

Ohio Association of Community Colleges 2024 Data Summit



Dr. Hernan Londono

Chief Technology and Innovation Strategist

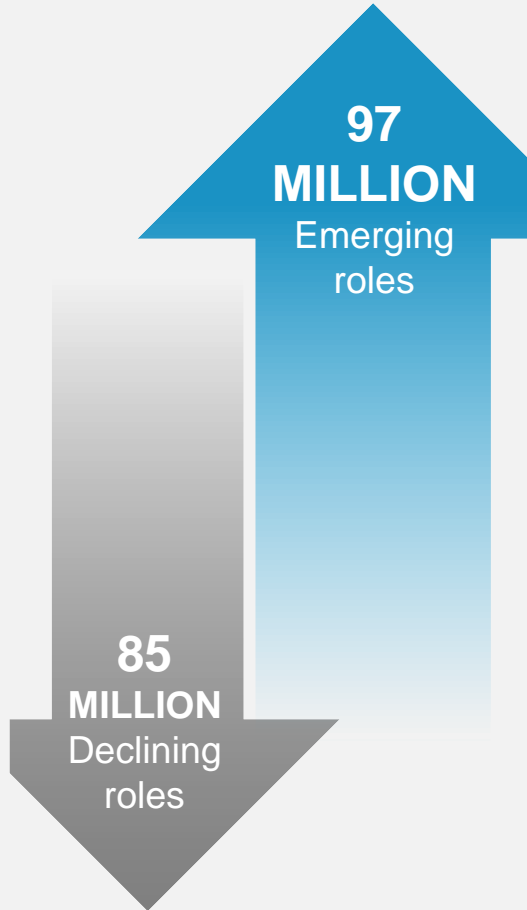
July 7, 2024

DELLTechnologies

By 2025 ...

2025 Jobs Landscape

- 01 Data Entry Clerks
- 02 Administrative & Executive Secretaries
- 03 Accounting, Bookkeeping & Payroll Clerks
- 04 Accountants & Auditors
- 05 Assembly & Factory Workers
- 06 Business Services & Administration Managers
- 07 Client Information & Customer Service Workers
- 08 General & Operations Managers
- 09 Mechanics & Machinery Repairers
- 10 Material-Recording & Stock-Keeping Clerks



- 01 Data Analysts & Scientists
- 02 AI & Machine Learning Specialists
- 03 Big Data Specialists
- 04 Digital Marketing & Strategy Specialists
- 05 Process Automation Specialists
- 06 Business Development Professionals
- 07 Digital Transformation Specialists
- 08 Information Security Analysts
- 09 Software & Applications Developers
- 10 Internet of Things Specialists

Source: World Economic Forum, 2020

Jobs requiring some degree of technology skills

77%
10 YEARS

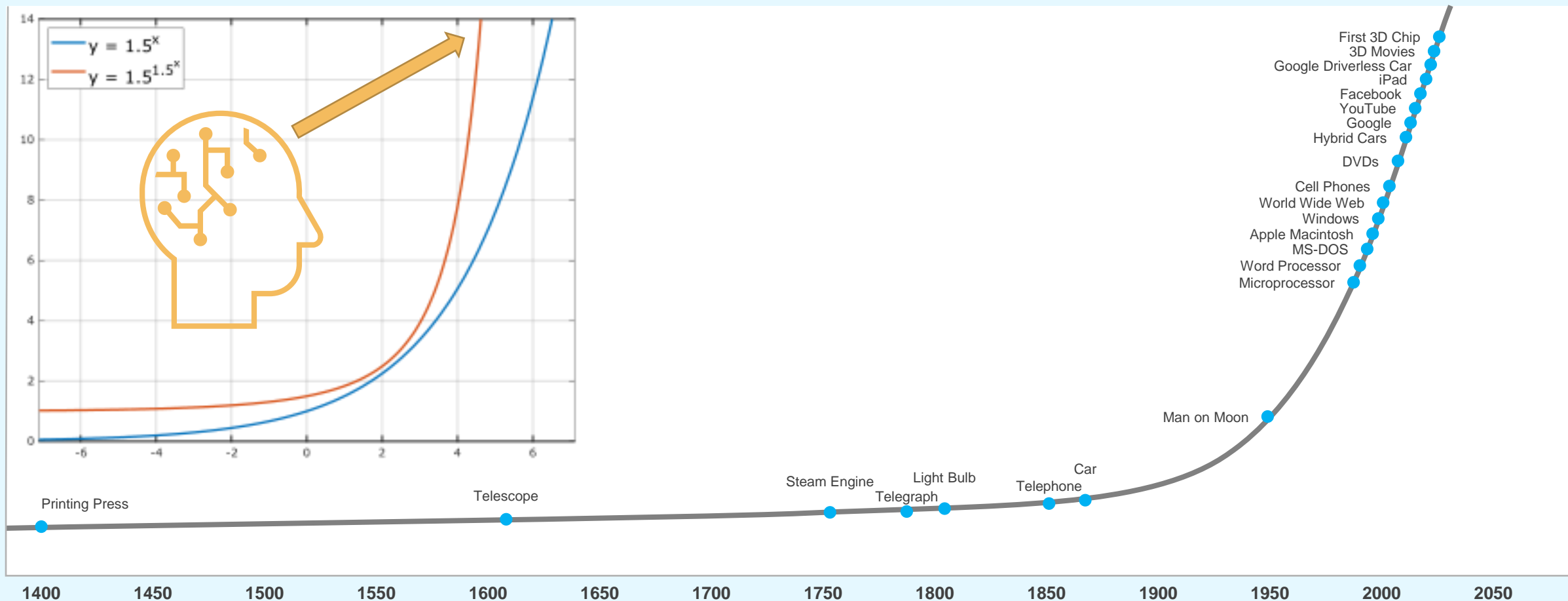
50%
TODAY

Source: US Bureau of Labor Statistics

AI is the New Bacon!

BACON
MAKES EVERYTHING
BETTER

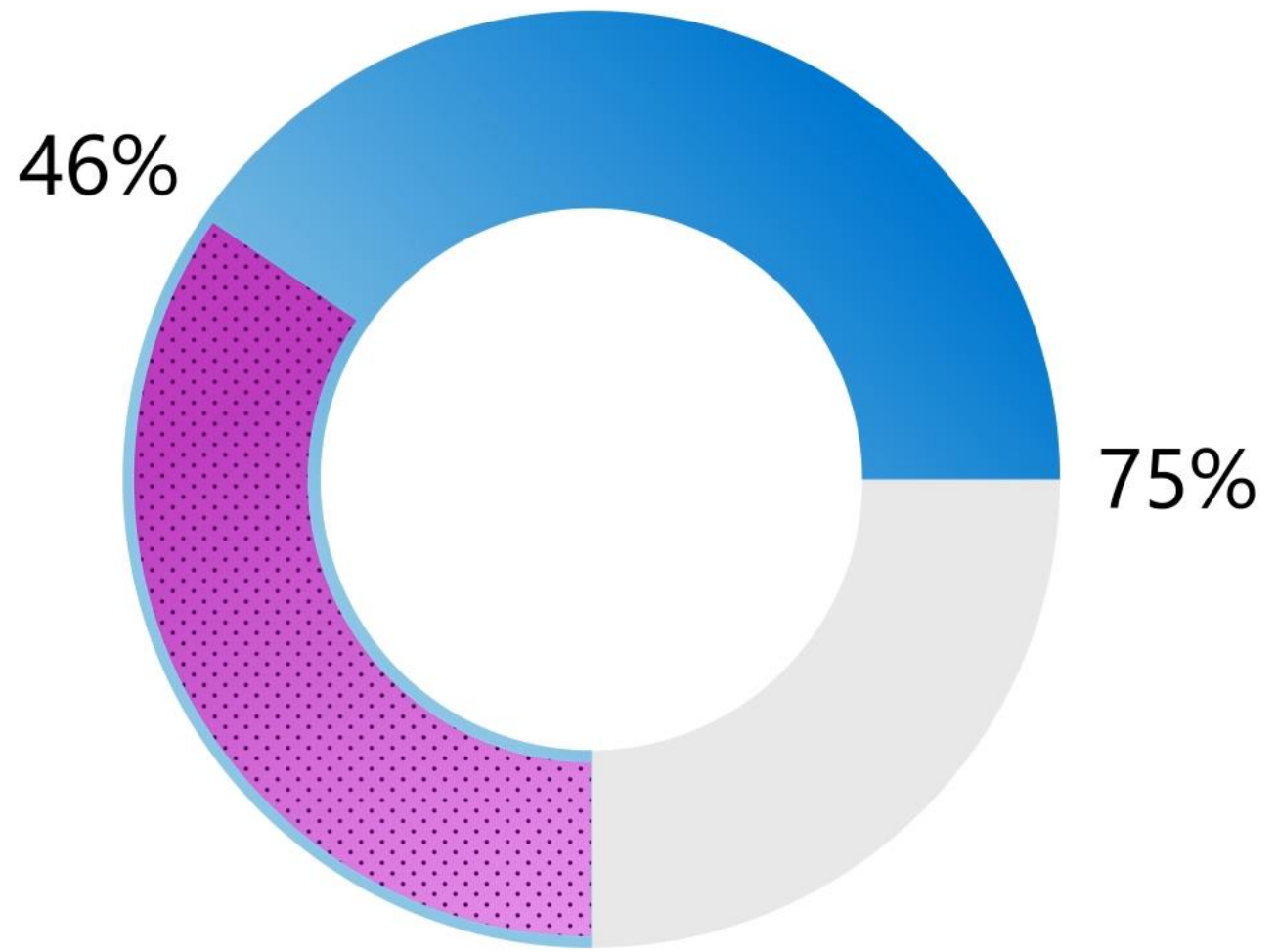
Accelerating Growth in Technology



Source: [Technology Matters to Nonprofits: The Impact of Falling Behind the Technology Curve - JMT Consulting](#)

