

Top Business & Technology Trends in Higher Education 2021

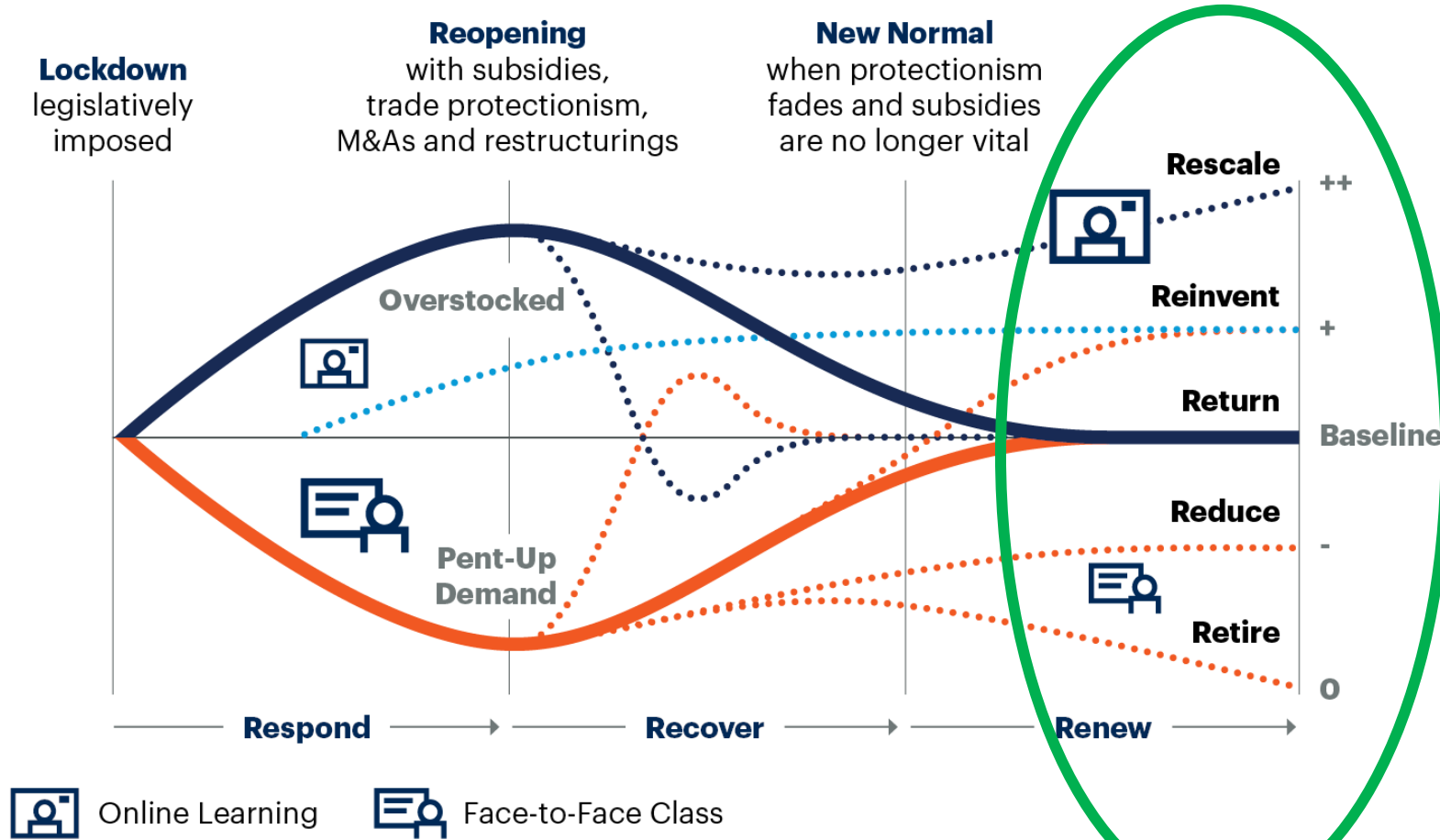
Robert Yanckello
July 13, 2021



**Change is a constant
of our lives ...
But change is hard**

Education's Shifting Landscape

Postpandemic Planning Framework



Note: The figure showcases two examples of how situations can change as the pandemic fades and institutions readjust to full-time campus engagement. Recent increases in remote and virtual learning will be sustained as some face-to-face interactions decline.

