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An Inflection Point for Technology in Education

The potential for negative versus positive disruption is very high, including startup costs, ongoing expenses, and faculty disinterest, if not outright revolt.¹



Business school leaders and educators have discussed technology's role in the learner experience for numerous years. But as applications for new interactive digital technologies continue to emerge, so too do new expectations for the learner's educational experience. The COVID-19 pandemic accelerated this trend, necessitating the adoption of remote learning technologies, among others, at institutions worldwide.

But new technology doesn't always align with the needs, aspirations, and interests of learners, which are critical to successful educational experiences. Institutions are increasingly called to outline a strategy for an effective, digitally enhanced portfolio of learning experiences and then identify and secure the resources they need. Faculty also must become engaged and willing to participate in such a rapidly changing environment.

Business schools have little choice but to move forward. New and alternative providers are joining business schools in the delivery of educational content, which creates concerns about disruption. Institutions must continuously look to innovate and enhance online delivery and engagement, leveraging their qualified faculty, assurance of learning, and other unique attributes that differentiate them from other providers and new entrants in the market.

35% of total master's generalist/MBA enrollment in 2021–22 was for programs delivered online or in a blended/hybrid format.²

¹ Insights drawn from AACSB Innovation Committee February 2022 meeting

² 2021–22 AACSB data for schools reporting enrollment for program modality in the Business School Questionnaire Programs Module

Insights From AACSB's Innovation Committee

AACSB's Innovation Committee—composed of the AACSB Board of Directors and business school deans, educators, and business leaders—met in February 2022 to discuss the role of technology in the learner experience and the impacts on the evolving role of faculty. Among their key findings: business school leaders must think more strategically about technology investments, adoption, and innovation; they must also clearly define and act on new pathways to learner success.

The committee explored several key questions:

How can innovative technologies create better learner experiences and outcomes?

What are the challenges facing business schools, and how should school leaders address them?

What are the opportunities, risks, and expectations in shifting the roles of faculty?

What do new technologies mean for faculty training and development?

Featuring insights and key takeaways from the Innovation Committee discussion, this brief provides a look at some priority areas for business schools to consider as they continue to complement the learner experience with technology.

The committee deliberated on the question, **How will technology impact the future of business education?** The following table reflects the major opportunities and challenges facing business schools that surfaced from that discussion.

Technology's Impacts on the Future of Business Education

Opportunities

Rethink the Future of Learning

- Potential to reinvent and reorient higher education for improved learning.
- Timely, relevant, accessible learning content that can be applied more rapidly.
- Ability to offer “intimate” learning experiences, even at a distance.
- Ability to immerse learners in the experience and allow them to better internalize information and prepare for the future of work.
- Potential new and specialized program/degree offerings that support new business demands.
- Increased collaboration, especially across disciplines.

Expand Access and Inclusivity

- Wider engagement of participants—across regions, demographics, socioeconomic experiences, etc.
- After initial investment, potential to reduce cost and scale the reach of educational delivery.
- Improved recruitment and retention of global faculty and expanded access to a richer talent pool of expertise.
- Research dissemination to a broader audience with specific interests.
- Greater accessibility to global experts/leaders in their areas, e.g., through virtual reality/hologram presentation.

Introduce Data-Powered and Personalized Learning

- Improved student outcomes through real-time data that uncovers learning patterns and information retention.
- Individualized education tailored to the learner’s specific needs.
- Access to lifelong learning data and ability to assess educational experiences.
- Increased student engagement through the use of new learning tools that can create more long-lasting advanced learning.
- Tech-enabled instructional assistance, such as AI tutors, to support teaching efforts.

Challenges

Create Strains and Imbalance of Resources

- Issues of inequity among schools with different financial resources for creating and maintaining high-quality digital experiences.
- Significant costs of startup expenses, ongoing and incremental expenses, training, infrastructure, and yet unknown miscellaneous expenses.
- Hiring of new faculty and staff with expertise in new and emerging technologies.
- Faculty buy-in and commitment to innovating using technology.
- More resources needed for new training and re-training in an emerging learning landscape.

