

Future of Higher Education

Our Response to Disruption

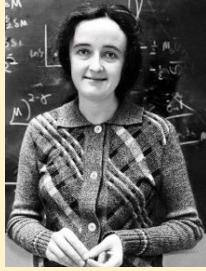
Educause Annual 2018, Oct 31

Jim Phelps

Director of Enterprise Architecture and Strategy

#EDU18, @jimphelps

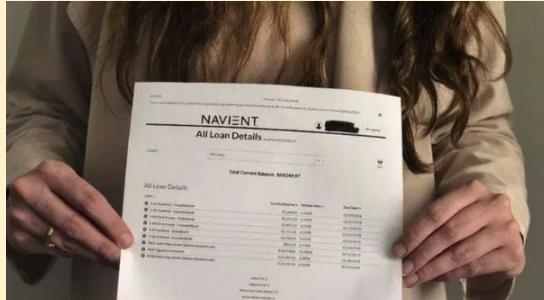
Shifting Skills



Digital Transformation



Employment and Income Challenges



H.E. Financial Crisis

INTERACTIVE RESTRUCTURING MAP OF THE NEW UW SYSTEM



Learning Outcomes:

Understand the impact of the drivers on HE.

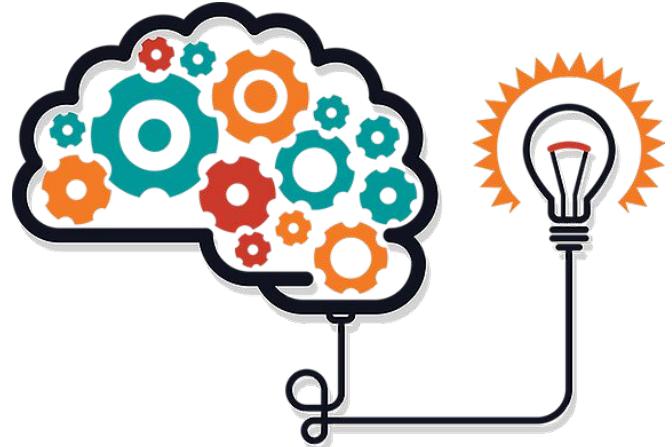
Explain Digital Transformation and our current place between Disruption and Transformation and why that is important.

Understand and explain my vision for a future higher ed institution.

Assess the impact of the drivers on your institution.

Compare your current state against the future state.

Construct a response plan based on the responses identified.



Future of Higher Education: Summary of Drivers and Responses



Digital Transformation (DX)	Shifting Skills	Employment & Income Challenges	Higher Ed Financial Crisis
<p><i>Drivers (DX)</i></p> <ul style="list-style-type: none"> • New technologies that impact all aspects of society • Unknown “winners and losers” 	<p><i>Drivers (Workforce)</i></p> <ul style="list-style-type: none"> • New classes of jobs, skills, and competencies • Shifting emphasis on “above the line” competencies 	<p><i>Drivers</i></p> <ul style="list-style-type: none"> • Increasing numbers of existing jobs displaced • Rising tuition, while many students & households are financially challenged 	<p><i>Drivers</i></p> <ul style="list-style-type: none"> • Growing number of institutions closing or merging • Many institutions likely to enter bankruptcy

Suggested Responses	Suggested Responses	Future Higher Education Institution			
<ul style="list-style-type: none"> • Build adaptability into your organization. • Educate leadership and campus about the DX Story • Create a futurology practice • Build a DX Change Management Office or Practice to engage all of campus in the DX change • Develop pedagogy and content for to help students understand the DX 	<ul style="list-style-type: none"> • Create a strategic investment fund for reskilling our workforce • Build a Strategic Workforce Development Center that focuses on continuous development • Create a continuous learning and improvement culture among all staff • Actively manage Human Resource debt 	<p>Data Driven Foremost</p> <ul style="list-style-type: none"> • Need to automate to drive efficiencies • Measure effectiveness of experience • Measure outcomes • Drive hyper-personalization 	<p>Digital Experience is Central</p> <ul style="list-style-type: none"> • Multiple experience designs support diverse learners • Hyper-personalization is the norm 	<p>Automation for student experience</p> <ul style="list-style-type: none"> • Automation matches students to courses, peer groups, co-curricular activities, advisors and mentors, supporting services like transportation, food, etc. 	<p>Lifelong learners, working learners are common</p> <ul style="list-style-type: none"> • Multimodal education supports lifelong learners, when and where they learn • Multiple graceful entry/exit points deliver learning achievements from microcredentials to degrees

Automate Everything	Workforce Development is strategic	Innovation and Reinvention are core	Mergers and Partnerships extend the experience
<ul style="list-style-type: none"> • Match researchers to grants & pre-populate applications • Match student applicants with best fit and experience • Drive efficiencies in facilities and administrative tasks 	<ul style="list-style-type: none"> • Constant workforce development focused on reskilling and realigning roles • Matrixed organization is focused on the digital experience 	<ul style="list-style-type: none"> • Constant feedback and measure drives innovation and reinvention of the experience and drives efficiency • New technologies and changes in society require innovation and reinvention to be core to the culture 	<ul style="list-style-type: none"> • Learners can attend a partner campus close to work/home • 3rd party partners extend the experience to transport, housing, food, etc.

3 Personas



Leo Legacy



Rita Registrar



Betty Business Analyst

Leo Legacy



Started working in University IT as a student on the Help Desk. Worked his way up to a lead on the Student System Team. Has been at the University for 25 years.

He knows his system inside and out and loves getting into the code to solve problems for his business partners. They love Leo and think of him as “their” person.

He has at least 20 years to go until he retires.

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Rita Registrar



Rita is the Registrar. She was brought in to shake up a group that had become intransigent and siloed. **Rita has vendors contacting her daily with “solutions” to almost all of her challenges.**

Rita is worried about changing regulations and meeting students new expectations for great customer service. She isn't sure how to make student data available to all the people on campus who ask for it though she is willing to support the data driven future.

She wonders which vendor(s) would help her the most, the fastest and at the lowest cost.

Beatrice Business Analyst



Betty is a business analyst working on HR and Payroll. Betty is extremely good at gathering requirements, defining the business processes, then defining the data structures needed to support those processes.

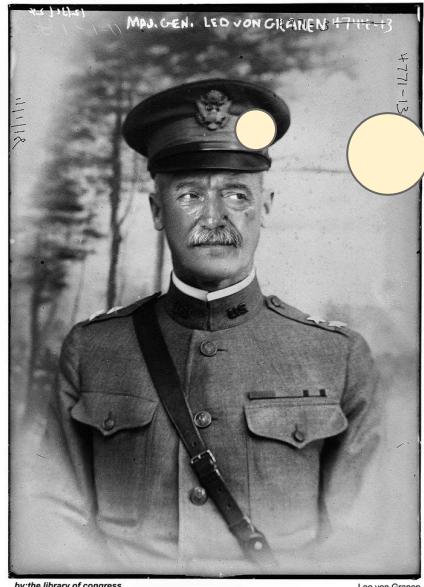
Betty writes excellent user stories that then become test standards. She is highly valued and everyone wants Betty on their project.



Software As A Service Solution

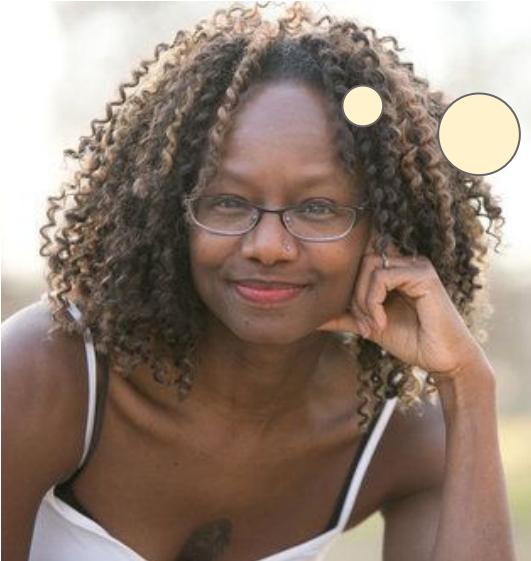


SaaS Story



Will I still have a job?
What will I have to do to fit into this
new world?
The SaaS is nowhere near as good
as a system that I would write!
It doesn't do (a), (b) and (c)!

SaaS Story



This is a pretty cool looking product. This would really make my students life much easier.

The vendor says that **I won't need help from central IT**. I wonder what it would take to stand this up for my students?

Will the Provost pay for it?

Impact of the Changing Technology

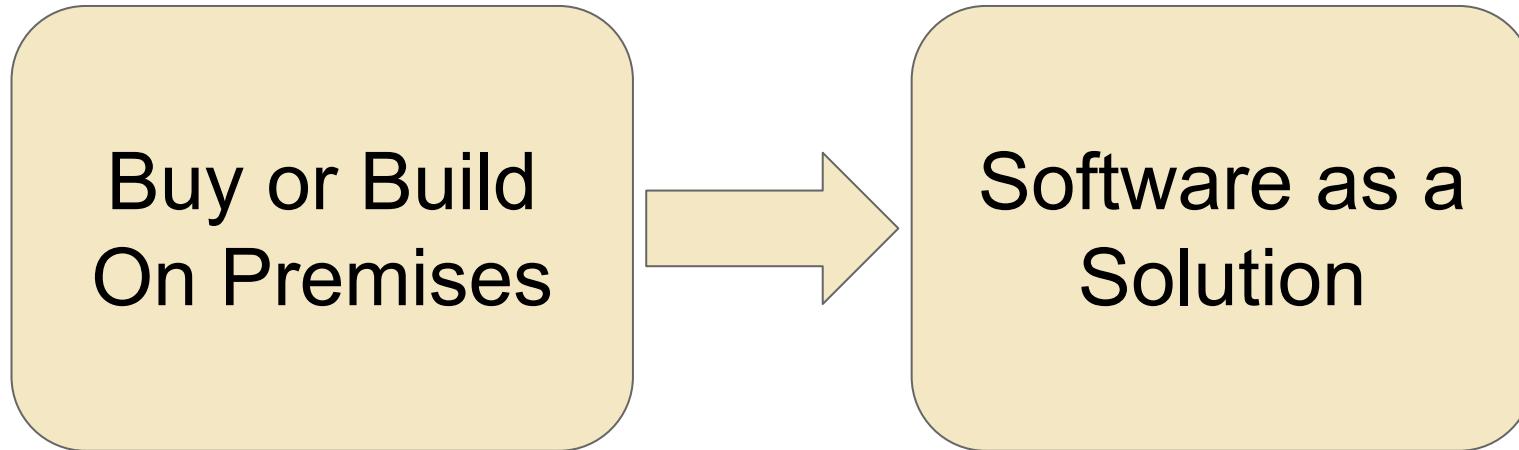


I spend my time **asking the vendor for help** and feature requests, all while trying to learn the system and **how to configure it**.

