Data and Analytic Literacy:
Your role leading the institution to success

About Your Presenters

- Passionate about student success and the transformational power of higher ed
- Translational Practitioner – bridging the gap between research and practice
- Kotter devotee--Initiatives fail without Change Management
- Building a culture of data use requires building data literacy at all levels
- "Data without insights is meaningless, and insights without action are pointless."
  Tomas Chamorro-Premuzic https://hbr.org/2020/02/are-you-still-prioritizing-intuition-over-data

- First generation college student who eventually earned his Ph.D. and M.Ed. In Higher Education
- 29 years of experience across 2-year/4-year institutions
- Worked in every common higher ed division except athletics
- Believes in the transformative power of higher education to improve outcomes in the future
- Believes every higher education practitioner, regardless of role, can and does change lives
- Author, speaker, and international presenter on data/analytic culture and equity
- Loves to fish, cook, and make really bad puns and dad jokes – apologies in advance.

Background

Established in 1804
- First in the Northwest Territory

Doctoral—High Research
- Access mission to Appalachian Ohio
- 5 Branch Campuses, 10 total locations

Over 30,000 students
- 25,000 undergrads
- Over 5,000 grads
- ~1000 medical students

Institutional Effectiveness and Analytics
- 3 Teams, 12 FTE
  - Institutional Effectiveness & Accreditation
  - Institutional Reporting and Planning Support
  - Analytics & Research – Advanced Analytics
- New Analytics and Decision Support (ADS) platform 2020

Tell Us About You & Your Institution

0-1 Year 2-5 Years 6-10 Years 11-20 Years 21+ Years	IR AA Faculty SA SS	<1K 1.1 – 5K 5.1– 10K 10.1 – 20K 20.1 – 40K 40K+	OPIRO 2-3 FTE 4-6 FTE 7-10 FTE 11-15 FTE 16+
Provost VPSA CFO VP Enrollment CIO Chief Of Staff President	What's Data? Love my Reports Dashboard Diva Forecasting Focus ML is the Life for Me I put the I in AI	Data Avoidant Data Novice Fledgling Data Fluent Data Overconfident Data Fluent Data Superuser	Achieving the Dream EAB Student Success Collaborative

The Challenges Ahead

College Enrollment Declines Continue

Nationwide College Enrollment Is Down Again

Post-secondary enrollment fell 1.7% from last year, marking the eighth straight year of declines.

Technology & Ideas

The Coming College Enrollment Bust

It's due to start in 2026, it won't be a bust for everyone, and it may provide an opportunity for higher education to do better by America's young people.

Why Is Undergraduate College Enrollment Declining?

A Worrisome Trend for Higher Education: Declining Enrollments

College students predicted to fall by more than 15% after the year 2025

America's College Enrollment Slump

Community college enrollment crisis?

College Enrollment, Spring 2019: The Downward Slide Continues

THE LOOMING HIGHER ED ENROLLMENT CLIFF

The Pandemic's Impact on College Enrollment.

25% of students postponed college during Covid, some indefinitely

Few Positives in Final Fall Enrollment Numbers

THE SIGNIFICANT IMPACT OF COVID-19 ON COLLEGE ENROLLMENTS

College enrollment is down because of the pandemic—and community colleges have been hit the hardest

'Losing A Generation': Fall College Enrollment Plummets For 1st-Year Students

COVID-19's dramatic impact on enrollment in just one year

HOW HAS COVID-19 IMPACTED ENROLLMENT AND PERSISTENCE?

University Receives Junk Bond Rating

These colleges survived World Wars, the Spanish flu and more. They couldn't withstand COVID-19 pandemic.

State System approves mergers

Dozens of colleges closed abruptly in recent years – and efforts to protect students have failed

Why Are Colleges Closing — and What If Yours Does?