75% of people are
already using AI at work

46% of them started using
it less than 6 months ago

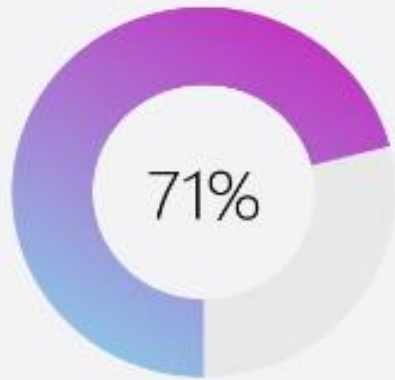


The New Hiring Imperative

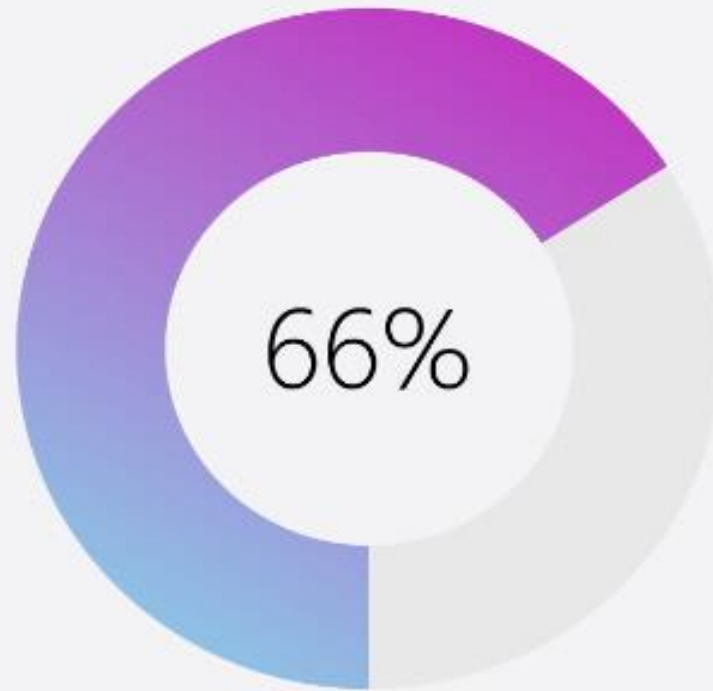
AI aptitude takes center stage.



Leaders say early-in-career talent will get greater responsibilities due to AI



Leaders are more likely to hire a less experienced candidate with AI skills than a more experienced one without them

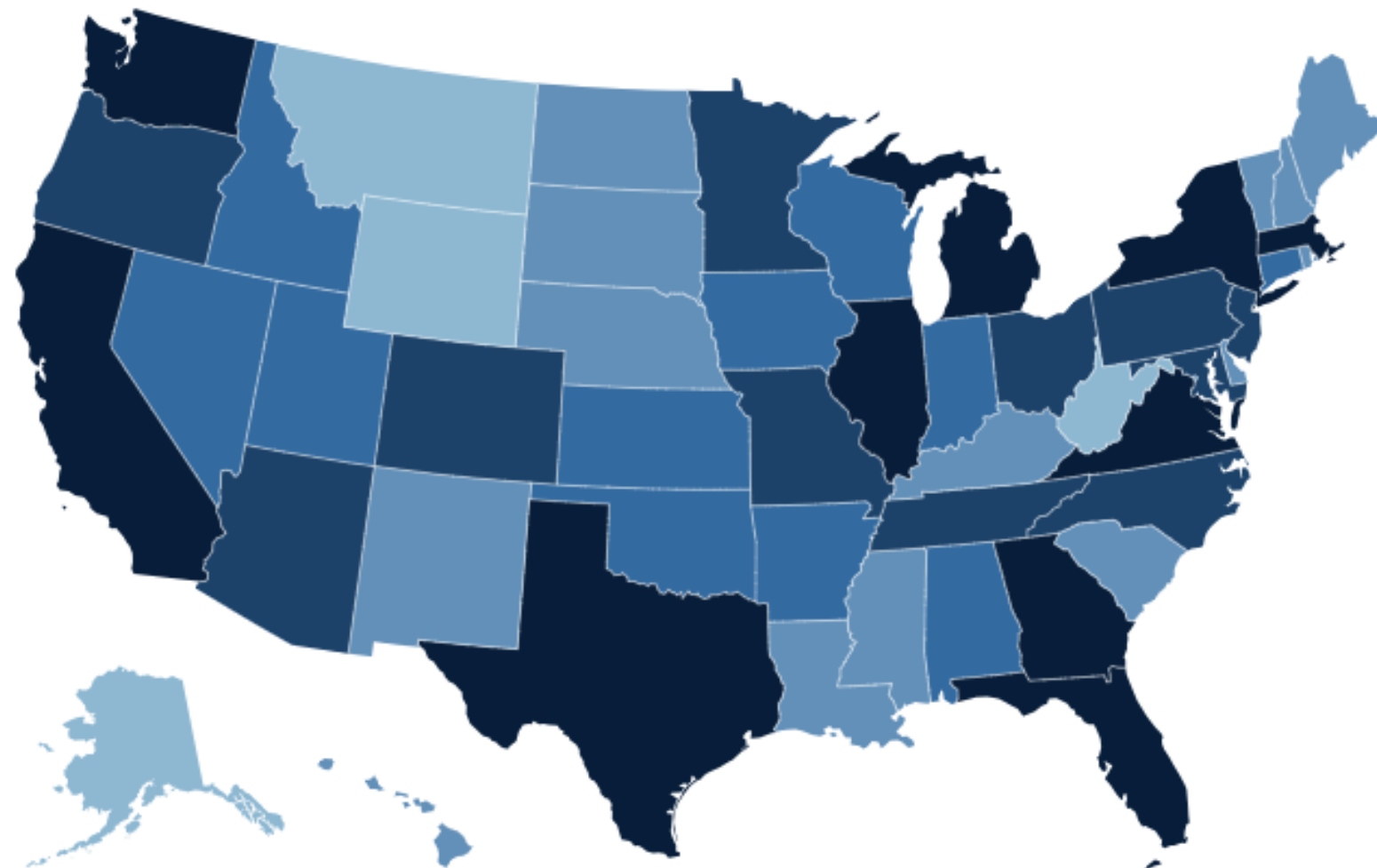


Leaders would not hire someone without AI skills

There are 800K AI jobs posted in the US currently

A.I. job postings in the U.S. in 2022

■ < 1K ■ 1K-5K ■ 5K-10K ■ 10K-25K ■ 25K+



ChatGPT passes the Turing test

News Report Technology

In 1950, Alan Turing proposed the Turing test as a way to measure a machine's intelligence. The test pits a human against a machine in a conversation. If the machine can fool the human into thinking it is also human, then it is said to have passed the Test. In December 2022, ChatGPT, an artificial intelligence chatbot, became the second chatbot to pass the Turing Test, according to Max Woolf, a data scientist at BuzzFeed.



Turing Test

- A Turing Test is a test of a machine's ability to exhibit intelligent behavior that is indistinguishable from that of a human.
- The test was proposed by Alan Turing in 1950 as a way to evaluate a machine's ability to display human-like intelligence.
- The test involves a human evaluator who interacts with a machine and a human via a text-based interface, without knowing which is which.
- The machine passes the test if the evaluator cannot consistently distinguish the machine's responses from those of the human.

Is AI as Smart as Humans?

HOME > TECH

AI 'prompt engineer' jobs can pay up to \$375,000 a year and don't always require a background in tech

Britney Nguyen May 1, 2023, 11:34 AM EDT



The rise of generative AI tools like ChatGPT is creating a hot market for "prompt engineers" who test and improve chatbots. Getty Images

- Prompt engineering refers to the process of designing and testing prompts that are likely to elicit specific responses from a large language model.

ChatGPT took their jobs. Now they walk dogs and fix air conditioners.

Technology used to automate dirty and repetitive jobs. Now, artificial intelligence chatbots are coming after high-paying jobs.