Then I have to **tell the business** what can and can't be done.

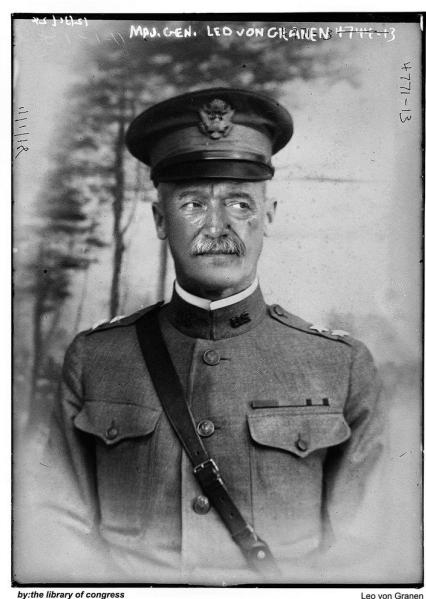
I used to gather requirements and then work on implementation, **now I'm managing relationships and negotiations and trying to triangulate a solution**.

1 small disruption



Impact of Changing to SaaS

Navigate the Change



Impact of Changing to SaaS

Navigate the Change

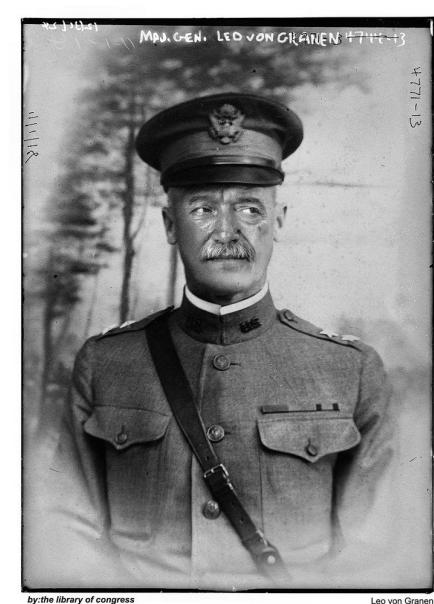


Shifting Expectations and Relationships



Impact of Changing to SaaS

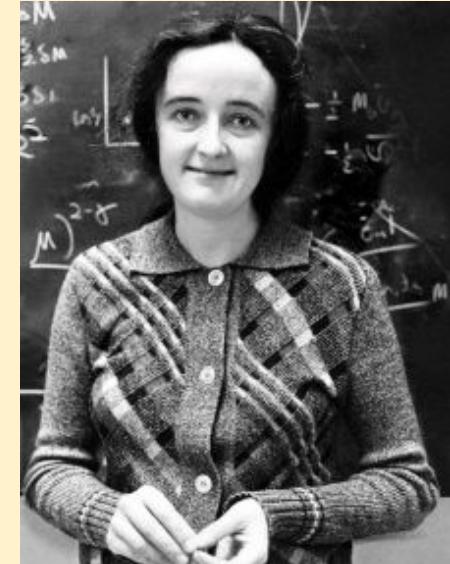
Navigate the Change



Shifting Expectations and Relationships



New skills for the same work



Driver: Shifting Skills

Impact of the Changing Technology

Navigate the Change



Shifting Expectations
and Relationships



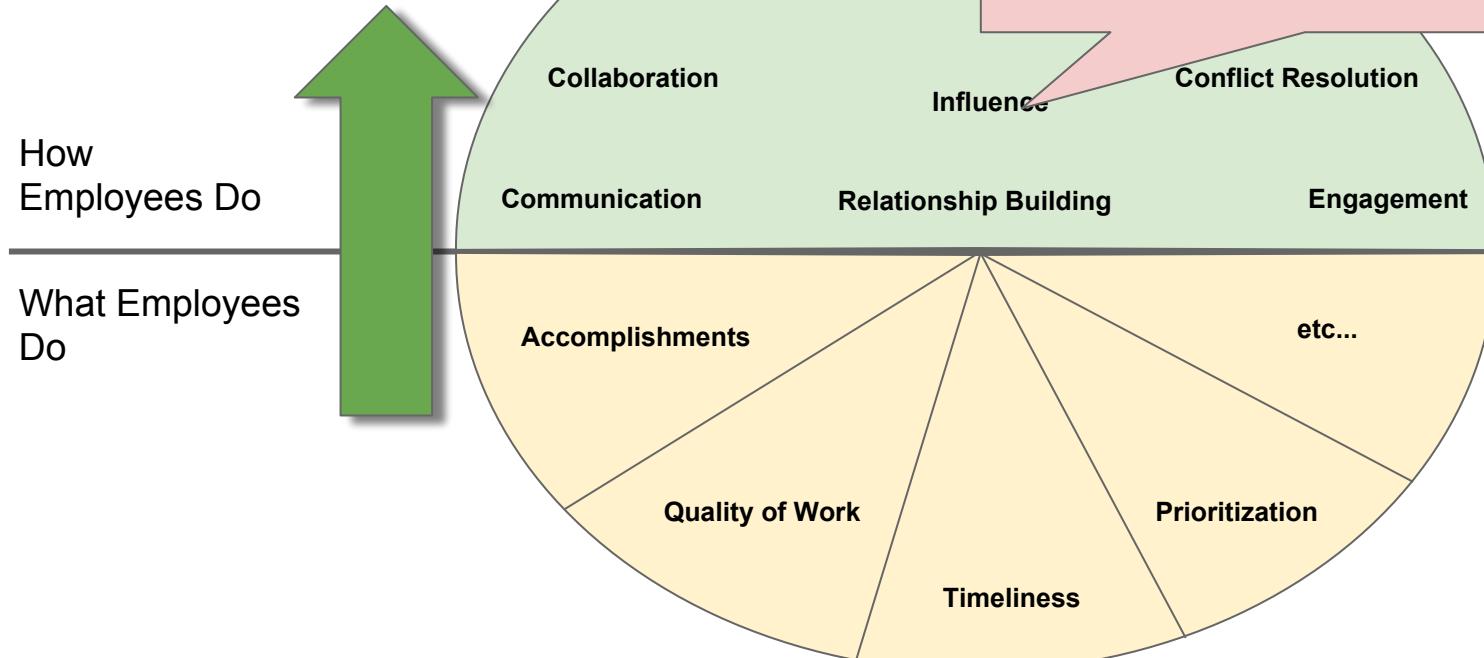
New skills for the
same work



Scott Lever - Gartner Analyst

“Nearly **80% of CIO’s and IT leaders** project that the skill and knowledge their organization will need in **10 years** have **little resemblance to the skills and knowledge** they have today.”

The Workforce of the Future



Business Relationship Management
Vendor Management
Customer Experience Focus
Data Analysis Focus

Influence

How
Employees Do
What Employees
Do

- Create a **strategic investment fund** for reskilling our workforce
- Build a **Strategic Workforce Development Center** that focuses on continuous development and alignment (including Job Descriptions)
- Create a **continuous learning and improvement** culture among all staff
- Actively manage **Human Resource debt**.

INFORMATION TECHNOLOGY

UNIVERSITY *of* WASHINGTON

Enterprise Architecture & Strategy

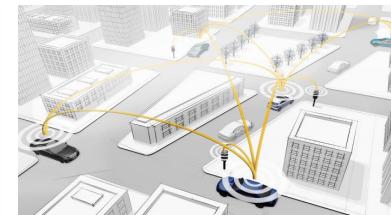
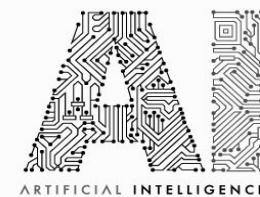
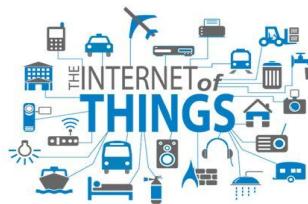
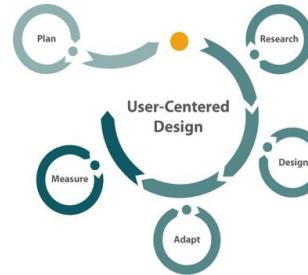
Driver: Digital Transformation

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Digital Transformation

Digital transformation is the change associated with the application of **digital** technologies to all aspects of human society.