Fear and Loathing as Colleges Face Another Season of Red Ink

Student athletes say they were caught 'completely off guard' when their colleges closed permanently, and they're not alone

CSCU board increases community college tuition

Christian College Reverts to Bible Degrees After Deep Cuts

In financial trouble, Lincoln Christian University goes back to its roots as a Bible college, dropping most undergraduate majors, athletics, and residential life.

Is college really worth it? Here's why it's so hard to figure out the return on investment

Public education is facing a crisis of epic proportions

More colleges face bankruptcy even as top schools experience record wealth

Stop Playing It Safe: The Peril of the Generic College

Far too many institutions try to look like everyone else, when differentiation is the secret to success.

Balancing hopes, dreams and a low-paying college major

As fiscal problems mount for Maricopa Community Colleges, officials consider budget cuts and tuition hikes

Can Financial Exigency Transform This Small Arkansas University?

Colorado sees low college graduation rates among Hispanic men

The Challenge

- Increasing pace of change
- Shifting markets
- Increased competition
- Changing demographics
- New external demands
- Rapid technology evolution
- Executive time on topic
- Competing priorities
- External pressures for transparency
- External pressures for affordability and access

The Reality

- Data rich, information poor
- Siloed data systems
- Antiquated data approaches & infrastructure
- Decentralization
- Resource constraints
- Diffused expertise
- Stagnation in face of change
- External pressures to be efficient as possible

Executive's Desire

Executive's Desire
More than descriptive reports of historical data
Better forecasts and a focus on "what if"
Bridge the disconnect between student success, performance, and disparate datasets
Solutions to mitigate the cost of investing
ROI and quick wins
Improved student and institutional outcomes
Stable, secure, and managed approaches to data and data governance
Self-service analytics

Executive's Reality

Executive's Reality
Varying levels of analytic expertise
Blind spots around lift and work effort required for advanced analytics
Uncertainty around sunsetting legacy systems, maintaining core systems, & investing in new systems
Doing more with less
Price tag shock for talent and tools
Tyranny of here and now vs. investing for the future
Differences of opinions on outcomes, quality, and student success across enterprise
Self-service analytics is messy and fraught with pitfalls