Face New Competition and Stakeholder Shifts

- Changing dynamic in the role of business schools versus edtech in the educational process.
- Potential for edtech and nontraditional players with greater resources and expertise to outperform higher educational institutions in user experience/innovation.
- Inability to scale learning, resulting in consolidation of universities/business schools.
- Competition among traditional faculty, new faculty profiles, and professional staff required to deliver effective digital learning.
- Degree devaluation by the private sector, prompting learners to search for more flexible alternatives.

Experience Unintended Consequences and Post Pandemic Realities

- Unintended consequences of a more virtual/augmented learning experience, e.g., increased distraction, overstimulation, social avoidance, lowered emotional intelligence, inability to translate learning to a real-world setting, cognitive impacts, etc.
- Halted exploration of new opportunities through technology due to higher ed’s focus on returning to “normal” and face-to-face experiences.
- Potential ethical and liability issues in an increased digital environment.
- Risk of “shiny object syndrome,” with limited understanding/data around costs and achievement of learning outcomes.
- Widened gap among learners/participants who have access to technology and those who do not.

Despite Opportunities for Greater Learner Success, Teaching Technologies Present Real Challenges for Institutions

Students are digital natives, not digital masters, and must be included in the design processes.



Even before the pandemic, digital learning experiences had become more widespread and accepted, with many business schools delivering education online. “COVID-19 ... represents a momentary period within a decadeslong **innovation cycle** initiated by the emergence of Web 2.0 technologies,” says Sarah Grant, associate director of the EdTech Lab at Imperial College Business School. “These technologies enabled greater flexibility in where and when education could be taught and consumed, and they made it possible for schools to share information on a much broader scale.”

But conversations about online or hybrid learning models have shifted since the pandemic began. These technologies are no longer described as complementary to learning but as necessities for successful learner outcomes.

New technology adoption brings new challenges and risks. It is expensive both to purchase the technology and facilitate transitions among students and faculty. These new technologies can also become obsolete quickly, jeopardizing an institution’s early investments.

Many schools will not have the resources to explore how the technology works and adequately support faculty as they learn how to use Web 3.0 technologies in particular.



Technology's Impacts on Learner Engagement

There are countless use cases for technology in education; even so, schools must overcome persistent barriers to adoption, engagement, and even public perception to realize its benefits. The following opportunities and challenges will impact the efficacy of technology in supporting learner success.

Opportunities

- **Transformation:** Technology can become a driver within schools seeking to break out of traditional ways of thinking and differentiate experiences for their students.
- **Sophistication:** Schools can continue to develop and improve Web 2.0 technologies, such as interactive learning materials, video lectures, asynchronous communication tools, and videoconferencing. As they push the boundaries of innovation, they can begin focusing on Web 3.0 technologies as well.
- **Efficiency:** Schools may be able to upskill students faster. For example, [one study](#) has shown that virtual reality (VR) learners train four times faster, are 275 percent more confident in applying skills, and are four times more focused than other online learners.
- **Personalization:** Schools can [personalize learning](#) through artificial intelligence (AI), for example, so that "every student experiences a unique educational approach, fully tailored to their individual abilities and needs."

Technology allows for the collection of data that can help personalize business school education by individual learner needs. 

Challenges

- **Risks to credibility:** Online experiences may fall short of educational standards; or, employers may question the validity of diplomas from online programs, even when no shortcomings are present.
- **Rejection:** Schools may face backlash from learners who invest substantially in their learning but feel their experiences are insufficient, given a lack of faculty "face time."
- **Lack of engagement:** Learners may struggle to focus or they may avoid engaging in online learning, leading to poorer performance and outcomes.

What Are Web 2.0 and Web 3.0?

Web 2.0 is the current iteration of web-based technologies, featuring interactivity, social connectivity, and user-generated content.

"Web 3.0 represents the next iteration or phase of the evolution of the internet," according to [Investopedia](#). "Web 3.0 is built upon the core concepts of decentralization, openness, and greater user utility" through seamless access to digital tools, many of which are powered by AI.

Factors Determining the Success of Learners

The new tools are exciting and, if used appropriately, can really help us prepare for the future of work.



Encourage faculty buy-in and provide necessary support.

Schools must ensure faculty adoption through training, technical support, recognition, and additional resources, such as the expertise of instructional designers.

Rethink curriculum design.