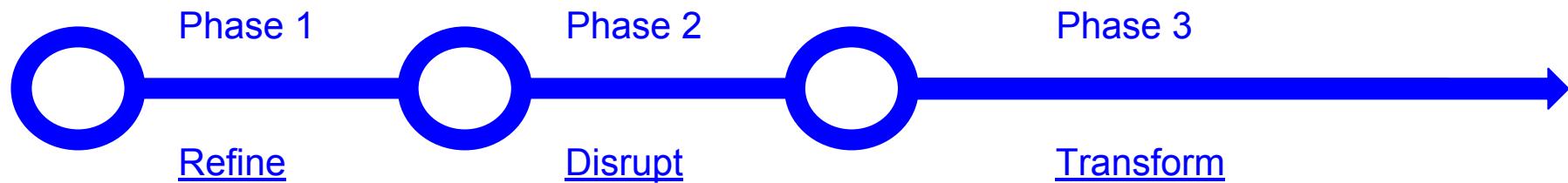
Digital Transformation



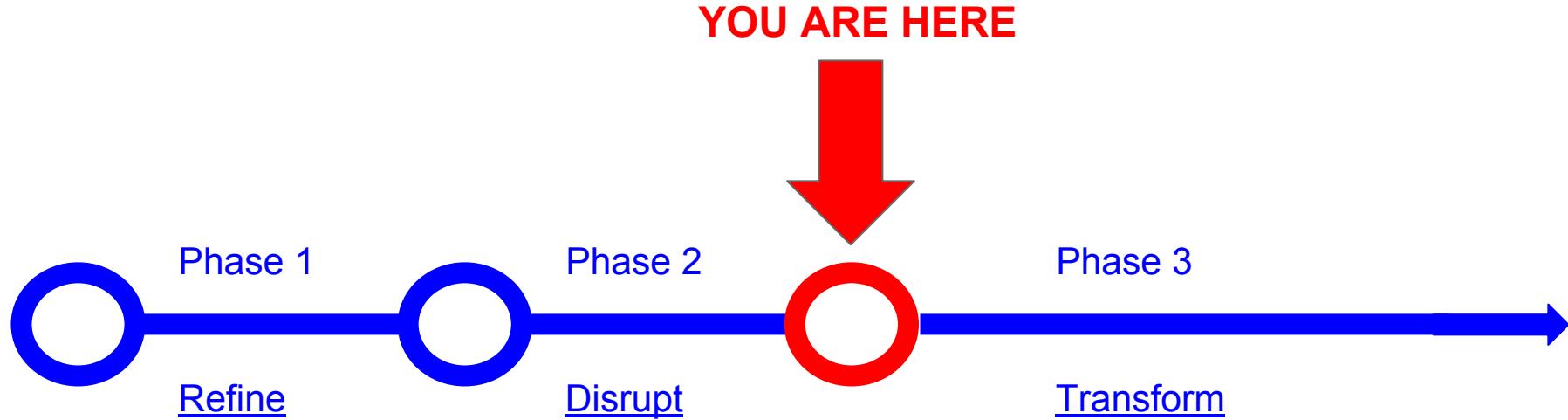
BIG DATA

The word "BIG DATA" is composed of numerous small, colorful dots in shades of blue, purple, and red, arranged in a large, bold, sans-serif font.

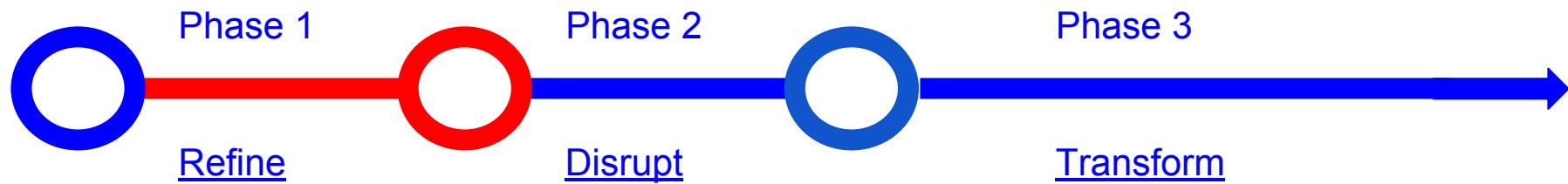
Phases of Transformations



Digital Transformation



Digital Transformation



Replacing old with new

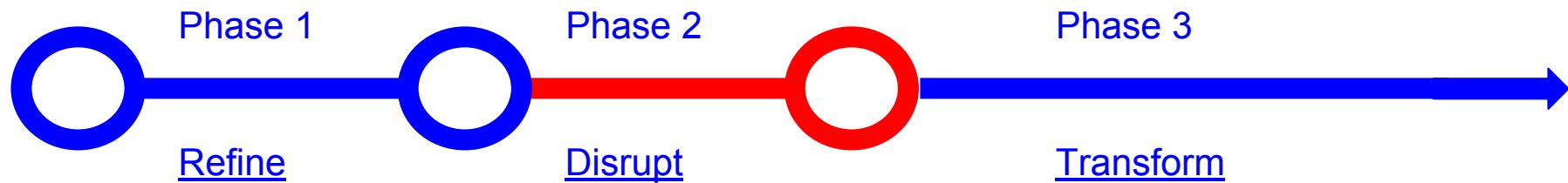
By the Harvard Innovation Lab



From: EDUCAUSE 2017 Annual Conference Panel on the Future of IT Workforce

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Digital Transformation



amazon Try Prime

All ▼

Departments ▼

Your Amazon.com Today's Deals Gift Cards

EN ▼

Hello. Sign in Account & Lists ▼

Etsy Search for items or shops Search

Sell on Etsy Register Sign in

Cart

Jewelry & Accessories Clothing & Shoes Home & Living Wedding & Party Toys & Entertainment Art & Collectibles Craft Supplies & Tools Vintage

Limited-time offer

echo dot
Buy 2 save \$10

WOMEN'S HISTORY MONTH

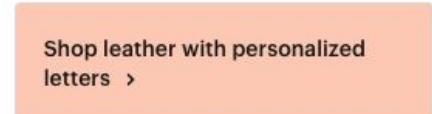
Women make our community great.

See how >



Check out mood-boosting jewelry >

Shop leather with personalized letters >

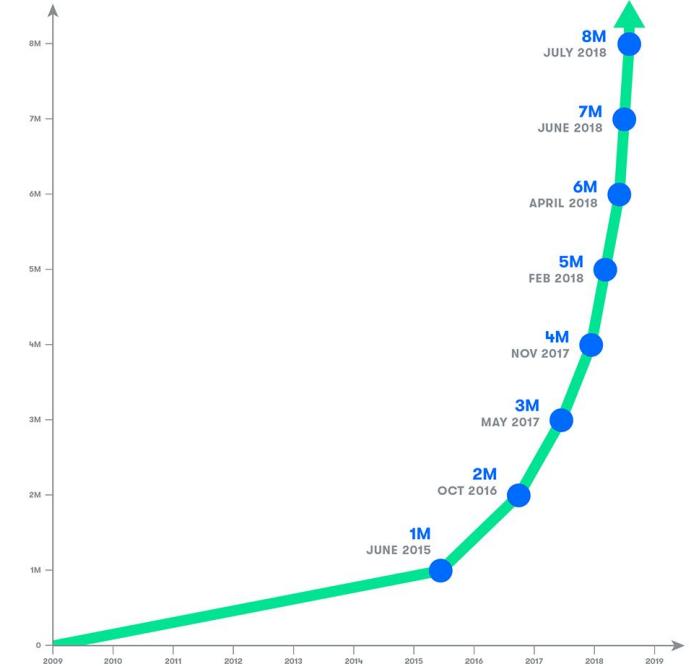


Waymo's self-driving cars are racking up miles faster than ever

Sean O'Kane



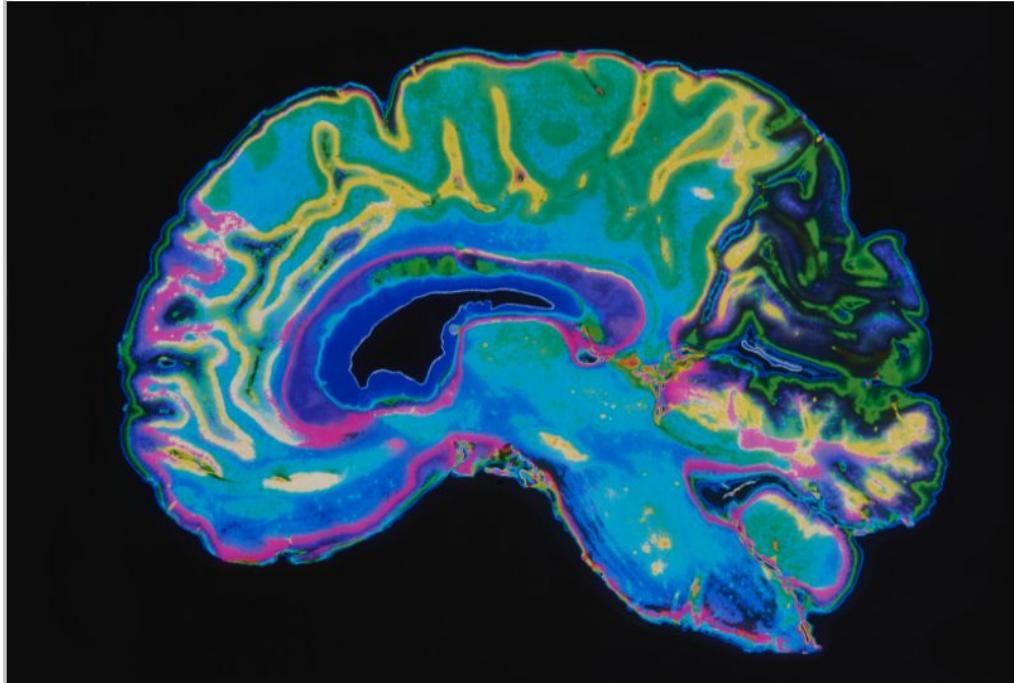
Photo by Sean O'Kane / The Verge



8,000,000+
MILES AND COUNTING

The Verge, May 10, 2017

IBM's AI can predict schizophrenia by looking at the brain's blood flow



Highwaystarz-Photography via Getty Images

Nature Partner Journal - Schizophrenia www.nature.com/npjschz

W

The Apple Watch can accurately detect hypertension and sleep apnea, a new study suggests

Posted Nov 13, 2017 by Sarah Buhr (@sarahbuhr)



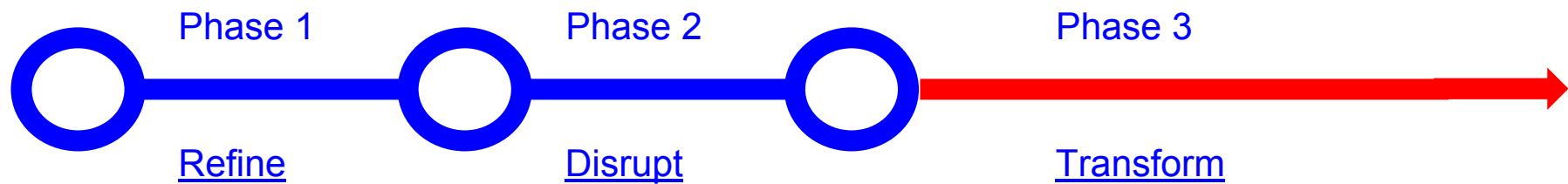
Techcrunch, Nov 13, 2017

Cardiogram and UCSF previously demonstrated the ability for the Apple Watch to detect abnormal heart rhythm with a 97 percent accuracy.