By Pranshu Verma and Gerrit De Vynck
June 2, 2023 at 6:00 a.m. EDT

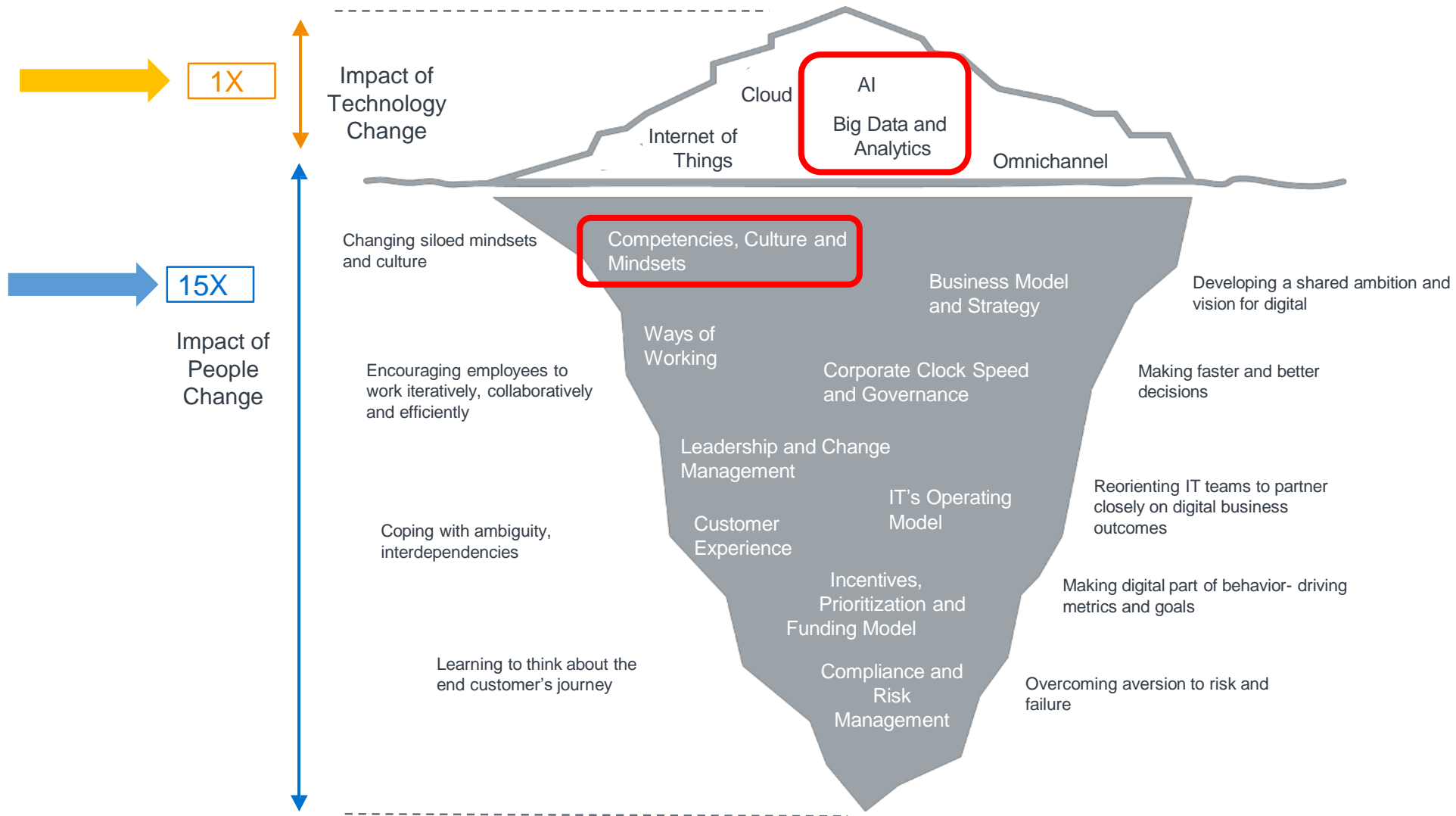


Eric Fein at his home in Bloomingdale, Ill. Fein lost many of his writing jobs to ChatGPT and plans to attend the College of DuPage technical school in the fall to study heating, ventilation and air conditioning systems. (Taylor Glascock for The Washington Post)

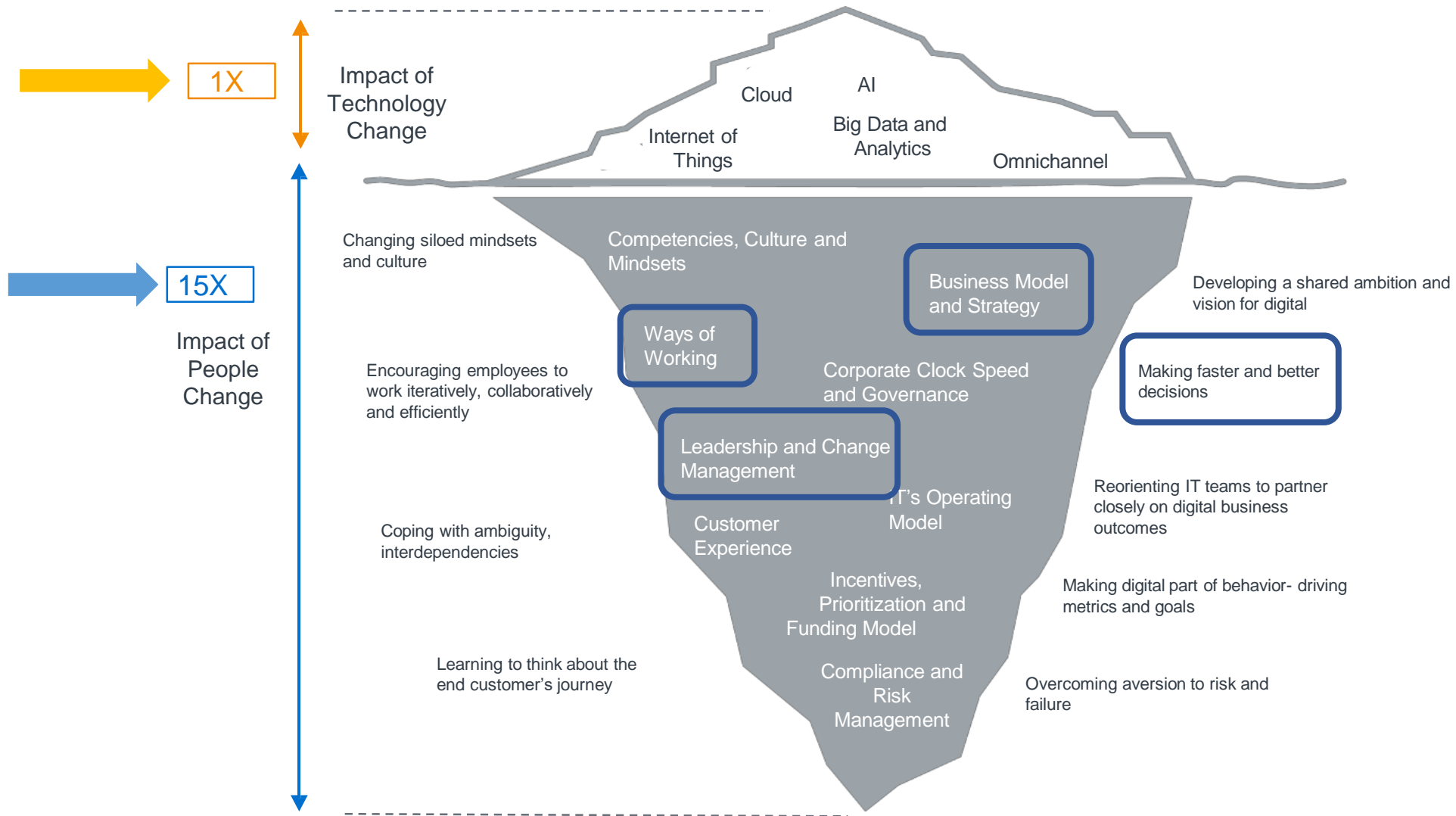
- Prompt engineering is the process of designing and testing prompts that are likely to elicit specific responses from a large language model.
- Prompt engineering is used to improve the quality of the responses generated by a large language model.
- Prompt engineering is used to improve the quality of the responses generated by a large language model.

What is Prompt

Impact Is Driven by People, Not Technology



Impact Is Driven by People, Not Technology

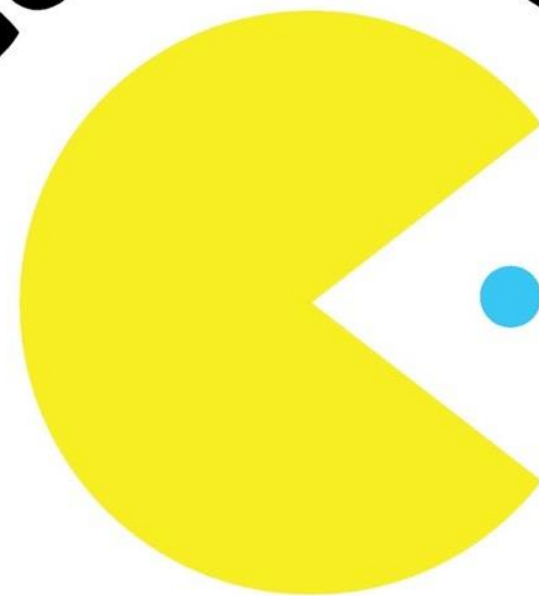


Source: CEB Analysts, Gartner 2018

“Culture eats
strategy for
breakfast”

- Drucker

CULTURE!