M&As = mergers and acquisitions

Source: Gartner

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**“All models are wrong,
but **some** are useful.”**

— George Box, Statistician

**Some top 10s are wrong,
but **all** are useful.**

1



Top 10 Trends and Themes

2



A Few Deep Dives

3



Combine Tools for More Insight

1



Top 10 Trends and Themes

Higher Education Top Business & Technology Trends 2021



Student Experience

- Alternative Credentials*
- Corporate Collaboration
- Collegiate eSports*
- Virtual Experiences
- Cross Lifecycle CRM



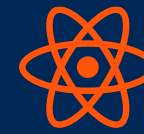
Sustainability

- Enrollment Enigmas
- Tuition Tensions*
- International Students
- Low Code Applications*
- Cyber Threats*



Scaling the Change

- Changing Role of CIO*
- Online Everywhere
- Cloud Now*
- Chatbots*
- Hybrid Classrooms



New Normal

- Online Productification
- COVID Campus*
- Hybrid Everything*
- Remote Proctoring
- Faculty Info. Systems

2



A Few Deep Dives

The Student Experience



This refers to the total of the interaction a student has with their educational institution, from interest and recruitment through graduation and engagement as an alumnus.



Alternative Credentials



Corporate Collaboration



Collegiate eSports



Virtual Experiences







Cross Lifecycle CRM

Growing Role of Alternative Credentials



New types of qualifications including micro-credentials (such as micro-masters and bachelors), stackable credits, badges, coding camp diplomas and competencies.

-  Questions about stack-ability
-  Quality
-  Language & tech
-  Speed



100 + Specializations & Professional certificates from 100 + institutions & organizations



73 Micro-masters at 32 institutions



2U 57.7% YOY increase in alternative credentials in 2020



Action
Work to develop both the technical infrastructure but also more streamlined processes for identifying, designing, and adopting and storing these types of credentials.

Collegiate eSports



Collegiate esports involves playing computer games against others online, often for money. These competitions are often watched by others online or at special events. Esports has become a major industry, and has emerged as a university level program.

Increasingly used as a recruitment and retention tool.

Sometimes used in curriculum – courses & content

Universities investing in high-tech gaming facilities, scholarships, coaches and new academic programs to attract talent.

**\$1.4
Billion**

Estimated value of esports globally



Growing number of universities building esports into academic programs

Action

- Engage senior leaders
- Assess your technical capability to offer esports

Sustainability



This refers to the challenges to higher education institutions' ability to sustain themselves, survive and thrive. Understanding and changing in response to these challenges will be a large and key focus for many higher education institutions.



Enrollment Enigmas



Tuition Tensions



International Student Flows



Low Code Applications



Cyber Threats

Tuition Tensions



Tuition tensions describe a phenomenon made up of three factors clashing with a fourth. First, growing frustration with absolute levels of tuition. Second, unhappiness about the rate of increase in tuition. Third, dissatisfaction with the perceived quality or usefulness of the higher education obtained. Tension arises when these factors come into conflict with the fact that higher education institutions have relatively few options for limiting increases or reducing tuition.

77% → 59%

Change from 2019 in students reporting that a degree is worth the investment (US Data)



Not all higher education is tuition driven – depends on state funding levels



In most locations – there will be political pressure to lower tuition

Actions

Higher education CIOs need to help reduce budget pressure within their institutions by developing a cost optimization strategy - for example by using automation.

CIOs can also help cut costs by leveraging data and developing or acquiring the analytics tools and practices to use this data to drive decision making. – Value optimization

Low Code Applications



Low code applications use model-driven or visual development paradigms supported by expression languages and possibly scripting to address a variety of use cases.