.... can detect sleep apnea with a 90 percent accuracy and hypertension with an 82 percent accuracy.

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Digital Transformation



From: Chris Eagle, U-Michigan, Itana Face2Face 2017, EDUCAUSE Annual



Founded May 1935

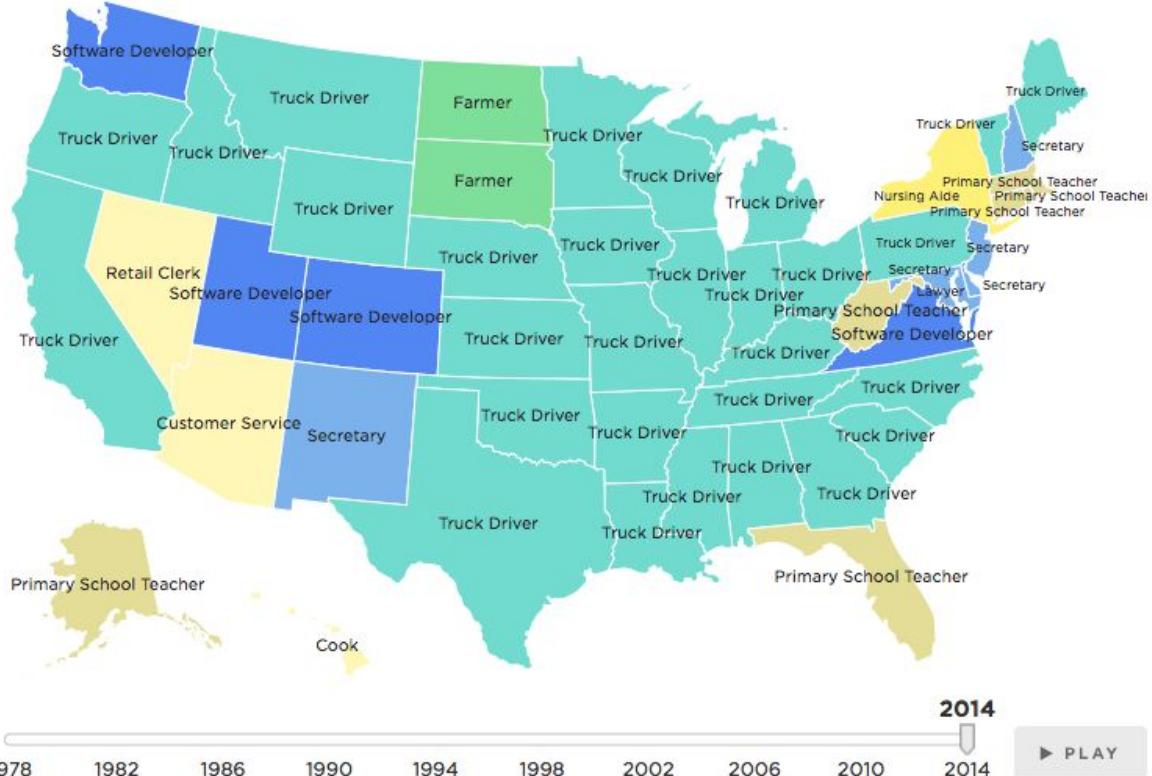
Washing Machines + Refrigeration = Women's Vote



Ted talk - Hans Rosling: The Magic Washing Machine

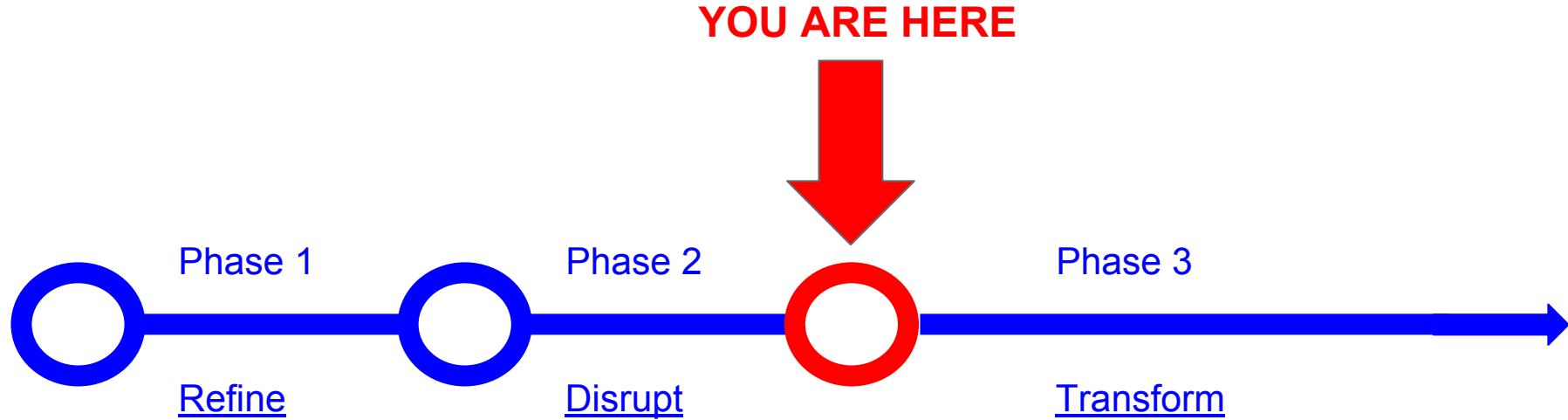
Truck Driver

The Most Common* Job In Each State 1978-2014



NPR's Planet Money, Feb 5, 2015

Digital Transformation



- **Build adaptability** in every aspect of your organization.
- Create a “**Futurology**” practice or program to do scenario planning, “what-if” sessions, workforce planning, SWOT, etc.
- Actively manage the **health of organization** as disruption rolls through families and towns.

Driver: Income Challenges

Prediction 1: World Economic Forum and Boston Consulting

A grim future for workers who don't learn new skills

Almost 1 million Americans will see their career change or vanish by 2026. Boston Consulting. This interactive visu

“Almost 1 million Americans will see their occupations vanish entirely by 2026”

The bottom line: In all, some 1.4 million years, including 70 percent of them — 41% — will have either minuscule affected.

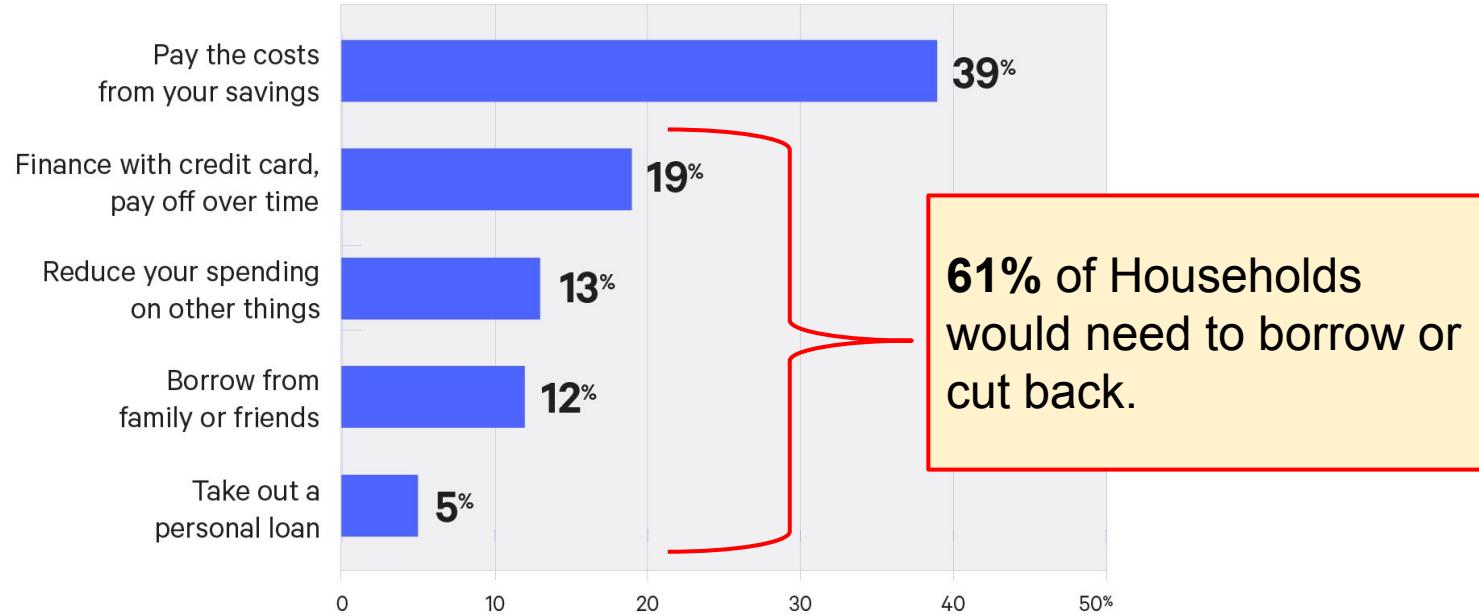
“Without new skills...41% will have minuscule or no chance of finding other work”