Beyond PDF downloads and video lectures, online learning must be designed for an online audience, with active learning in mind. Faculty will need to rethink course design and assessments that best serve an online environment and create digital content that provides immersive and interactive experiences for a diverse set of learners.

Enable accessible technical infrastructure.

A school's technology infrastructure will need to be reevaluated to support online learning across a variety of learner needs. In the interest of equity, schools must also support technology accessibility among all learners.

Measure learner engagement and success.

With learner data becoming more accessible in digital formats, schools will need to learn how to effectively leverage the data to facilitate personalized learning journeys and to achieve desired learning outcomes. Learners expect flexibility and personalization—including online, face-to-face, and hybrid offerings—but continue to demand quality, regardless of format.

In regions with great inequalities, technology can help inclusion to a much higher degree. What MOOCs did for content, now AI and other tech can do for customization and immersion.



The Role of Faculty Will Evolve From 'Sage on the Stage' to Mentor, Coach, and Learning Facilitator

For business schools to be at the forefront of technological progress, they will need to hire and prepare faculty with the expertise to effectively leverage emerging tools to increase learner engagement and achieve intended outcomes. This is not an easy period for faculty, given the new expectations of them in a rapidly changing environment. Many faculty are accustomed to being the experts on content but now are being called to serve as facilitators or mentors to students in their lifelong learning journeys.

Grasping technology and excelling at delivering worthwhile student experiences are several steps apart, and institutions need effective strategies for supporting faculty through this process. To encourage educational transformation, schools should foster a culture of collaboration and knowledge-sharing among their faculty and evaluate whether current doctoral programs are providing future educators with the training they will need to effectively teach in a continuously evolving environment.

"There will never be a time when humans aren't necessary for the tasks related to education ... the best results will come from combining the strengths of AI and human abilities."

—Lasse Rouhiainen,
Harvard Business Review



Cultivating Faculty Engagement

Faculty members are increasingly expected to successfully collaborate, disseminate their research, facilitate learning, and measure learner progress using next-generation technologies. The following opportunities and challenges demonstrate what faculty and organizational changes are necessary for achieving these goals.

Opportunities

- **Collaboration:** Faculty collaboration with one another and with learners can be more efficient through online tools that allow seamless sharing of resources, feedback, and support, even outside of regular class hours.
- **Access to thought leadership:** Faculty can bring in top thinkers, speakers, and resources virtually, where access to them would be otherwise impossible.
- **Augmented labor:** AI can commoditize courses and free up faculty resources to focus more on personalized coaching or research-based teaching.
- **Recruitment:** A greater acceptance of online environments can not only help schools attract and retain faculty with the necessary expertise; it can also help them recruit quality faculty without geographic restrictions.

Challenges

- **Change management:** Faculty members may be resistant to change and may need help adapting to new technologies or approaches. Most faculty are and continue to be trained for educational environments that do not reflect emerging realities.
- **Equity:** Less-resourced schools may struggle to support faculty training and preparedness. As a result, faculty may struggle to provide equitable learning environments via digital tools.
- **Accountability:** The application of new technologies may raise concerns about faculty members' accountability for learner success, as those educators may lose some oversight of their students.
- **Inconsistencies:** Faculty use of technology may be inconsistent; some individuals will have greater ability or willingness to take advantage of new tools in their learning delivery.

The costs of creating and maintaining high-quality digital experiences raises equity issues between well-funded schools and those that have fewer resources.



Factors Determining the Success of Faculty

Digital technologies and platforms can provide spaces and opportunities to augment the learning potential of students with podcasts, blogs, videos, microlearning objects, daily challenges, and real business cases.



Encourage educators to embrace their new roles.

Faculty must acknowledge that technology is designed to support learner success, not simply to deliver content at a distance or to use technology for its own sake. Institutions should encourage faculty to shift their thinking from delivering content to becoming champions in supporting learners in their transformational journeys.

Incentivize faculty.

Incentives can encourage faculty members to adopt and optimize their use of new technologies proactively. Incentives should align with faculty members' accomplishments in terms of improving their teaching and boosting learner success.

Formalize faculty training and preparedness.

Business schools should provide faculty with formal training on new technologies, opportunities to observe other faculty effectively leveraging technology in their classrooms, and the freedom to explore new learning experiences beyond the physical classroom.