Use Cases & Drivers



Citizen Developers



Business Unit IT



SaaS



Composable Applications

Outcomes



Increase in Productivity



Decreased gap between demand for IT development skills & availability.



More rapid response to improve processes

Action

Assess the need to rapidly remodel processes by evaluating current state of development projects and the response time needed to deliver.

Cyber Threats



A Cyberthreat is any circumstance or event that can adversely impact organizational operations (including mission, functions, image or reputation), organizational assets or individuals through an information system via unauthorized access, destruction, disclosure, modification of information and/or denial of service.



Increase in attacks on K12 & higher education



Ransomware a growing problem



Internet of Things related threats constantly expanding & evolving

Challenges



Shortage of tech & security staff



Rapid migration to cloud



Regulatory requirements



Evolution of threats

Actions

Craft a comprehensive cybersecurity strategy focused on supporting business outcomes & overseen by a governance process.

Scaling the Change



A majority of higher education institutions globally had to implement changes in response to the pandemic and its subsequent second order effects. Many institutions are seeking to extend and scale these changes going forward, even as the pandemic promises to wind down.



The Changing Role of the CIO



Online Everywhere



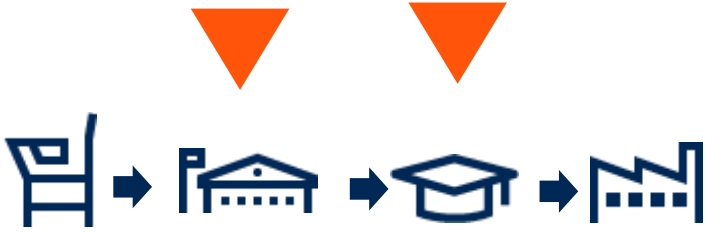
Cloud Now



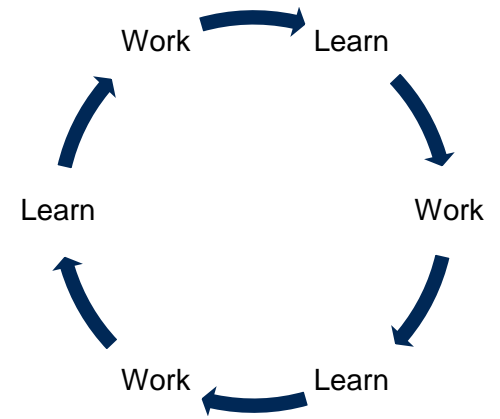
Chatbots



Hybrid Classrooms

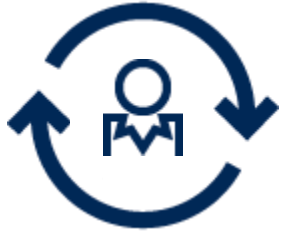


Education as Episodic



Education as Continuous

The Changing Role of the CIO



The role of the CIO is shifting from being an IT delivery role towards being a partner in establishing the right things to do and what role information and technology should play.



Institutions More
Dependent on IT
Infrastructure



Inertia & Resistance to
change in Higher
Education



Pandemic
Accelerated
Role of IT

Actions

Establish the CIO as a mentor to senior leadership & able to unlock digital optimization & transformation

Empower people by setting up digital transformation teams that develop digital dexterity as well as provide team support and funding for digital enablement

Cloud Now



Cloud computing is a style of computing in which scalable and elastic IT-enabled capabilities are delivered as a service using internet technologies. “Cloud now” refers to the urgency CIOs now place on moving to the cloud.



Difficulty of supporting on-premises legacy tools



Vendors limiting investment in on-prem solutions



Value proposition of more modular solutions



Cloud enables ability to scale and pay-as-you-go

Enables Next-Gen Technologies



SaaS



CRM



Analytics & BI



IOT



Security

Action

Assess your current cloud strategy, compare future state to current state realities and address gaps

Position Organization to respond to institutional demands by designing platform architecture & framework

Chatbots



A chatbot is a domain-specific conversational interface. Chatbots range in sophistication but are always narrow in scope. A chatbot can be text- or voice-based, or a combination of both.