Axios: A grim future for workers who don't learn new skills

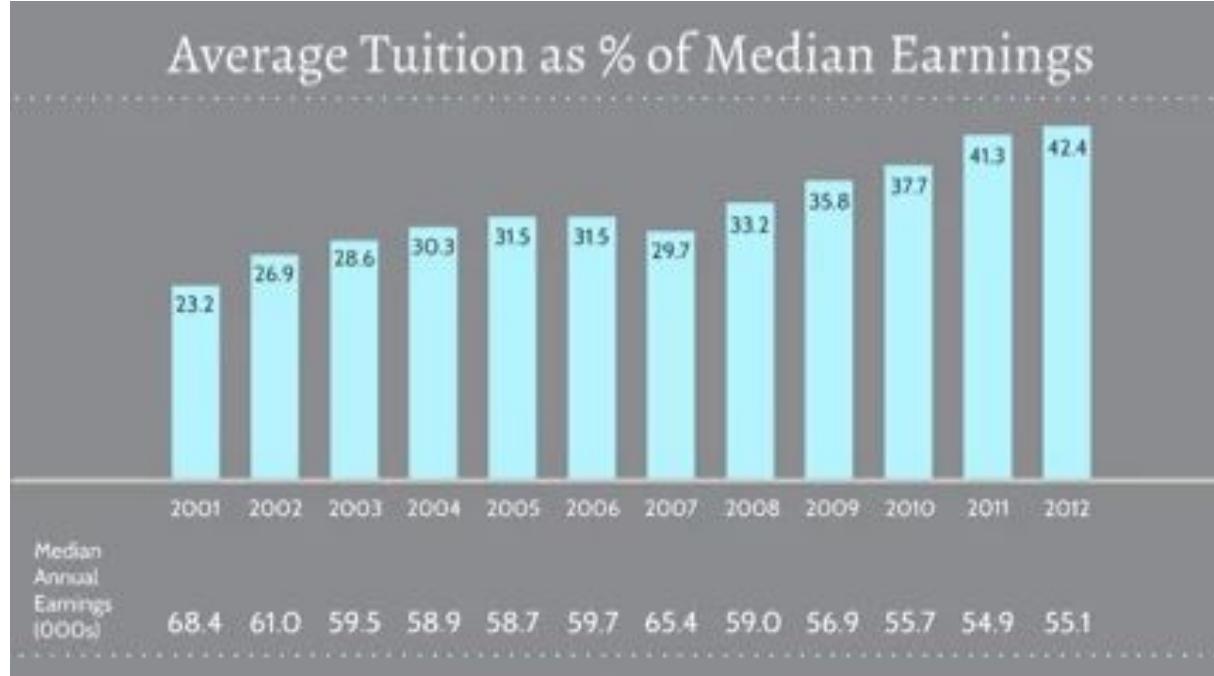
<https://wwwaxios.com/workers-automation-lost-jobs-skills-2d944533-3f51-40ee-b2c0-b65e4644a9db.html>

How Americans pay for unexpected expenses

How would you deal with a major unexpected expense, such as \$1,000 for an emergency room visit or car repair?



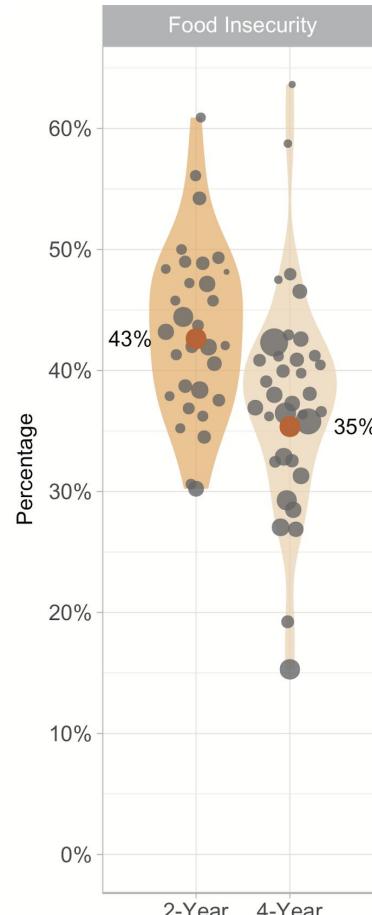
Tuition is eating up more of earnings



Students are Homeless and Hungry

Nationally:

35% of university students were food insecure in the 30 days preceding the survey.... for community college students is 42%



[Wisconsin Hope Lab](#)

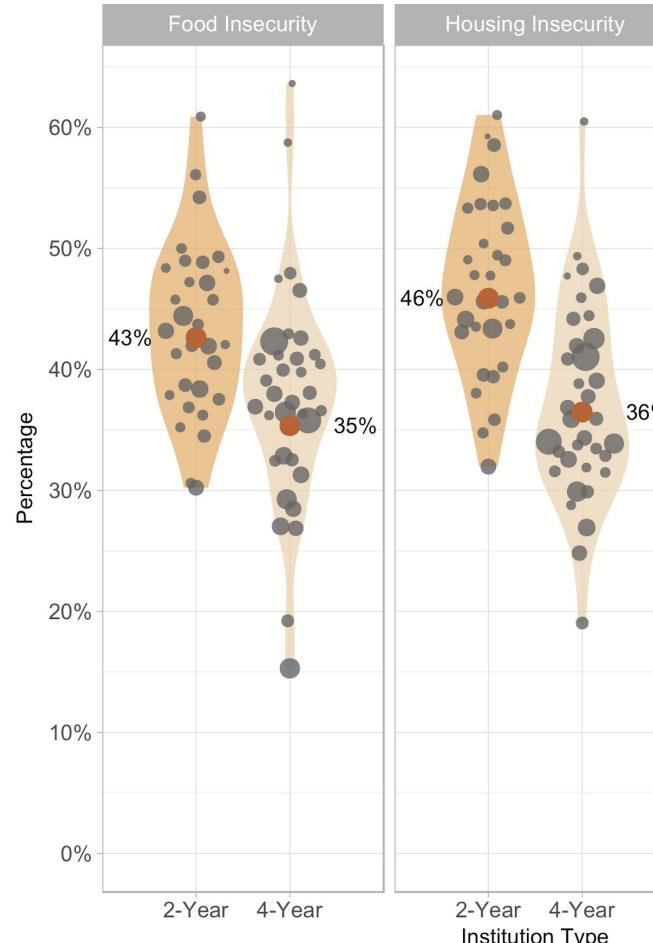
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Students are Homeless and Hungry

Nationally:

36% of university students were food insecure in the 30 days preceding the survey.... for community college students is 42%

36% of university students were housing insecure in the last year. Housing insecurity affected 51% of community college students....



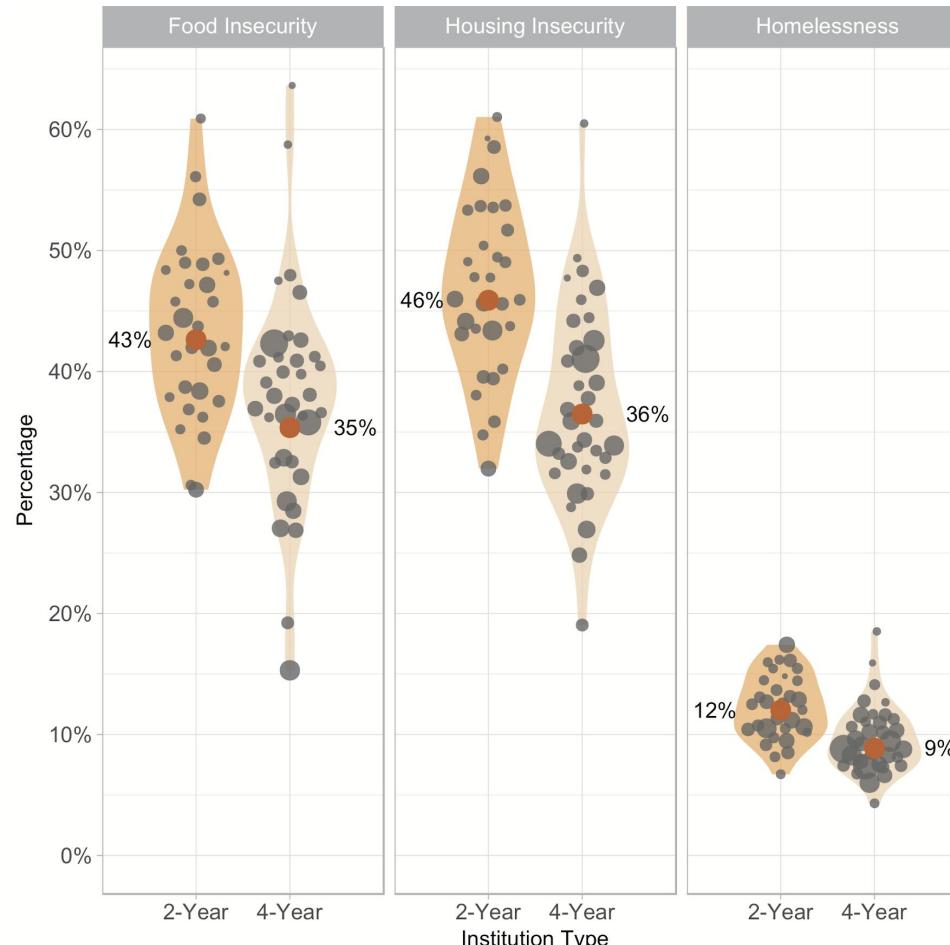
[Wisconsin Hope Lab](#)

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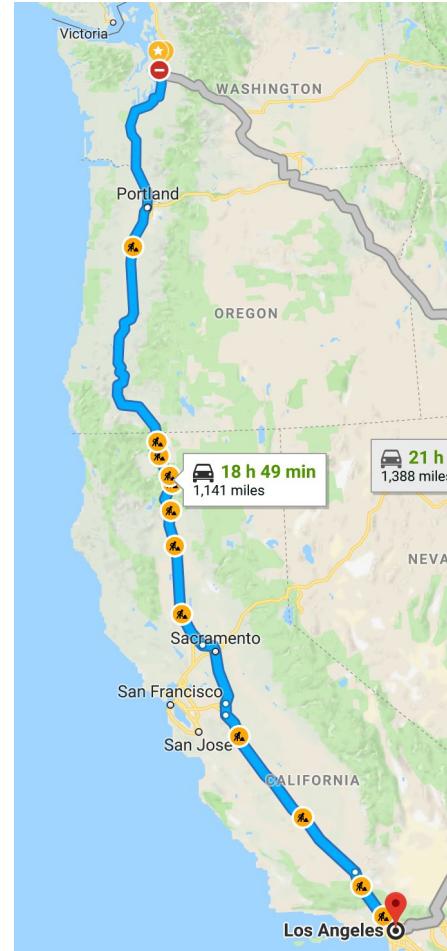
36% of university students were housing insecure in the last year. Housing insecurity affected 51% of community college students....