Focus on equity.

Faculty should focus on the opportunities technology creates to provide all learners with a worthwhile education—through personalization, asynchronous communication, flexibility, and real-time support (e.g., through AI to answer questions when educators aren't available).

A Strategic Approach to Digital Transformation

Institutions need a strategic approach to technology adoption and implementation, but antiquated processes and long-standing traditions hinder progress for many business schools. The following four-step approach is one way that school leaders can start to create a strategic plan for successfully adopting and implementing technology in their schools' offerings.

We will no longer have to guess as to whether students have learned and retained the information taught.



1.

Identify the specific educational needs that technology can address.

Stakeholders must acknowledge that technology will not be a panacea for all ills; it's important to set realistic expectations. In simple cases, a school might want to focus on enhancing learning engagement or increasing retention rates.

More progressive opportunities also exist. Technology may enable schools to increase diversity and access by including a wide range of perspectives and broadening the definition of success. For example, schools may prioritize immersive experiences or enhanced knowledge-sharing that illustrate success in different parts of the world.

In all cases, schools must strategically align technology adoption with learner success. An institutional approach must include a variety of services that complement faculty teaching and the student learning journey.

2.

Develop a strategy for scaling up successful pilot programs.

Upon identifying needs and selecting relevant technologies, institutions must develop a strategy for scaling up successful pilot programs. Business school leaders should consider the following factors when developing a scaling strategy:

- Make sure that the infrastructure is in place to support any new technology or technologies.
- Conduct a cost-benefit analysis for each investment to ensure its benefits outweigh the costs.
- Ensure that there is buy-in not only from senior leadership but also from faculty.
- Directly address any faculty member's resistance to change with empathy and encouragement.
- Ensure access for all learners, regardless of their geography or socioeconomic status.

We could reach a broader audience with our existing programs or through creation of new majors that are adjacent to existing classes or curriculum.



AI opens opportunities for real-time data collection on learning effectiveness and assurance of learning through highly personalized experiences.



3.

Build an ecosystem of support that includes incentives, training, and other resources.

New technology ecosystems should encourage faculty to use technology in their teaching. Incentives might include releasing faculty from certain administrative duties or providing stipends for professional development. Training might take the form of workshops, mentoring programs, or learning opportunities provided by technology partners. Dedicated support staff or technology-enabled classrooms also can help.

4.

Measure progress and outcomes.

Technology leaders should also consider how they will measure the impact of technology on institutional goals. They must determine what metrics to use, what data to collect, and how often to conduct assessments.

Schools may also create channels for faculty feedback, allowing educators to share experiences, suggestions, insights, or concerns. Decision-makers can use this information to inform future decisions about technology adoption.

Digital tools may also increase the quantity and accuracy of learner data. Through in-depth analysis or even AI, schools can leverage that data to enhance student experiences; improve student outcomes; or match students with employers based on skills, interests, and academic activities.



Training might take the form of workshops, mentoring programs, or training provided by technology partners.



Begin Adding Value Through Innovation

Digital tools promise endless possibilities for future learners in higher education. When used successfully, technology enables curricular innovations to happen more rapidly. Remote tools enable increased connections with businesses, digitally bringing corporations into the classroom, or allowing a class to “drop in” at a real board meeting. Students may also enjoy immersive internship experiences remotely, permitting them to “try on careers” in a low-risk environment. As physical and virtual realities become more intertwined in a metaverse world, business schools may soon experience an environment where learners and faculty attend some classes or parts of the campus as avatars in a virtual space and others face-to-face.

Mixed modes of learning are exciting but can be difficult to manage, despite these possibilities. Missteps could result in unintended consequences to learners’ experiences, outcomes, or even mental health, if not well integrated.

As business school leaders face these unknowns, meaningful technology partnerships are critical to achieving new goals. With the right insights, a strategic vision, technical support, and engaged faculty, business schools can make the changes necessary to stay ahead of emerging competitors, and prepare learners for their paths to success.

“Future cycles of innovation ... will be initiated by the emerging mathematical and computing-based technologies, [enabling] a move toward a new era of digital education systems supported by AI.”

—Sarah Grant,
AACSB Insights



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