Helping Customers Reimagine HiED in an age of AI & the 4th Industrial Revolution (4IR)

Begins here...

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The world of education has changed drastically...

1780s - Steam, water, mechanical production equipment
1870s - Division of labor, electricity, mass production
1970s - Electronics, IT, automated production
2017 - Blurring the physical and the digital divide

4th industrial revolution (4IR)

Recommended Books:
- The Fourth Industrial Revolution by Klaus Schwab
- ROBOT-PROOF: Artificial Intelligence and Your Future by Joseph E. Aoun
- OLD SCHOOL NEW SCHOOL NO SCHOOL
- HIGHER EDUCATION IN THE ERA OF THE FOURTH INDUSTRIAL REVOLUTION
And requires more from educational institutions

- Stringent security, privacy, and regulatory requirements
- Career-readiness for skills demanded for tomorrow’s jobs
- Personalized learning experiences
- Anytime, anywhere access
- Optimizing student experience
- Impact of changing demographics of learners
- Demand for data-informed strategies
Context and constraints for educating 4IR Digital Learners at Scale

**Algorithms**
Mining troves of data, and then applying the information to your functions for data driven data-decision-making.

**AI Platforms**
New AI algorithmic platforms are tearing through the financial industry.

**Robots**
Robots now analyze stocks; write in depth and informative reports; and interact with customers; semi-autonomous machines are joining soldiers on the battlefield.

**4IR Machines**
Any predictable or near predictable jobs are now in the purview of Machines!

The Fourth Industrial Revolution demands that higher education institutions educate everyone to scale.

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<th>Percentage</th>
<th>Details</th>
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<tr>
<td><strong>65%</strong> of students</td>
<td>in grade school will perform jobs that have not been invented yet!</td>
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<td><strong>47%</strong> of current jobs</td>
<td>are expected to be taken over by machines during the next two decades</td>
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<td><strong>6.5 million</strong> new IT jobs by 2022, most in cloud-related technology fields</td>
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<td>Only <strong>33%</strong> of the world's demand for employees with technology skills is being met</td>
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<td>Percentage of jobs requiring technology skills will increase to <strong>77%</strong> in less than a decade</td>
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“The pathway to new technologies requires a parallel investment in skills development – making sure people have the requisite skills to participate in an increasingly digital society.”

SATYA NADELLA, “HIT REFRESH”
Equipping Digital Learners with...

New Literacies:

- Technological Literacy - Knowledge of mathematics, coding and basic engineering principles
- Data - The capacity to understand and utilize Big Data through analysis.
- Human - Liberal arts education plus digital communication

New Cognitive Capacities:

- Systems Thinking, Entrepreneurship, Cultural Agility, Critical Thinking

But resources are not scaling to meet the demands.

Institutions are turning to Data & AI to unlock new capacity & Reimagine HiED practices as the 4th Industrial Revolution unfolds.
Addressing the data estate first...

- Capture relevant data
- Connect data from different silos
- Identify data relationships
- Simplify data management and integration
- Provide a “single source of the truth”
- Empower a culture of continuous improvement
Challenge: Siloed Data is everywhere on Campuses

Opportunity: Campuses can leverage its sources of disparate data to gain actionable insight for improving Institutional Outcomes.
Modernizing the Data Estate
to Gain Actionable Insights for Improving Institutional Outcomes

University Azure Data Lake

Register, Enroll, Apply, Pay, Financial Aid, Learn Academic Programs, Participate, Student Life, Intern, Programs, Placement, Graduate, Alumni Relations, Alumni, Career Services

Research and Identify

Azure

SIS, Strategic Partners, LinkedIn, LMS, IoT Data, Office 365, Storage, BI, Dataservices, Analytics, ERP
Benefits our Customers are realizing from AI

- Engage students, parents, staff, faculty, alumni & friends
- Leverage Fundraising Analytics
- Financial Forecasting Modeling
- Optimize operations
- Transform teaching & learning
- Workforce Readiness
- Student Telemetry
- Create a transformative students experiences
- Advancement
- Academic Affairs
Technology is increasingly seen as a crucial enabler for new strategic capabilities in higher education institutions, and CIOs are being asked to identify and implement game-changing technology.

-Gartner Report, 2017

So, is your institution ready to reimagine HiED in an age of AI & the 4IR?
Modernize the student

A core factor of student-led learning in higher education is that students are savvy digital consumers. They expect a network of connected, mobile experiences at their universities. They want campus apps for advising, finding roommates, accessing transportation services, booking faculty office hours, purchasing meals, rating courses, and more.

Undergraduate Advising

Blockchain Platform

Conversational AI
HiED Reimagined requires a wholistic approach

**Adaptive learning**
Tailor the pace and format of instruction to each learner’s needs.

**Data-driven decision making**
Foster a culture of using data to fuel action – for both the student journey and administrative processes.

**Learning environments**
Optimize physical and virtual spaces to achieve learning goals and contribute to the student experience.

**Open education resources**
Curate content from diverse sources to meet student needs.

**Mixed reality**
Take learners outside their own experience to build new skills.
Modernize the student

LEARNING HAS CHANGED
"The results so far speak for themselves. There’s been between a one- or two-letter grade improvement from pre-test to post-test scores. Students at WCU-Los Angeles had a 10 percent improvement in test scores compared to last year when there was no AR”

- Segar Annamalai, WCU Chief Information Officer
Connected experiences

Chemistry Department faculty recommends supplemental reading for your Chemistry dissertation.

1:45p Lecture in Memorial Hall by winner of Nobel Prize for Chemistry next Tuesday. Reserve a seat.

2:03p Recruiters from Chemical companies will interview students for paid internships next Tuesday, 22 October. Schedule interview.

You have completed 65% of the requirements for a Bachelor of Science diploma in Chemistry with a 3.85 GPA.

You have attended 9 student performances this year. Do you want to purchase tickets to the musical? YES NO

Your train will be 20 minutes late. Do you want to text your Bioengineering study group about the delay? YES NO
Smart Buildings form part of a wider connected ecosystem

- Transportation, Traffic, Parking, Vehicles
- Housing, Buildings
- Energy, Water & Utilities
- Citizen Engagement
- Public Safety & Security

Key areas of focus include:
- Campus Command & Control Center
- Social
- Economy
- Environment
- LAB Optimization
- Logistics Optimization

Microsoft Azure plays a central role in integrating these systems.
Thank You

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What is the **ONE THING** that if done well over the next, **4-YEARS** will serve as a **FORCE-MULTIPLIER** to produce **Extraordinary Outcomes** for KSU?