It Is A Matter Of Choice... (Or Maybe Not)



The “Dream Killers”



All you've done is chisel all day! Do something useful, like helping your brother drag those rocks up the hill.

The Overly Optimistic... (Lazy?)

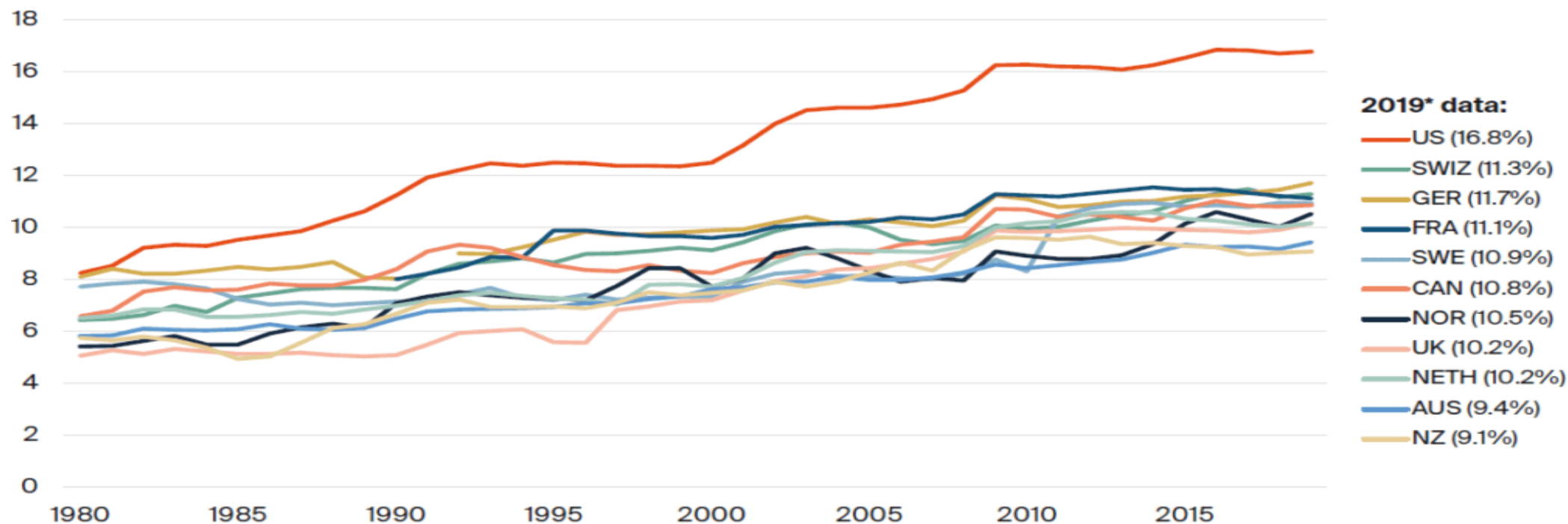


“What if we don’t change at all ...
and something magical just happens?”

EXHIBIT 3

Health Care Spending as a Percentage of GDP, 1980–2019

Percent (%) of GDP



Notes: Current expenditures on health. Based on System of Health Accounts methodology, with some differences between country methodologies. GDP refers to gross domestic product.

* 2019 data are provisional or estimated for Australia, Canada, and New Zealand.

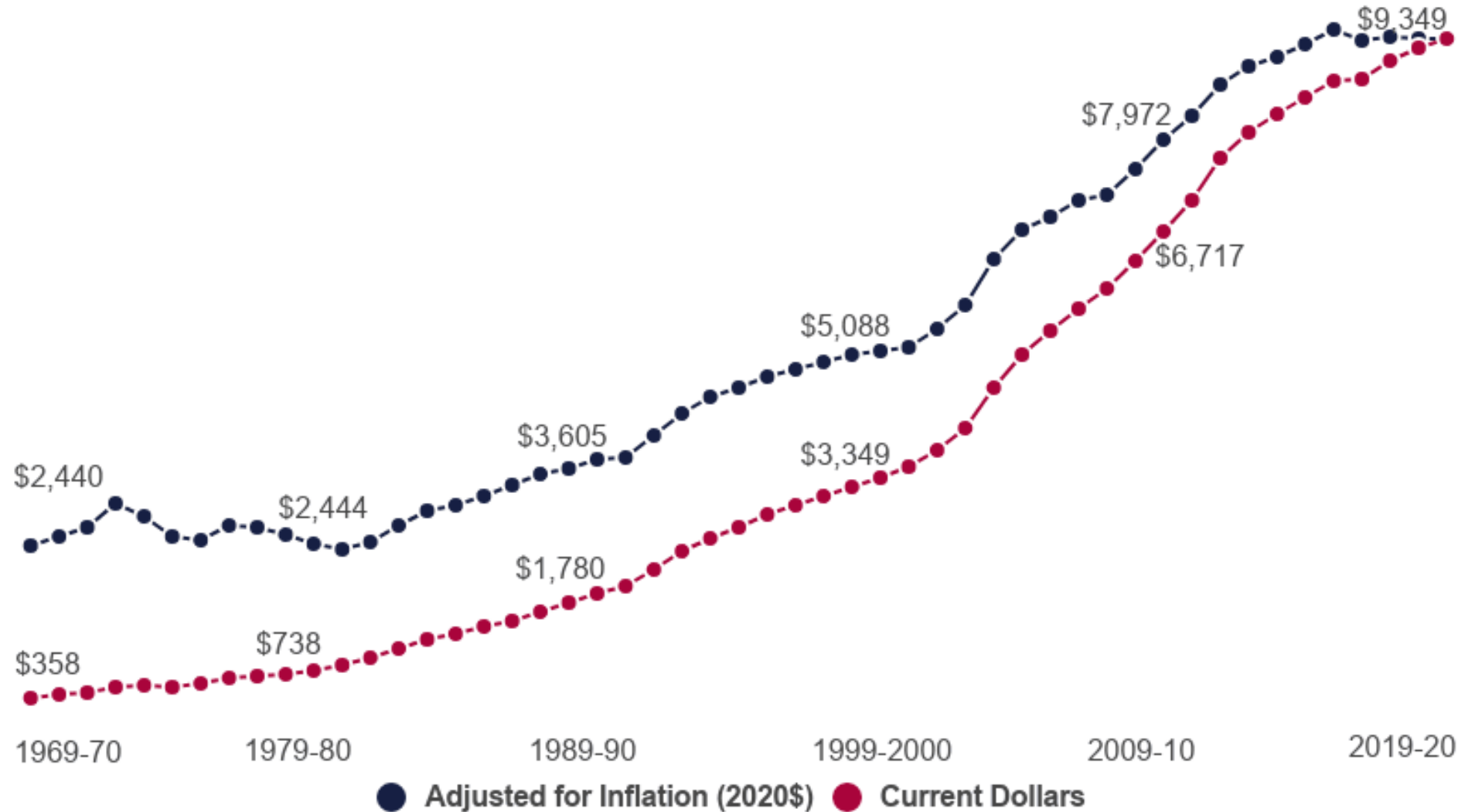
Data: OECD Health Data, July 2021.

Source: Eric C. Schneider et al., *Mirror, Mirror 2021 – Reflecting Poorly: Health Care in the U.S. Compared to Other High-Income Countries* (Commonwealth Fund, Aug. 2021).



Average Annual Tuition & Fees at Public 4-Year Institutions

According to the College Board, the average cost of tuition and fees at a **four-year public university** for in-state students increased by **156%** between 1989 and 2022. The average cost of tuition and fees at a **four-year private university** for in-state students increased by **300%** during the same period.



2024 EDUCAUSE Top 10 Institutional Resilience

The 2024 EDUCAUSE Top 10 describes the contributions that technology, data, and the workforce will make to advance three dimensions of institutional resilience: mission resilience, operational resilience, and financial resilience.



Mission Resilience



Operational Resilience



Financial Resilience

- 1 Cybersecurity as a Core Competency**
Balancing cost and risk
- 2 Driving to Better Decisions**
Improving data quality and governance
- 3 The Enrollment Crisis**
Harnessing data to empower decision-makers
- 4 Diving Deep into Data**
Leveraging analytics for actionable insights to improve learning and student success
- 5 Administrative Cost Reduction**
Streamlining processes, data, and technologies
- 6 Meeting Students Where They Are**
Providing universal access to institutional services
- 7 Hiring Resilience**
Recruiting and retaining IT talent under adverse circumstances
- 8 Financial Keys to the Future**
Using technology and data to help make tough choices
- 9 Balancing Budgets**
Taking control of IT cost and vendor management
- 10 Adapting to the Future**
Cultivating institutional agility

2023 Top 10 IT Issues: Foundation Models

The EDUCAUSE 2023 Top 10 IT Issues help describe the foundation models that colleges and universities will develop next year and beyond, acting on what was learned in the pandemic and framed by the three building blocks of leadership, data, and work and learning.

Leading with Wisdom

Technology leaders need wisdom in order to inspire, lead, and manage their institution, IT organization, and workforce.