Currently often limited to FAQs but capable of more sophistication



Good potential for cost optimization

Actions



Develop persona's



Start small



Collect & manage the data to power the chatbot



Hire & promote for new types of roles & positions

New Normal



Some changes that were made in 2020 are not necessarily being embraced by institutions but are nonetheless a part of reality, something that is going to be a necessary condition for higher education into the future. These trends are part of a different but new normal.



Online Productification



COVID Campus



Hybrid Everything



Remote Proctoring



Faculty Information Systems

Higher education was slowly moving toward digital

And then COVID happened

COVID Campus



22%

Of students in a survey understood how data being collected under COVID campus was being used.

The COVID Campus has emerged as the redesigned higher education campus environment through 2021. Institutional campuses were redesigned in 2020 for safety, continuity of education and to support new teaching models but must now evolve into adaptable campus spaces for optimized research, teaching and learning.

Actions

Ensure data transparency by communicating how personal data is being used for campus safety and learning support.



Contact
Tracing Apps



Virtual
Labs



Social Distancing



Wastewater
Testing



Mandatory
Testing

88%

Higher Ed CIOs increased use of digital channels to stakeholders in 2020

85%

Expect to increase use of digital channels in 2021

Hybrid Everything



Hybrid everything reflects the continued rise of blended and fully digital alternatives to those previously delivered face to face. In higher education, these may relate to hybrid solutions (e.g., for classes) and services (e.g., for student support, counseling, tutorials) that blend online and on-campus delivery.

Actions

Ensure move toward hybrid models aligns with campus strategy
writ large

Seek opportunities for cost savings and automations while improving quality



Reprioritizing physical space



Improving based on insights from pandemic



Travel & commuting will continue to be a challenge



Part of growing resilience in face of ongoing disruption

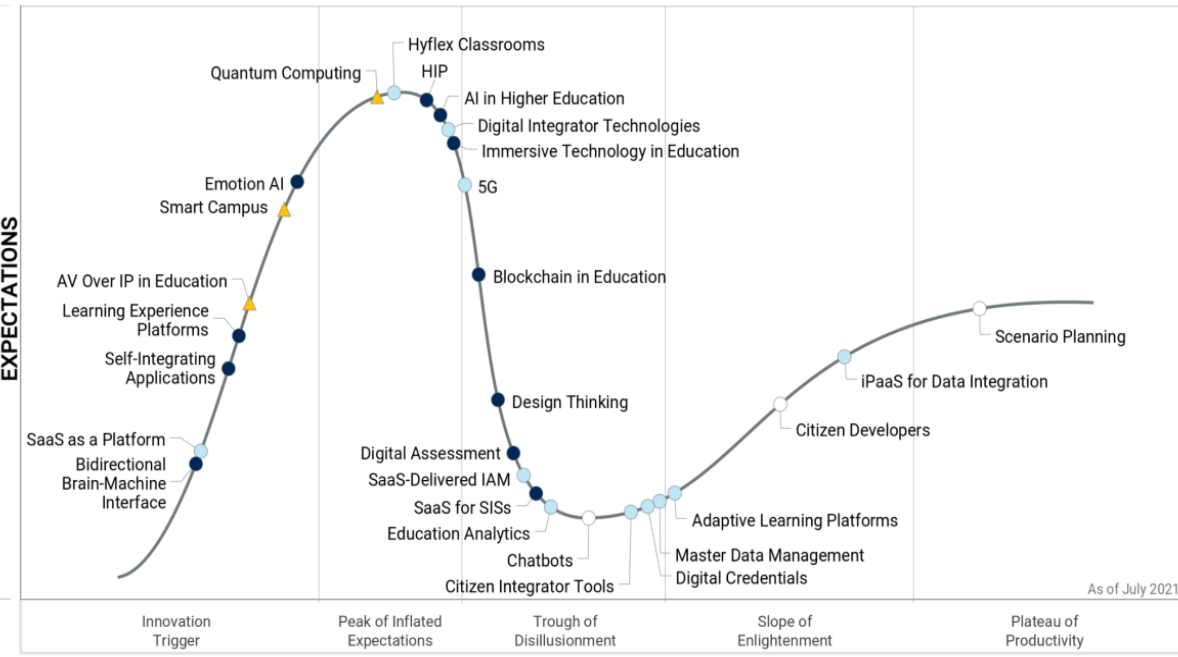
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**Combine
Tools for
More Insight**

