO would have a serial, repeatable formal playbook informed by numerous deals (see "Toolkit: Creating a Serial M&A Playbook"). However, it is advisable that all CIOs think through the high-level questions and issues that should be raised in very early discussions in case they are on either side of such deals.

Related Research:

"Research Roundup for Mergers, Acquisitions and Divestitures — Strategies for M&A Activities"

"Use Modeling to Ensure Early CIO Involvement for M&A Success"

"Application Leaders Responsible for ERP: Guide to Mergers, Acquisitions and Divestitures (Stage 2: Initial Candidate Evaluation)"

A Look Back

In response to your requests, we are taking a look back at some key predictions from previous years. We have intentionally selected predictions from opposite ends of the scale — one where we were wholly or largely on target, as well as one we missed.

On Target: 2016 Prediction — By 2018, at least 30% of higher education institutions globally will have a learning analytics strategy to improve student outcomes.

Our prediction that about one-third of higher education institutions globally would focus on building analytics strategy has been fulfilled. This is based on information from client inquiry and data from the 2019 CIO survey where 28% and 34% of respondents, respectively, indicate that they are invested in, or have deployed, either learning analytics or institutional analytics. Gartner has seen the convergence of institutional and learning analytics, and we now are tracking this as one category called “educational analytics” (see “Hype Cycle for Education, 2018”). Our data shows that these institutions have committed to using some level of education analytics technology as part of their digital transformation. Educational analytics is a term covering the use of data on the business side of institutions, as well as on the teaching and learning side of higher education.

Missed: 2016 Prediction — By the end of 2018, at least 15% of higher education institutions will have entered into a federated structure in order to optimize administrative functions.

Although there is considerable activity surrounding the merger, acquisition or closing of institutions, there has been limited movement in the direction of federated development supporting optimized administrative collaboration. Information gathered through client inquiry and market analysis suggests that there has been less federation than predicted, and what has developed is more complete acquisitions, mergers or closings. Although there is some evidence of a more federated approach in larger state systems, there is very little data indicating momentum for this trend on a broad scale in higher education.¹⁷

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

“Hype Cycle for Education, 2018”

“Top 10 Business Trends Impacting Higher Education in 2018”

“Top 10 Strategic Technology Trends for 2018”

“Practical Business Analytics Strategy for Higher Education”

Evidence

¹ “[Rising College Costs Are Built in to the Traditional Business Model — but They Aren’t Inevitable,](#)” The Clayton Christensen Institute.

² “[New Country Classifications by Income Level: 2016-2017,](#)” The World Bank.

³ “[Atlas of Sustainable Development Goals,](#)” The World Bank

⁴ “[Future of Work and Skills,](#)” Presented at the 2nd Meeting of the G20 Employment Working Group.

⁵ [“Coincidence of Wants,”](#) Wikipedia.

⁶ [“A Comprehensive Look at What Generation Z Wants in the Workplace.”](#)

⁷ Based on an interview with, and material from, Tom Dionisio, executive vice president for technology and transformation, Southern New Hampshire University, June 2018, and [“Southern New Hampshire University Delivers a Transformative Digital Education Model.”](#)

⁸ [“How Target Figured Out a Teen Girl Was Pregnant Before Her Father Did,”](#) Forbes.

⁹ [“The Carnegie Classification of Institutions of Higher Education,”](#) The Carnegie Classifications.

¹⁰ [“The Demographics of Declining College Enrollment,”](#) Stat Chat.

¹¹ [“Current Term Enrollment Estimates — Spring 2017,”](#) National Student Clearinghouse Research Center.

¹² [“Three Worrisome Trends in U.S. Higher Education,”](#) The Washington Post.

¹³ [“Feds Release Financial Responsibility Scores,”](#) Inside Higher Ed.

¹⁴ [“Tuition Discounting,”](#) Association of Governing Boards.

¹⁵ [“Private College Tuition Discounts Hit Historic Highs Again,”](#) National Association of College and University Business Officers.

¹⁶ [“How Many Colleges and Universities Have Closed Since 2016?”](#) Education Dive.

¹⁷ [“2018 Survey of College and University Business Officers,”](#) Inside Higher ED (registration required).

Note 1 Business Model

A business model is a description of how an organization creates, delivers and captures value. A business model has a formal structure, which can be described in more or less detail depending on the needs of the enterprise. The structure of a business model consists of four basic, largely self-explanatory components:

- Value proposition: The implied promise a company makes to its customers regarding the value of products or services
- Customer: Individuals and segments that purchase or use your product or services
- Financial model: The system for capturing value and turning excess value into profit that can be reinvested back into the business
- Capabilities: The resources combined across the organization to deliver customer-perceived value

Note 2 Shadow Education

We refer to the growth of noncredit, career-focused learning opportunities available outside of traditional higher education as the “shadow education” sector. The shadow education sector is made up of a number of entities. These include:

- Skills-based providers such as Pluralsight or Grovo
- Intensive boot camps and massive open online courses (MOOCs) such as edX and FutureLearn
- Apprenticeship service providers (ASPs) who broker new digital apprenticeship opportunities between individuals and employers
- Temporary placement companies that provide training

This sector has deep historical roots, but in many markets, it has expanded considerably over the past five years. It differs in nature from traditional activities around retaining professional certification — such as continuing medical education (CME) or continuing legal education (CLE) credits. It is not just about maintaining status or being updated in the latest techniques, but about moving up the career ladder or changing to a very different role.

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