- 1 A Seat at the Table**
Ensuring IT leadership is a full partner in institutional strategic planning
- 3 Evolve, Adapt, or Lose Talent**
Creating a workplace that allows for and supports movement up, down, and sideways to accommodate shifts in personal and professional goals and to foster healthier work/life balance
- 5 Enriching the Leadership Playbook**
Leading with humility and candor to engage, empower, and retain the IT workforce

The Ultra-Intelligent Institution

Data and analytics can provide institutions with intelligence offered through ongoing, useful, and increasingly sophisticated insights.

- 2 Privacy and Cybersecurity 101**
Embedding privacy and cybersecurity education and awareness in the curriculum and in the workplace
- 4 Smooth Sailing for the Student Experience**
Using technology, data, insight, and agility to create a frictionless student experience
- 6 Expanding Enrollments and the Bottom Line**
Focusing data and analytics initiatives on identifying academic programs with high potential for recruitment ROI
- 7 Moving from Data Insight to Data Action**
Converting data analytics into action plans to power institutional performance, enhance operational efficiency, and improve student success

Everything Is Anywhere


With the institution no longer confined to the physical campus, leaders must find new strategies for supporting technology everywhere and anywhere.

- 8 A New Era of IT Support**
Updating IT services to support remote and hybrid work
- 9 Online, in Person, or Hybrid? Yes.**
Developing a learning-first, technology-enabled learning strategy
- 10 SaaS, ERP, and CRM: An Alphabet Soup of Opportunity**
Managing cost, risk, and value of investments in new ERP solutions

TOP 10 IT ISSUES, 2022

The Higher Education We Deserve


The EDUCAUSE 2022 Top 10 IT Issues describe how technology can help create the higher education we deserve through shared vision and sustainability, anchored by a central focus on student success.



Shared Vision, Shared Strategy


- 2 Evolve or Become Extinct**
- 7 The Shrinking World of Higher Education or an Expanded Opportunity?**

Student Success as Institutional Success




- 3 Digital Faculty for a Digital Future**
- 4 Learning from COVID-19 to Build a Better Future**
- 6 From Digital Scarcity to Digital Abundance**
- 10 Radical Creativity**

The Sustainable Business Model




- 1 Cyber Everywhere! Are We Prepared?**
- 5 The Digital versus Brick-and-Mortar Balancing Game**
- 8 Weathering the Shift to the Cloud**
- 9 Can We Learn from a Crisis?**


Learn more about the **EDUCAUSE** Top 10 IT Issues at <https://www.educause.edu/2022issues>



Platinum Partner

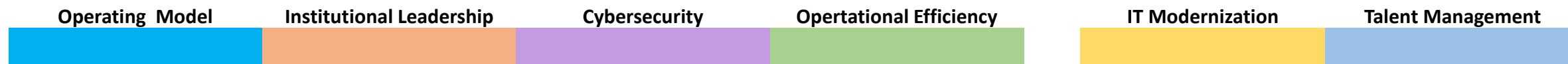


Platinum Partner

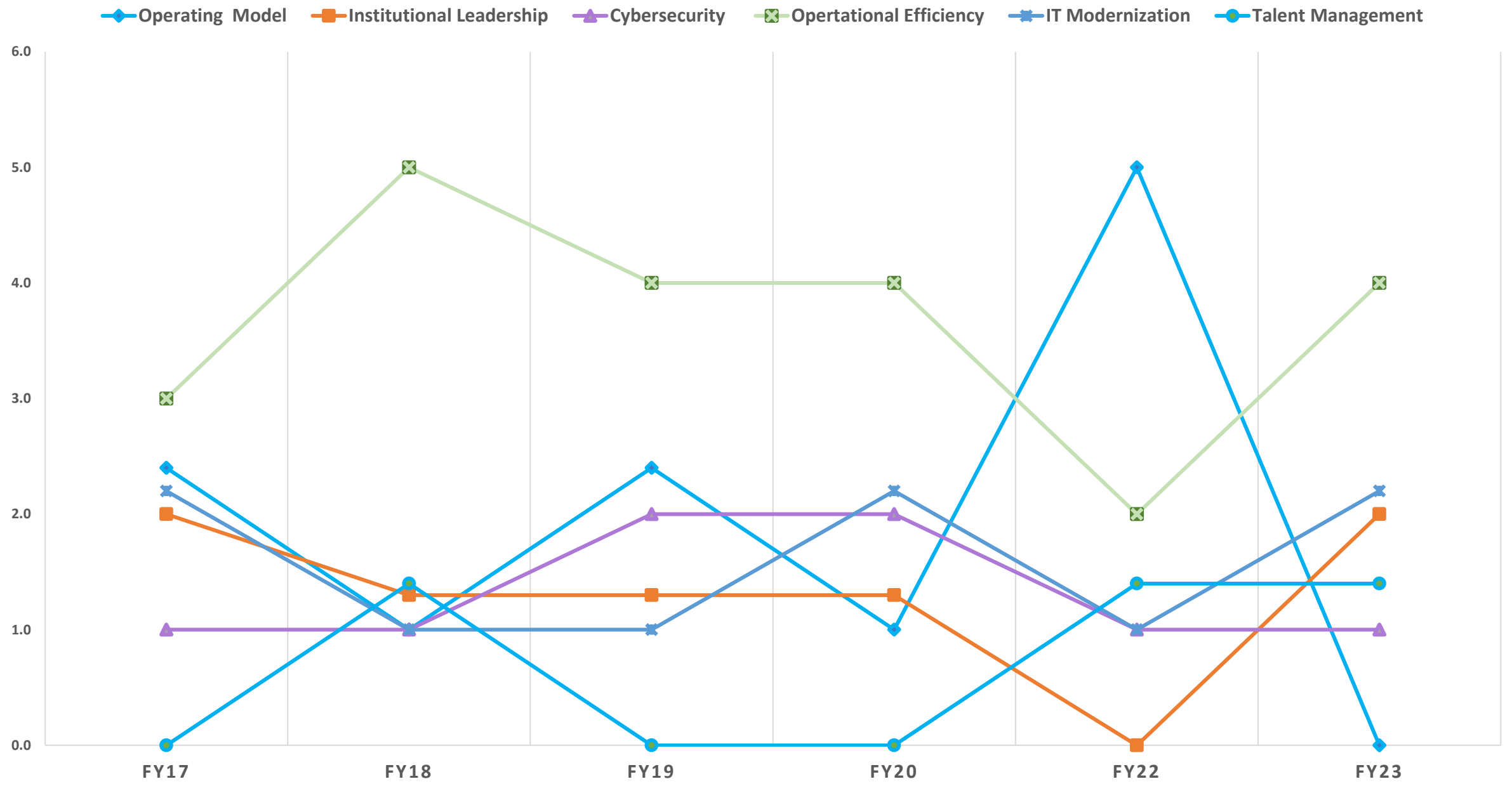


Gold Partner

THANKS TO OUR 2022 TOP 10 IT ISSUES SPONSORS



2017	2018	2019	2020	2021	2022	2023
Cybersecurity	Cybersecurity	Cybersecurity	Cybersecurity	Peak of Pandemic	Cybersecurity	Institutional Leadership
Operational Efficiency	Operational Efficiency	Operational Efficiency	Cybersecurity		Operational Efficiency	Cybersecurity
Institutional Leadership	Operational Efficiency	Cybersecurity	Operational Efficiency		Talent Management	Talent Management
Institutional Leadership	Operational Efficiency	Operational Efficiency	IT Modernization		Operational Efficiency	Operational Efficiency
Operational Efficiency	Operational Efficiency	IT Modernization	Operational Efficiency		Operating Model	Institutional Leadership
Operating Model	Operating Model	Operational Efficiency	IT Modernization		Operating Model	Operational Efficiency
Operating Model	Talent Management	Operating Model	IT Modernization		Operating Model	Operational Efficiency
IT Modernization	Operational Efficiency	Operational Efficiency	Operating Model		IT Modernization	IT Modernization
IT Modernization	IT Modernization	Institutional Leadership	Operational Efficiency		Operating Model	Operational Efficiency
Operating Model	Institutional Leadership	Operating Model	Institutional Leadership		Operating Model	IT Modernization