Evaluate the Trends That Will Affect Your Institution

Hype Cycle for Education, 2021



Plateau will be reached: ○ < 2 yrs. ● 2-5 yrs. ● 5-10 yrs. ▲ >10 yrs. ✗ Obsolete before plateau

Gartner

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Apply a Decision Framework



	Small	Medium	Large
Potential Financial Benefit <ul style="list-style-type: none"> How much will the enterprise save if the action is implemented? How does the action affect enterprise cash flow? 	Potential to minimally improve cash flow or generate hard/soft savings	Potential to moderately improve cash or generate hard/soft savings	Potential to significantly improve cash flow and generate hard/soft savings
Business Impact <ul style="list-style-type: none"> What impact will this initiative have on business unit leaders or their staff? Will this initiative adversely affect business units' day-to-day activities or operations? 	Negative The initiative will have an adverse impact on business operations	None The initiative will neither have a positive nor negative impact on business operations	Positive The initiative will have a positive impact on business operations
Time Requirement <ul style="list-style-type: none"> Can we capture and realize cost savings within this fiscal year? How do we measure soft savings with this initiative? 	Long term Savings may be realized either within months or not at all upon full implementation	Intermediate term Expect savings can be realized within months of full implementation	Short term Expect savings can be realized within weeks of full implementation
Degree of Organizational Risk <ul style="list-style-type: none"> Will our business unit leaders ensure the changes are made? Is our enterprise capable of adapting to the changes? 	High Staff redundancies; reengineering of processes and structures	Moderate Limited changes in roles, structures and processes	Low No staff reduction nor changes in organization and processes
Degree of IT Technical Risk <ul style="list-style-type: none"> Will the change undermine the ability of our systems to deliver services? Will this change cause delays in enterprise operations impacting few or many components of the architecture? 	High Impacts OS, DB, middleware and applications	Moderate Impacts few components of the architecture	Low Little more than "moving boxes"
Investment Requirement <ul style="list-style-type: none"> Does the initiative require a large, upfront investment before savings can be realized? Is the enterprise willing to make an investment at all? 	High The initiative requires a large, upfront investment before savings can be realized	Moderate The initiative requires a moderate, upfront investment before savings can be realized	Low/None The initiative requires little to no upfront investment before savings can be realized

A white sailboat is shown from a low angle, sailing on a bright blue sea. Several crew members are visible on the deck, some wearing white shirts and caps. The boat's sails are partially visible, and the sky is clear and blue. In the background, another sailboat is visible on the horizon. The overall scene is bright and sunny.

“I can’t change the direction of the wind, but I can adjust my sails to always reach my destination.”

Jimmy Dean

Recommendations

- **Be proactive!**
 - Partner with the CIO to identify those business trends that will have a long-term transformational impact on your institution
 - Take on a business enabler role by addressing the IT implications of these trends.
 - Collaborate with stakeholder to create a balanced technology project portfolio by mixing enablement with optimization and transformation.
 - Mix technologies that gradually enable new capabilities with tech that optimizes existing processes, as well as tech that transforms institutions.

Gartner Recommended Reading

- [Promote Cost Management Frameworks in Higher Education to Achieve Sustainable Business Results](#) G00726476
- [Predicts 2021: Education — Unprecedented Disruption Creates Shifting Landscape](#) G00734863
- [2021 CIO Agenda: A Higher Education Perspective](#) G00722433