[Wisconsin Hope Lab](#)

Student Loan Debt

(\$1,530,400,000,000)

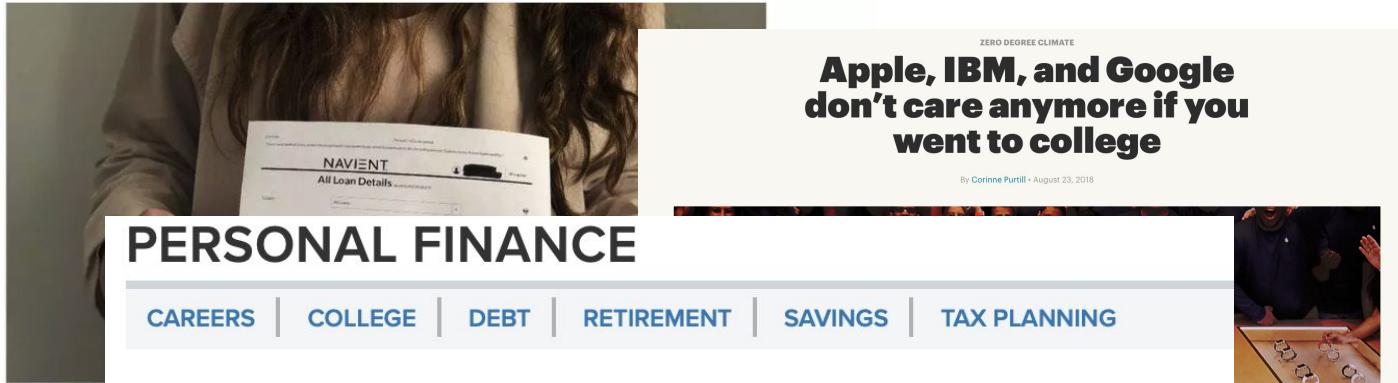


Federal Reserve - Consumer Credit G-19

<https://www.federalreserve.gov/releases/g19/current/default.htm>

Student Loan Debt

Student debt crisis watch: pay \$18,000 of your \$24,000 loan, owe \$24,000



The image is a composite of three parts. On the left, a woman with long hair is holding a white document with 'NAVIENT' and 'All Loan Details' printed on it. In the center, a screenshot of a website shows the woman's face and the word 'PERSONAL FINANCE' in large letters, with a navigation bar below it. On the right, a news headline from 'ZERO DEGREE CLIMATE' reads 'Apple, IBM, and Google don't care anymore if you went to college' by Corinne Purtil on August 23, 2018. Below the headline is a small image of two people at a table with several Apple products.

For some, student loan debt is doubling, tripling, and even quadrupling

- For some students, what they borrow can end up being a fraction of what they wind up owing.

**Challenges the assumption
that students will be able
(or willing)
to leave the workforce
for 4 to 6 years to get an education.**

- Create more **graceful entry and exit** points for students
- Leverage **DX technologies** to make sure the student receives the best, most efficient experience
- Drive down administrative costs through **automation**, autonomous systems, etc.
- Look for **partnerships** to offset student tuition

Driver: HE Financial Crisis

Harvard Business School professor: Half of American colleges will be bankrupt in 10 to 15 years

Abigail Hess | @AbigailJHess • 9:57 AM ET Wed, 15 Nov 2017

There are [over 4,000](#) colleges and universities in the United States, but Harvard Business School professor [Clayton Christensen](#) says that [half](#) are bound for bankruptcy in the next few decades.

[f](#)

HOME ACADEMICS CATHOLIC LIFE

ST. GREGORY'S UNIVERSITY
Est. 1875

News | Events | Buy St. Gregory's Gear | St. Gregory's Email

ABOUT US



ST. GREGORY'S UNIVERSITY

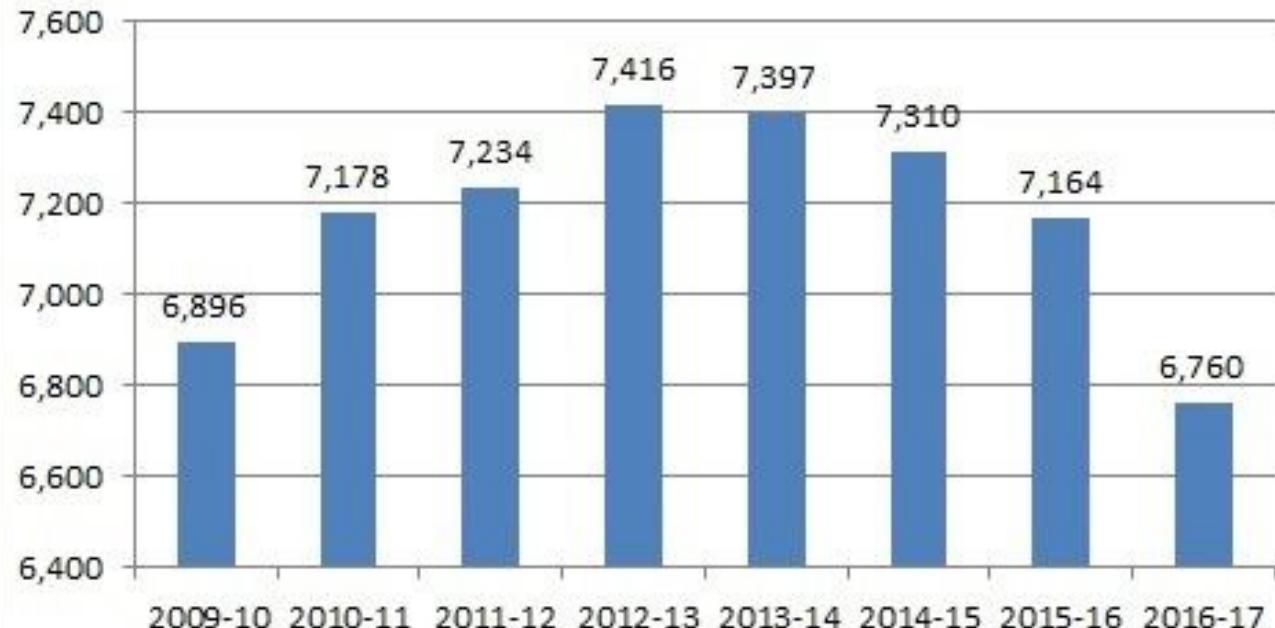
The Board of Directors of St. Gregory's University have made the decision to suspend operations of the university at the end of the fall 2017 semester. For more information, see the news story below.



Memphis
College
of Art



The Number of Aid-Eligible Colleges



[Inside Higher Ed: Numbers of Colleges and Universities Drops Sharply Amid Economic Turmoil](#)

Mergers in Higher Education

List of university and college mergers in the United States

From Wikipedia, the free encyclopedia

This is a list of mergers of universities and/or colleges in the United States with the name of the surviving institution, predecessors, and effective date.

This list is incomplete; you can help by expanding it.

Contents [hide]

- 1 A through D
- 2 E through K
- 3 L through M
- 4 N through R
- 5 S through Z
- 6 See also
- 7 References

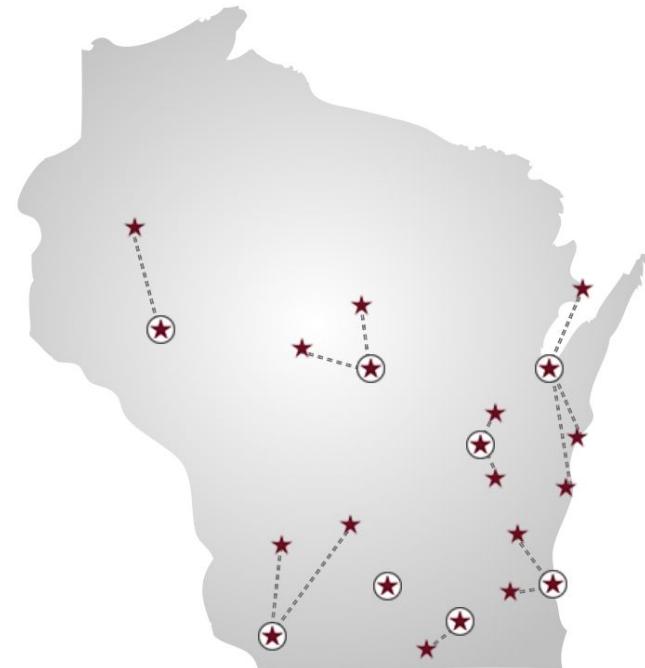
A through D [edit]