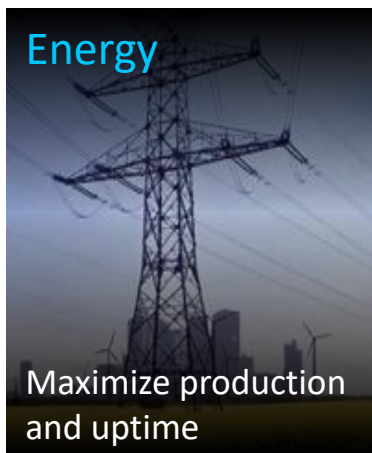


AI Fueled World



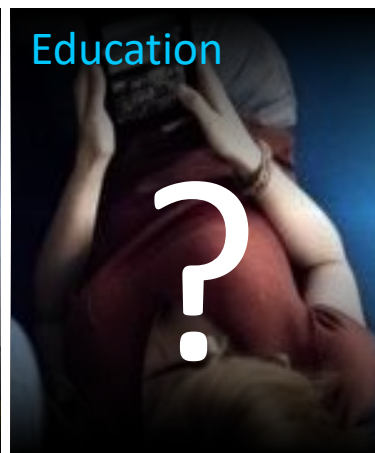
Agriculture

Achieve higher yields & increase efficiency



Energy

Maximize production and uptime

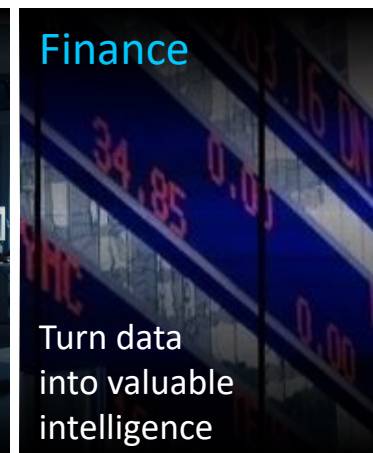


Education



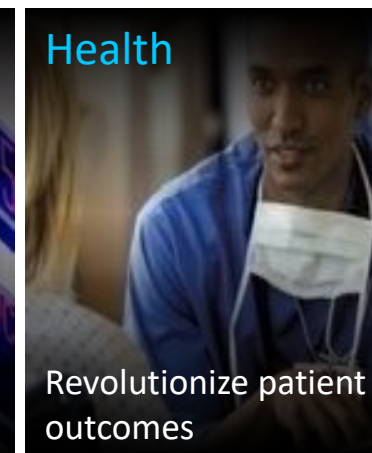
Government

Enhance safety, research, and more



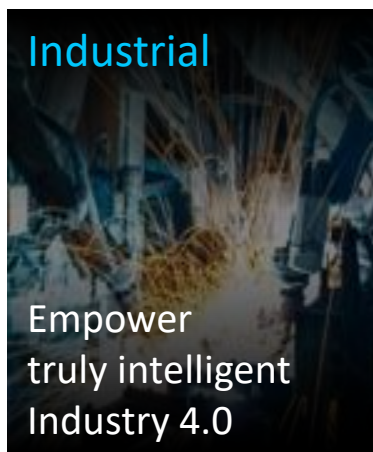
Finance

Turn data into valuable intelligence



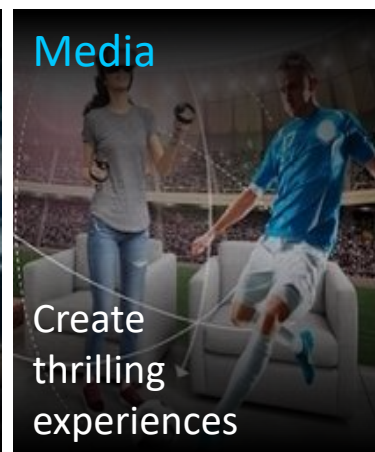
Health

Revolutionize patient outcomes



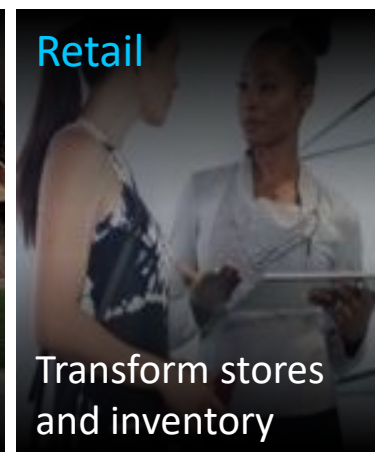
Industrial

Empower truly intelligent Industry 4.0



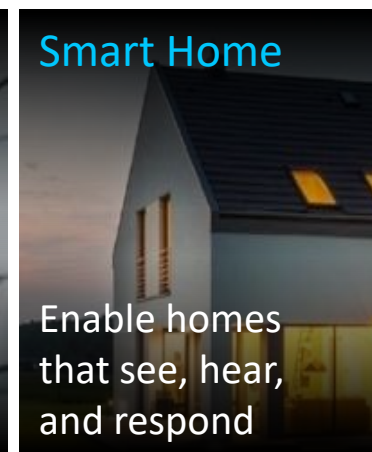
Media

Create thrilling experiences



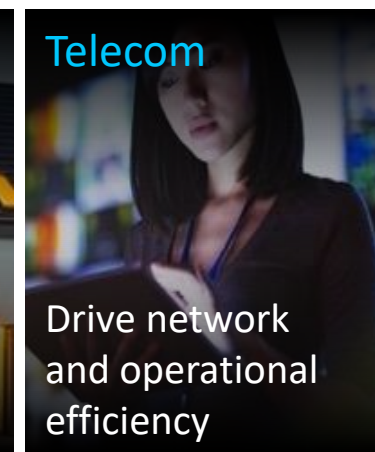
Retail

Transform stores and inventory



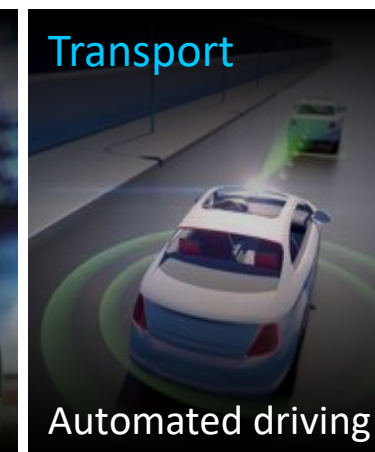
Smart Home

Enable homes that see, hear, and respond



Telecom

Drive network and operational efficiency



Transport

Automated driving

How should AI impact Education



Is AI a right fit for my institution?



DATA

Is my data good enough for AI creation?



IMPACT

Can AI perform better than my current processes?



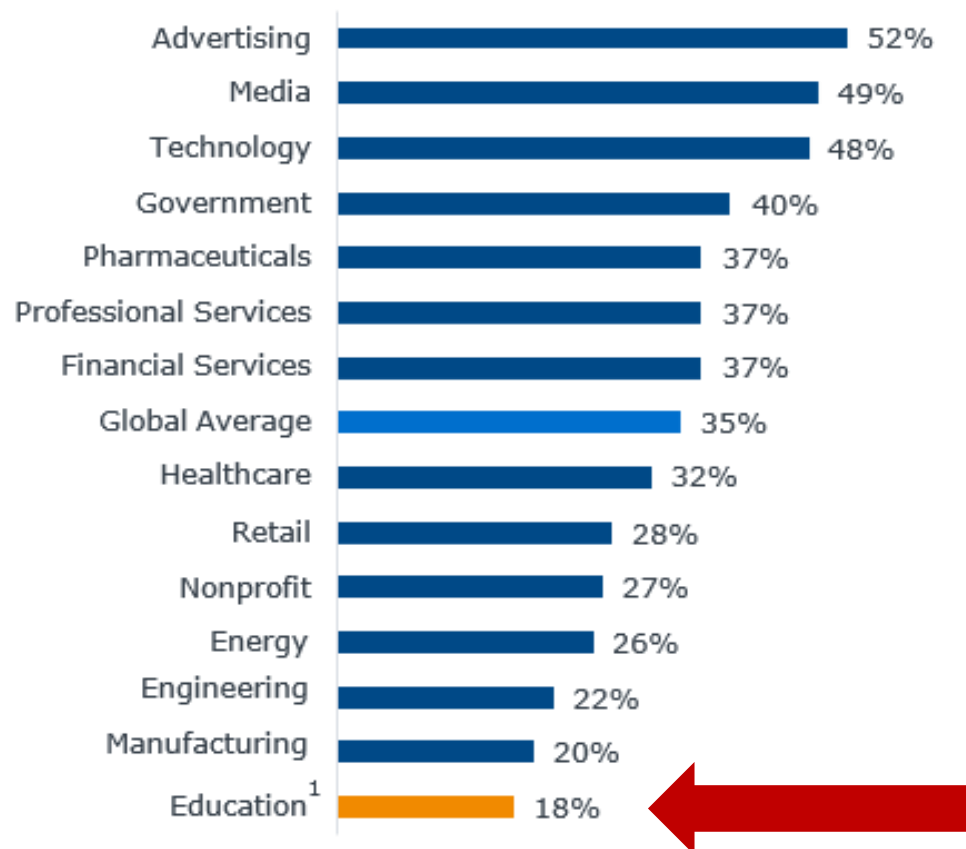
OPERATIONALIZATION

Will end users use and get benefit from AI?

