Disruptive forces and new technologies

How do you decide?

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Agenda

1. Pervasive and unprecedented disruption
2. Innovative technologies – how they can help
3. Deciding how and when to embrace innovative technologies
4. Recommendations
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1. Pervasive and unprecedented disruption
2. Innovative technologies – how they can help
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Disruption is happening all around us
TURN DATA INTO A SHOE
ROBOTS DO BACKFLIPS AND BECOME CITIZENS
SUPPLY CHAINS ARE CHANGING WITH AUTONOMOUS FLEETS
NO INDUSTRY IS IMMUNE

Category shift ● Product personalization ● Profound efficiency
The primordial soup....

**Globalisation**
- New business models
- Increased collaboration across boundaries
- International recruitment
- Joint degrees

**New Education Standards**
- Focus on improved outcomes & performance
- Student mobility
- Rise of qualification frameworks

**Changing Expectations**
- Pressure to find new students and retain existing ones
- Younger generations expect to see ROI
- Life-long learners expect flexibility and convenience

**Accelerating Technology Innovations**
- More engagement
- Increased efficiencies
- New educational delivery models
...Leads to an **evolution** of the higher education model

**From Institutional focus to Consumer focus**

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<tr>
<th>Traditional: Institution Centered</th>
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Shifting from an institutional to a consumer-centric industry

A new recovery model or a new model entirely?

Ovum, Digital Economy 2025: A view from the industry perspective
ARE YOUR READY?

ASK YOURSELF…

1. Is our institution immersed in the digital age?
2. Do we have the tools for digital transformation?
3. Are we agile enough for the next wave of disruption?
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Innovative technologies enhance your ecosystem

- Internet of Things (IoT)
- Blockchain
- Conversational Interfaces
- Machine Learning (ML)
- Artificial Intelligence (AI)
Internet of Things (IoT) – higher education use cases

• **Facilities management:**
  Bialystok in Poland recently opened a new campus with Smart Buildings - Modern command center with integrated video surveillance, sensor-based, computer-operated heating and air conditioning

• **Personalized student experience:**
  Location awareness services to suggest nearby activities/events based on student profiles and past behaviors

• **Student security:**
  Improving campus security by proving access to buildings, events, activities, etc. through use of wearable technology
Conversational interfaces will replace the most common interfaces on connected devices

Source: Gartner 2018

"Conversational AI-first" will supersede "cloud-first, mobile-first" as the most important, high-level imperative for the next 10 years

Artificial Intelligence market
Conversational Interfaces – higher education use cases

• **Frequently Asked Questions (FAQs):**
  – Any student, staff member or external visitor

• **Administration:**
  Scheduling rooms, booking parking, booking sports facilities, reset password, etc.

• **Student record management:**
  – Selecting courses, checking grades, paying fees, appointment with advisor, etc.

Category shift ● Product personalization ● Profound efficiency
Chatbot - Proactively handling cancelled classes

<table>
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<tr>
<th>Chatbot</th>
<th>User Intent</th>
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<tbody>
<tr>
<td>(Hey there</td>
<td>Hi &lt;student first name&gt;, it's Luci. Your class &lt;scheduled course name and number&gt; has been canceled. Do you want me to find another class for you?</td>
</tr>
<tr>
<td>Okay, great. (Here's a list of &lt;# of options with max of 3&gt; options for this course.</td>
<td>Here's another option of the same course: &lt;Scheduled Course # and Name 1&gt;</td>
</tr>
<tr>
<td>Okay, great. Here is a list of a 3 options for this class:</td>
<td></td>
</tr>
<tr>
<td>1. Math 101 B</td>
<td></td>
</tr>
<tr>
<td>2. Math 101 C</td>
<td></td>
</tr>
<tr>
<td>3. Math 101 F</td>
<td></td>
</tr>
<tr>
<td>Do any of these look good?</td>
<td>(&lt;Course # and Name&gt;</td>
</tr>
<tr>
<td>Okay! I’ll go ahead and enroll you on Math 101 D, ok?</td>
<td>(Yeah</td>
</tr>
<tr>
<td>I’ve enrolled you in &lt;Scheduled Course # and Name&gt;</td>
<td>You are now enrolled in &lt;Course # and Name&gt;. Here’s your new schedule.</td>
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POWERING OUR EVERYDAY LIFE
ARTIFICIAL INTELLIGENCE
& MACHINE LEARNING
Artificial Intelligence (AI) – higher education use cases

• **Student admissions and enrollment:**
  Improving recruiting and admissions by matching students to the right programmes and degrees

• **Personalized learning paths:**
  Virtual academic advisors and tutors, to improve student outcomes

• **Student success:**
  Data-patterns that predict which students could become at-risk, enabling timely and personalised interventions

...a caveat about technology, data, and ethics
TECHNOLOGY CAN DRIVE NEW BUSINESS MODELS
Blockchain – higher education use cases

- **Student records:**
  Student-owned, authenticated learning records — badges, certificates, etc.

- **Secure publication and digital rights management:**
  Digital libraries, journals, research data sets, and scholarly publications

- **Learning marketplaces:**
  On-demand distributed learning ecosystem, earn/transact tokens in institution and employer-based learning

...can we deliver an insurance policy?
Remember, the evolution of the higher education model?

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## Evolution of the higher education model

### The technology impact

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<td>Flexible &amp; Termless systems</td>
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<td>Credentialing Systems (Blockchain)</td>
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<td>Standardized Competency Frameworks</td>
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<td>New Types of Evaluation; Link to Employment</td>
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As covered, the higher education industry is being disrupted

**BUSINESS CHALLENGES**
- Mobility
- Competencies
- Consumer Expectations
- Life-long Learning

**TECHNOLOGY CHANGE**
- AI/ML
- Blockchain
- IoT
- Chatbots

**NEW ENTRANTS & MODELS**
- erosmus without paper
- THE EUROPEAN STUDENT CARD
- smart campus
- IMS GLOBAL Learning Consortium
- eIDAS
- Groningen Declaration
- FUN MOOC
- PESC
Industry disruption requires a **new type of solution**

- **Cloud delivery**
  - Reduce resources for commodity functions
  - Increase access to innovation
- **Architectural flexibility**
  - Beyond the credit hour
- **SIS + CX + AI**
  - Transactions, interactions, and insight
  - Blurring solution boundaries
- **Consumer market sensibilities**
  - Automation of routine tasks
  - Proactive and responsive engagement
  - Intuitive and familiar
- **End-to-end advisory**
  - Lifecycle management
When and how to adopt innovative technologies, depends on your institution’s...

- Strategic priorities
- Culture
- Size and resources
- Stakeholders
- Existing technology ecosystem
How to pick a strategic path to adoption?

• Where does your institution need to focus?
• How must processes evolve?
• What can be delivered with your existing ecosystem?
• What innovative technologies would advance these processes?
• When and how will you provision these technologies?
How to select the right solutions?

- Rethink your procurement process
- Focus on cloud solutions
  - A continuous journey - agility & future-proofing are key
- Match the strategy to your context
  - Replace legacy systems? Seek out embedded innovation
  - Extend your existing IT ecosystem? Select platform-as-a-service innovation

But in all situations...
Have a plan...
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Recommendations

• Define your strategy first; then identify a solution
• Assess your institution’s cloud readiness
• Move at a pace that suits your institution, but don’t get left behind
• Cultivate a different type of relationship with your solution provider(s)
Integrated Cloud
Applications & Platform Services