- Alderson Broaddus University - merger of [Alderson Academy](#) and [Broaddus Institute](#), 1932
- Alliant International University - merger of [California School of Professional Psychology](#) and [United States International University](#), 2001
- American Sentinel University - merger of [American College of Computer & Information Sciences](#) and [American Graduate School of Management](#)
- Argosy University - merger of American Schools of Professional Psychology, the University of Sarasota and the Medical Institute of Minnesota, 2001
- Azusa Pacific College - absorbed [Arlington College](#), 1968
- Azusa Pacific College - merger of Azusa College and Los Angeles Pacific College, 1965
- University of Baltimore - absorbed Eastern College, 1970
- Benedictine College - merger of Mount Saint Scholastica College and St. Benedict's College - 1971
- Big Sandy Community and Technical College - merger of Prestonsburg Community College and Mayo Technical College.
- Birmingham-Southern College - merger of Southern University (Alabama) and Birmingham College in 1918.
- Boston University School of Medicine - absorbed Boston Female Medical School, 1874
- Boston University - merger of Boston University School of Education and Wheelock College of Education and Human Development, 2017
- Brevard College - merger of Brevard Institute, Weaverville College, and Rutherford College, 1934
- University of California, Berkeley - merger of the College of California and the Agricultural, Mining, and Mechanical Arts College, 1853
- Carnegie Mellon University - formed by the merger of [Carnegie Institute of Technology](#) and the [Mellon Institute of Industrial Research](#)
- Carson-Newman University - merger of Carson College and Newman College for Women, 1889
- Case Western Reserve University - merger of Case Tech and Western Reserve, 1967
- The Catholic University of America - absorbed [Columbus University](#), 1954
- Central Nazarene College - absorbed [Nazarene Bible Institute](#) (1911)
- Chicago College of Performing Arts - absorbed Roosevelt University School of Music, 1954
- University of Cincinnati - absorbed Medical College of Ohio 1896; Cincinnati Law School, absorbed 1896; Cincinnati College of Pharmacy, 1954; Cincinnati College-Conservatory of Music, absorbed in 1962.
- Cincinnati College-Conservatory of Music - formed by merger of Cincinnati Conservatory of Music and the [College of Music of Cincinnati](#) in 1955.
- Cincinnati Law School absorbed [Cincinnati College](#) in the late 1830s

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Restructuring the University of Wisconsin System

INTERACTIVE RESTRUCTURING MAP OF THE NEW
UW SYSTEM



<https://www.wisconsin.edu/uw-restructure/overview/>

ADMINISTRATION



Mergers Can Benefit All Involved — but They're Never Easy

By *Alina Tugend* | OCTOBER 21, 2018  PREMIUM CONTENT FOR SUBSCRIBERS. [SUBSCRIBE TODAY](#)

The finances, logistics, and diplomacy are daunting. But if leaders can swallow their pride and work toward compromise, consolidations sometimes make very good sense.

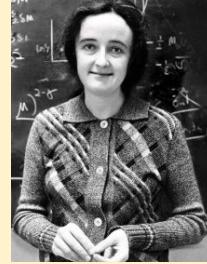
- **Automate everything** possible to drive down costs.
- Look for **merger opportunities** to build footprint, brand and to find efficiencies.
- Find **alternate funding sources** (partnerships) to offset tuition and lost government revenue.
- Eliminate or **collapse departments**.

Digital Transformation

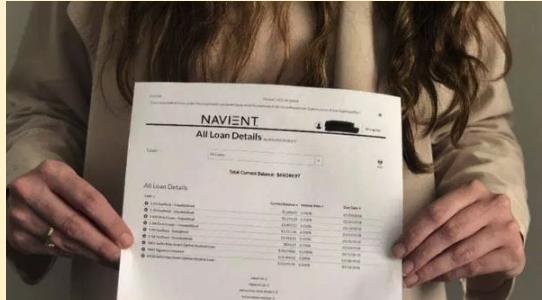


BIG DATA

Shifting Skills



Employment and Income Challenges



H.E. Financial Crisis

INTERACTIVE RESTRUCTURING MAP OF THE NEW UW SYSTEM



INFORMATION TECHNOLOGY

UNIVERSITY *of* WASHINGTON

Enterprise Architecture & Strategy

A Future Higher Education Institution

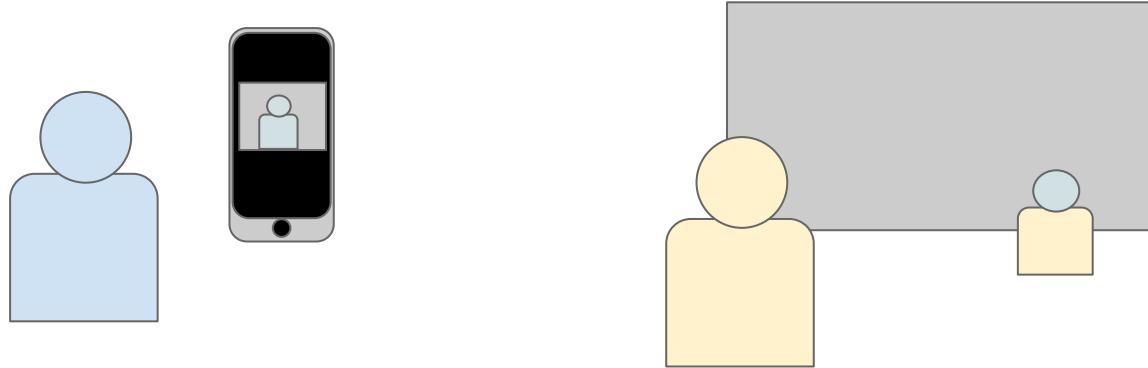
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The University will be a data business first and foremost

- > Measure automations - constantly adjust performance
- > Measure experiences - constantly align to new needs
- > Measure outcomes - highlight the best, fix the worst
- > Gain insights, find opportunities.



The Digital Experience is central



Multiple “experience designs”

Data-driven hyper-personalization

Algorithms matching students with:

- Courses
- Peer Groups
- Co-curricular Activities
- Advisors and mentors
- Transportation
- Food, etc.

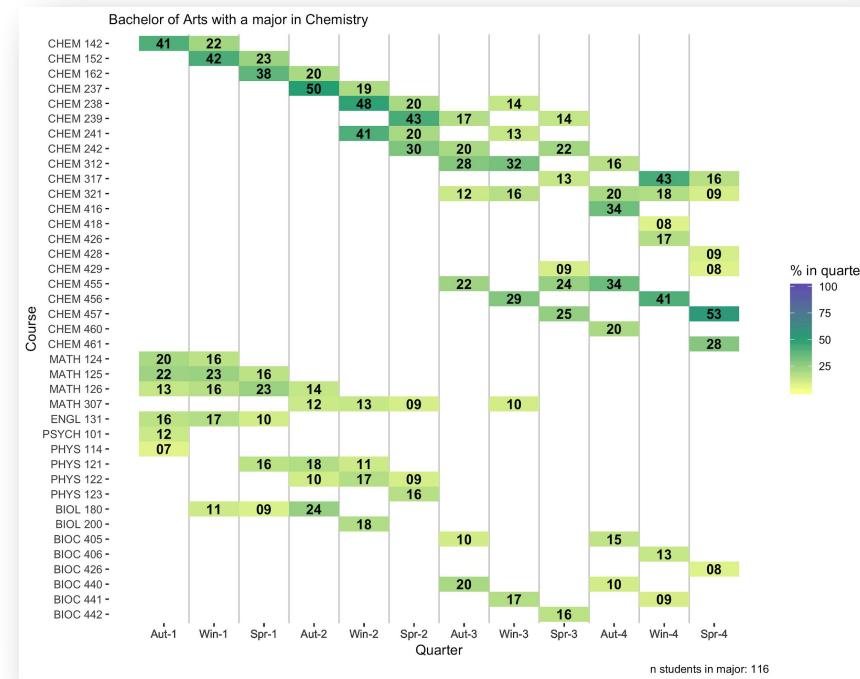
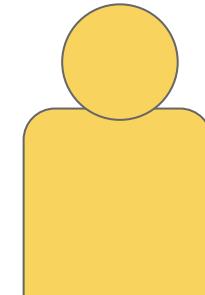
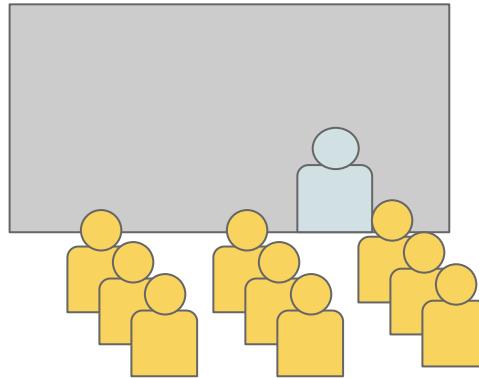
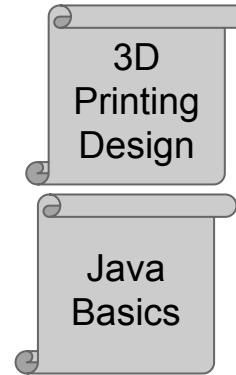
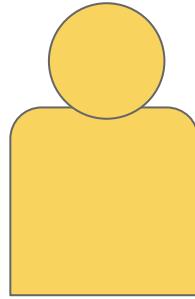


Image from: "IT's Role in Digital Transformation", Tom Lewis, UW, Common Solutions Group Meeting - Fall 2018

Multimodal education for lifelong learners

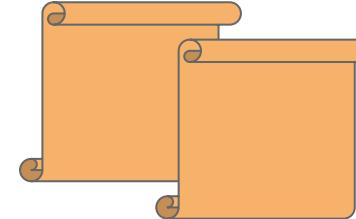
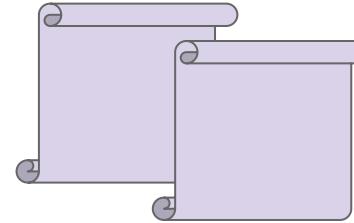


Multiple Graceful Entry/Exit Points



Microcredentials

Completed Courses



Traditional Degrees

Automate Everything

- > Match **Researchers** to grants & pre-populate applications
- > Review **student applications** and prospects and match them with their **best fit and experience**
- > Streamline **Facilities, Maintenance, Administrative** tasks



Strategic Workforce Development delivering the Digital Experience

- > Strategic workforce development program will be constantly developing roles & skills across the university.
- > The workforce will adapt/adopt new technologies quickly and effectively.
- > Highly matrixed organization focused on delivering seamless digital experiences.



Innovation and Reinvention will be core

- > Innovation constantly focused on the digital experience, improved efficiency, and broadening the reach of the university.
- > Constant reinvention and innovation will be core to the culture.



Mergers and Partnerships extend the experience

- > Students can attend partner campuses close to work/home/travel.
- > 3rd party partners help students across their whole experience (tuition, housing, transportation, dining, etc.).



Learning Outcomes:

Understand the impact of the drivers on HE.

Explain Digital Transformation and our current place between Disruption and Transformation and why that is important.