Higher Ed Has Yet to Hear the Alarm Bells

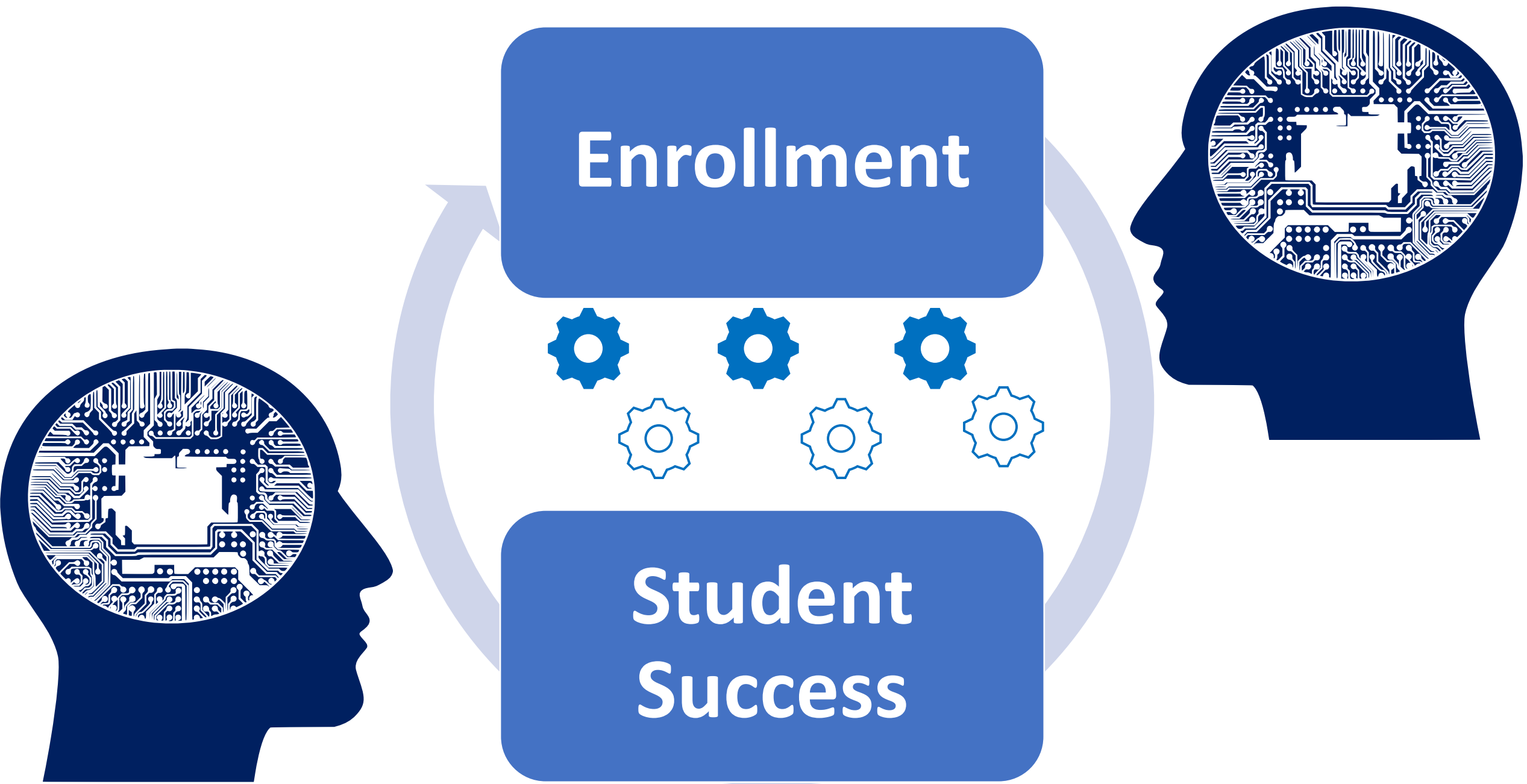
Adoption of an Enterprise-Wide Digital Strategy

Institutions by Industry (%)



Category	Score	ITF Assessment
Digital spending	4	Relatively High Spend on IT; But Low Assets
Digital asset stock	2	Low Share of Assets that are Digital
Transactions	2	Less emphasis on digitalized payments in education
Interactions	4	Strong score in digital interactions with supplier-customer
Business processes	1	Poor digitalization of internal and customer facing processes
Market making	1	No usage of Digital Platforms to make markets
Digital spending on workers	3	IT operating expense per person/student in line
Digital capital deepening	3	Computers per person/student matches other industries
Digitization of work	3	In Higher Ed, this approaches 100

Source: James Manyika et al, "[Digital America: A tale of the haves and have-mores](#)"





**STUDENT
SUCCESS**



Collection Thesaurus

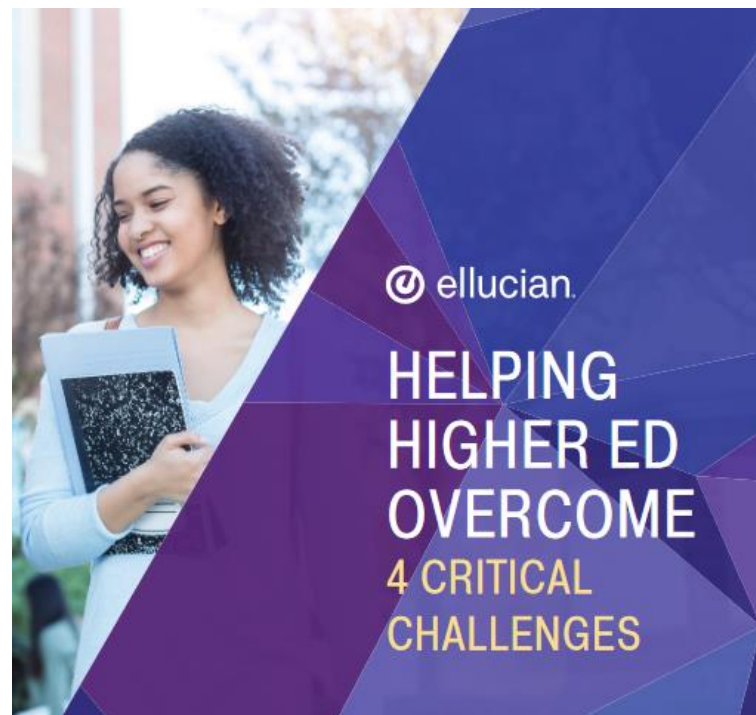
Search education resources [Advanced Search Tips](#)

Peer reviewed only Full text available on ERIC

The Causal Effect of the School Day Schedule on Adolescents' Academic Achievement

Shapiro, Teny M.; Williams, Kevin M.
Society for Research on Educational Effectiveness

This study looks at the causal impact of the school day schedule on student achievement. How a student's classes are scheduled throughout the day is often determined by necessity, but can have a meaningful impact on academic performance. Acknowledging students' internal clocks and making small changes to scheduling patterns could be a relatively low-cost method for administrators to improve performance. This paper builds on literature that has shown the negative effects of early morning classes to consider the influence the school-day schedule has throughout the day. The data is from five cohorts of college freshman at the United States Air Force Academy who face randomized scheduling and largely take a common set of classes. The authors that the largest impact of the schedule is in the early morning, but also find evidence of academic fatigue and asymmetric effects among STEM, non-STEM, and physical education courses that vary over the day. Contrary findings in the literature are reconciled by showing that, all else equal, the afternoon is the best time of day for learning, but academic fatigue wears on students as the school day progresses. Tables and figures are appended.



Home > Walden Dissertations and Doctoral Studies > Walden Dissertations and Doctoral Studies > 5840

WALDEN DISSERTATIONS AND DOCTORAL STUDIES

Effects of Class Scheduling and Student Achievement on State Testing

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[Elizabeth Anne Childers](#), Walden University

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Date of Conferral
2018

Degree
Doctor of Education (Ed.D.)

School
Education

Advisor
Amy Gaskins

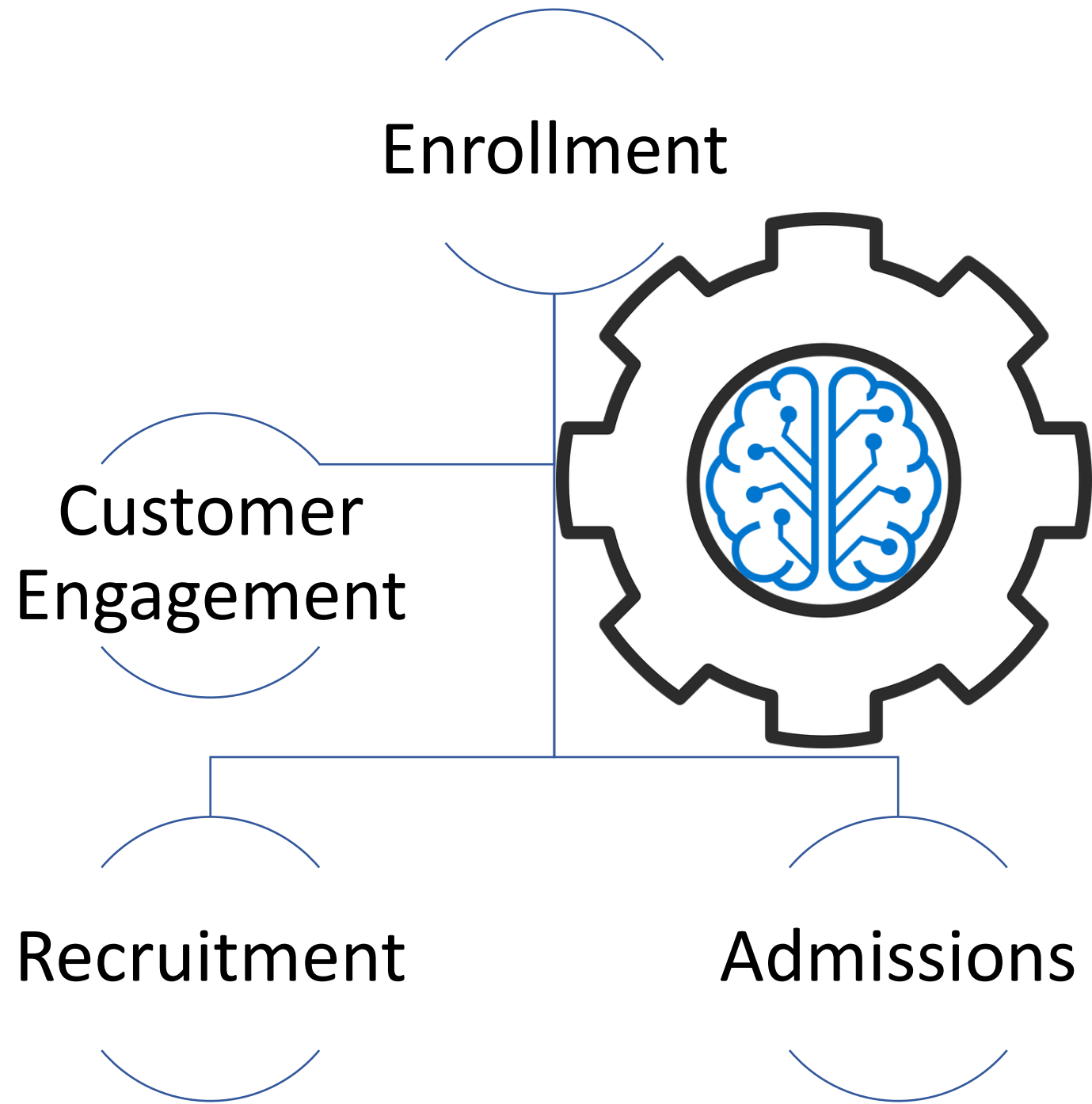
Abstract

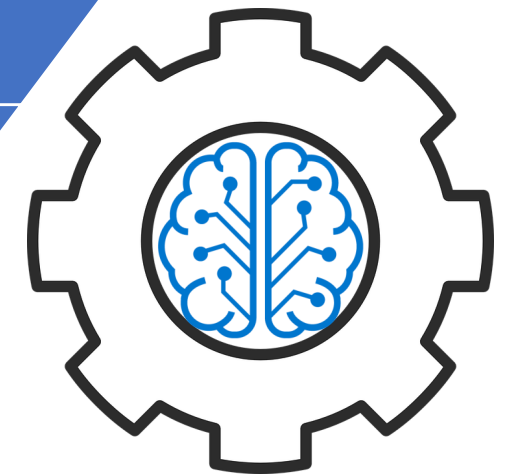
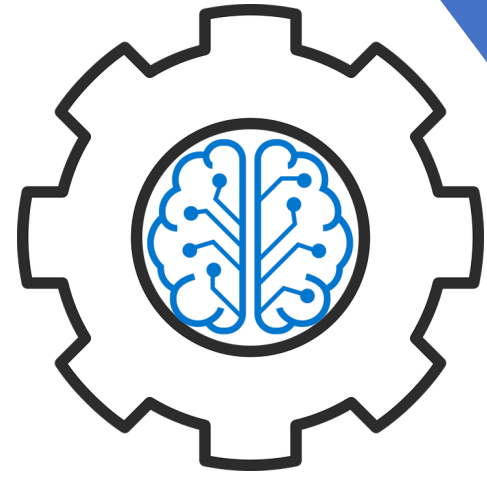
INCLUDED IN

[Educational Assessment, Evaluation, and Research Commons](#)

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Prospects

Inquiries

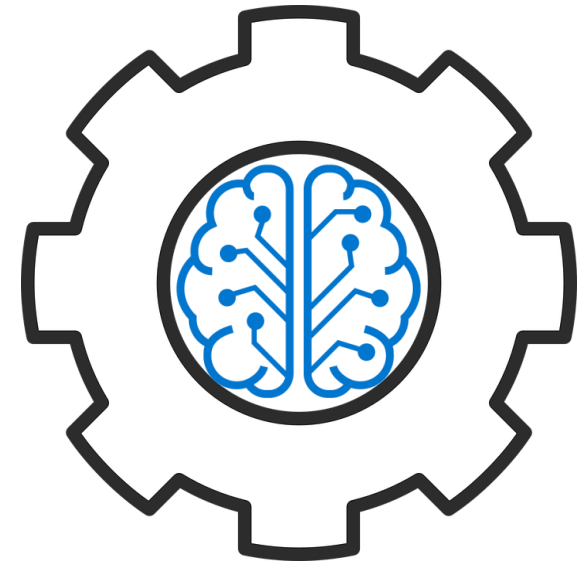
Applicants

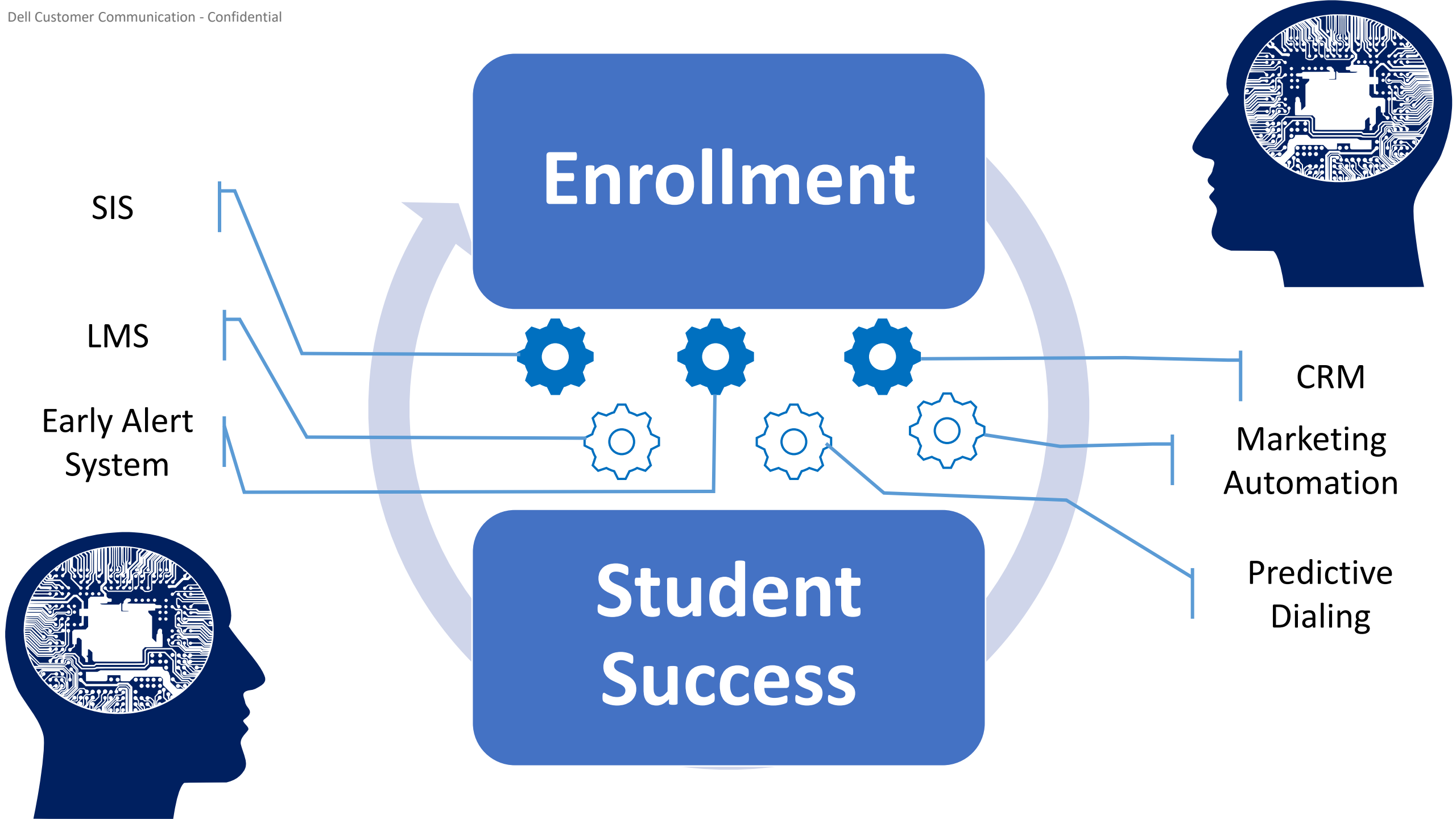
Admits

Deposits

Enrolls







Enrollment

Student Success

SIS

LMS

Early Alert System

CRM

Marketing Automation

Predictive Dialing

Prediction VS. Institutional Impact

Any AI can show you predictions

“Which students are likely to apply?”

“Which students are likely to drop out?”

“What is the likelihood an alum will open this fundraising email?”

To get business impact you need to also answer

“If the faculty are only willing to call 500 students, which students should they call to increase overall enrollment?”

“What is the best form of outreach that would convince this specific student to apply? (e.g. invite to visit campus vs. a local alumni event)?”

“What is the best form of outreach that would convince this specific alum to engage? (e.g. text message, email, mail-in)?”