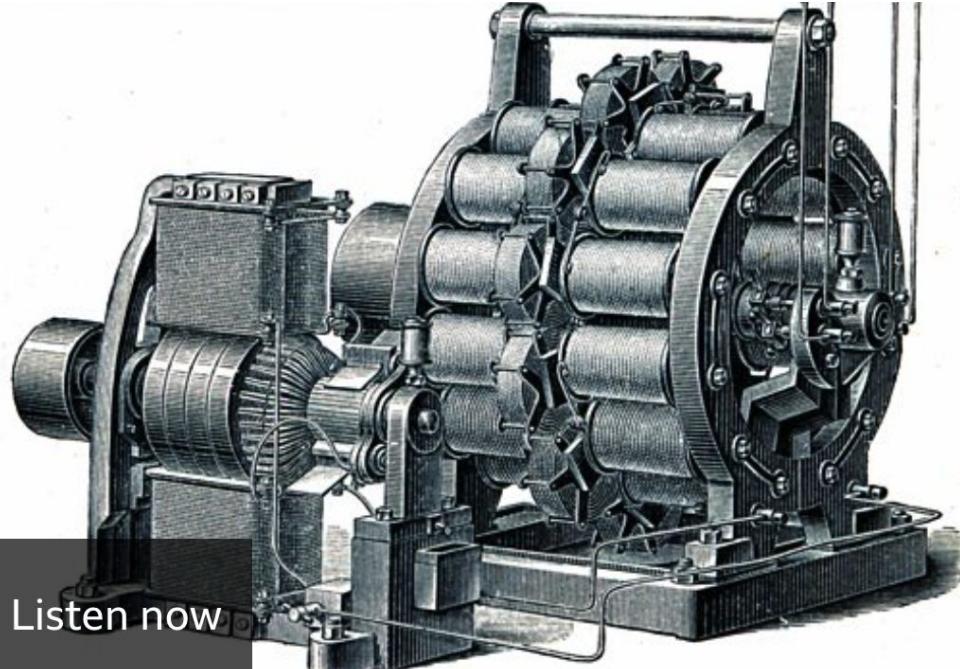
Understand and explain my vision for a future higher ed institution.

Assess the impact of the drivers on your institution.

Compare your current state against the future state.

Construct a response plan based on the responses identified.





Listen now

Dynamo

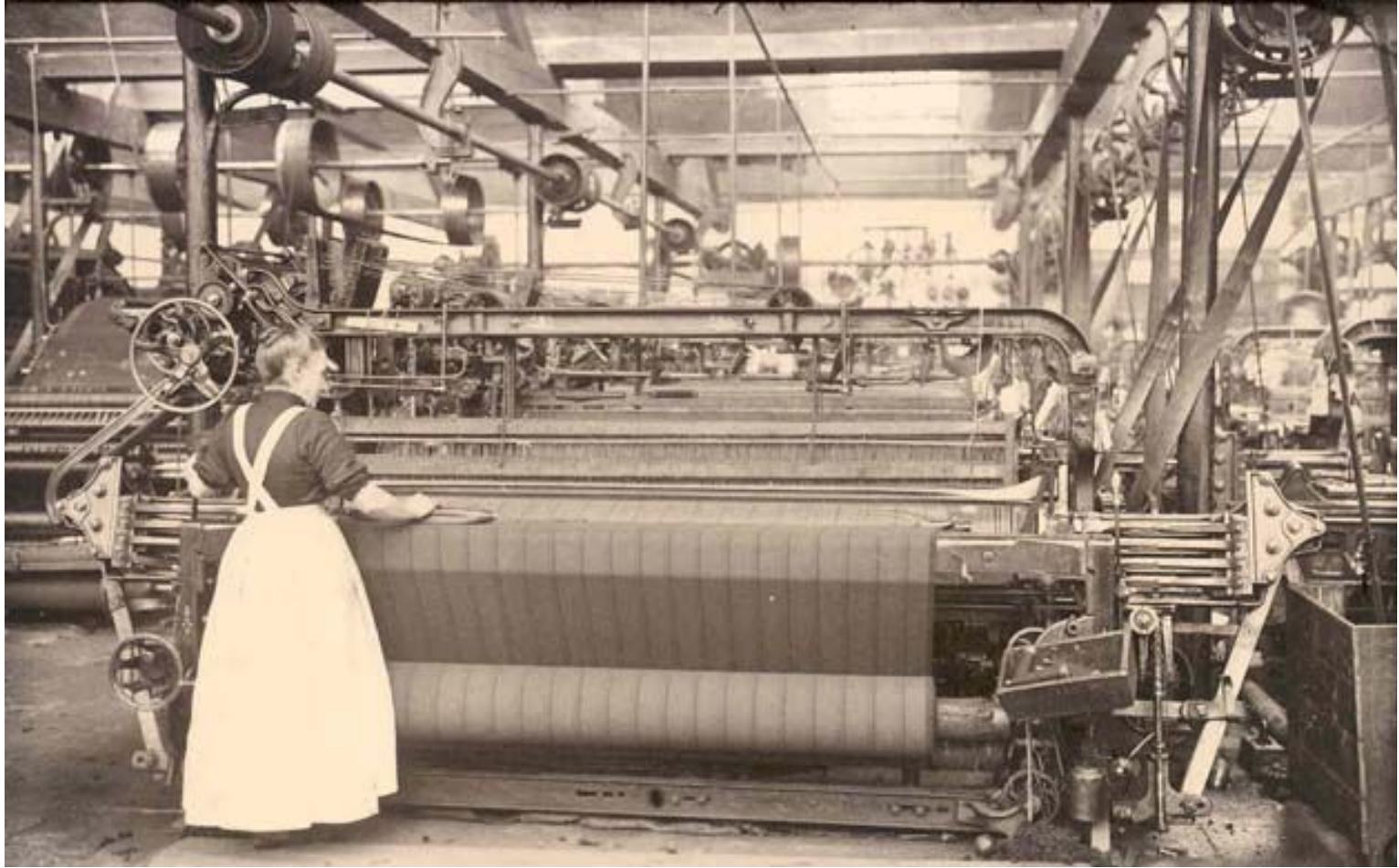
Tim Harford tells the big story behind the way dynamos made electricity useful.

Available now

9 minutes

[BBC - 50 Things That Made the Modern Economy - Dynamo](#)

W





Thank You!



Future of Higher Education

Our Response to Disruption

Educause Annual 2018, Oct 31

Jim Phelps

Director of Enterprise Architecture and Strategy

Chair, Itana (<http://itana.org>)

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Future of Higher Education Playbook for Institutions

Future of Higher Education: Summary of Drivers and Responses

Digital Transformation (DX)	Shifting Skills	Employment & Income Challenges	Higher Ed Financial Crisis
<p><i>Drivers (DX)</i></p> <ul style="list-style-type: none"> • New technologies that impact all aspects of society • Unknown “winners and losers” 	<p><i>Drivers (Workforce)</i></p> <ul style="list-style-type: none"> • New classes of jobs, skills, and competencies • Shifting emphasis on “above the line” competencies 	<p><i>Drivers</i></p> <ul style="list-style-type: none"> • Increasing numbers of existing jobs displaced • Rising tuition, while many students & households are financially challenged 	<p><i>Drivers</i></p> <ul style="list-style-type: none"> • Growing number of institutions closing or merging • Many institutions likely to enter bankruptcy
<p><i>Suggested Responses</i></p> <ul style="list-style-type: none"> • Build adaptability into your organization. • Educate leadership and campus about the DX Story • Create a futurology practice • Build a DX Change Management Office or Practice to engage all of campus in the DX change • Develop pedagogy and content for to help students understand the DX 	<p><i>Suggested Responses</i></p> <ul style="list-style-type: none"> • Create a strategic investment fund for reskilling our workforce • Build a Strategic Workforce Development Center that focuses on continuous development • Create a continuous learning and improvement culture among all staff • Actively manage Human Resource debt 	<p><i>Suggested Responses</i></p> <ul style="list-style-type: none"> • Create more graceful entry and exit points for students / lifelong learners • Leverage DX technologies to make sure the student receives the best, most efficient experience • Drive down administrative costs through automation, autonomous systems, etc. • Look for partnerships to offset student tuition 	<p><i>Suggested Responses</i></p> <ul style="list-style-type: none"> • Look for merger opportunities to build footprint, brand or find efficiencies • Build up endowments / reserves to buffer against continued financial risks • Find alternate funding sources (partnerships) to offset tuition and lost government revenue • Eliminate or collapse departments

Summarized from: Jim Phelps, Future of Higher Education - Our Response to Disruption
EDUCAUSE Annual 2018

Future Higher Education Institution

Data Driven Foremost	Digital Experience is Central	Automation for student experience	Lifelong learners, working learners are common
<ul style="list-style-type: none"> • Need to automate to drive efficiencies • Measure effectiveness of experience • Measure outcomes • Drive hyper-personalization 	<ul style="list-style-type: none"> • Multiple experience designs support diverse learners • Hyper-personalization is the norm 	<ul style="list-style-type: none"> • Automation matches students to courses, peer groups, co-curricular activities, advisors and mentors, supporting services like transportation, food, etc. 	<ul style="list-style-type: none"> • Multimodal education supports lifelong learners, when and where they learn • Multiple graceful entry/exit points deliver learning achievements from microcredentials to degrees
Automate Everything	Workforce Development is strategic	Innovation and Reinvention are core	Mergers and Partnerships extend the experience
<ul style="list-style-type: none"> • Match researchers to grants & pre-populate applications • Match student applicants with best fit and experience • Drive efficiencies in facilities and administrative tasks 	<ul style="list-style-type: none"> • Constant workforce development focused on reskilling and realigning roles • Matrixed organization is focused on the digital experience 	<ul style="list-style-type: none"> • Constant feedback and measure drives innovation and reinvention of the experience and drives efficiency • New technologies and changes in society require innovation and reinvention to be core to the culture 	<ul style="list-style-type: none"> • Learners can attend a partner campus close to work/home • 3rd party partners extend the experience to transport, housing, food, etc.