Gagliardi and Johnson, 2021 adapted by Simon and Taylor, 2021

ISSUES FACING THE MODERN INSTITUTIONAL RESEARCHER

MINIMIZING AD-HOC REQUESTS

BUILDING METADATA REPOSITORIES

IMPLEMENTING MACHINE LEARNING MODELS

GROWING BEYOND OFFICIAL DATA

INVESTING IN DATA GOVERNANCE AND STRUCTURES

Chat GPT4+

MATURING DATA WAREHOUSING

PERFORMING DATA INTEGRATION

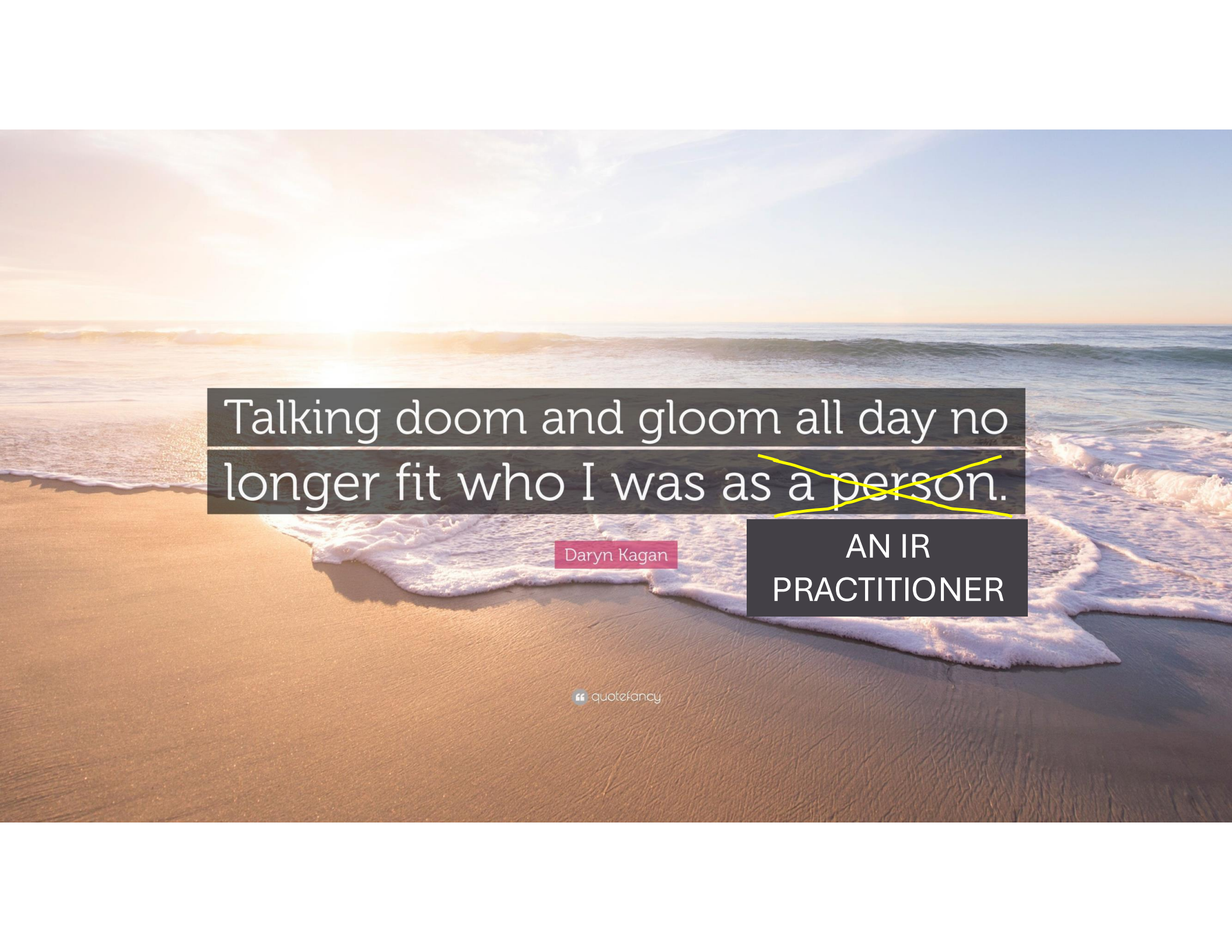ABSORBING BUDGET CUTS

REALIZING POTENTIAL OF BIG DATA

YET ANOTHER USNWR SURVEY

EXECUTING PREDICTIVE ANALYTICS

FILLING VACANT ROLES

TIME FOR LEARNING, GROWING, AND DEVELOPING

Source: Johnson, G. and Simon, J. (2018). **Future-Proofing Institutional Research Skills in an Evolving Digital Institution.** New Directions in Institutional Research. Wiley Press.

Talking doom and gloom all day no longer fit who I was as a ~~person.~~

Daryn Kagan

AN IR PRACTITIONER

I LIVE IN A VAN DOWN BY THE RIVER!

"People are either thermometers or thermostats.
They will merely reflect the climate around them, or they will set it.
We are the pace setters..."
Tim Elmore – Growing Leaders

Analytics Can Save Higher Education. Really.

5 Big Benefits of Big Data Analytics in Education

Colleges Urged to Make More Data-Driven Decisions

The Analytics Imperative

We All Need to Be Data People

How AI and Data Could Personalize Higher Education

7 Ways Smart Universities Use Data and Analytics

Higher education institutions should school themselves on the best ways to use their data.

"The best way
to predict the future
is to create it."
Peter Drucker

"CULTURE EATS
STRATEGY FOR
BREAKFAST."
PETER DRUCKER
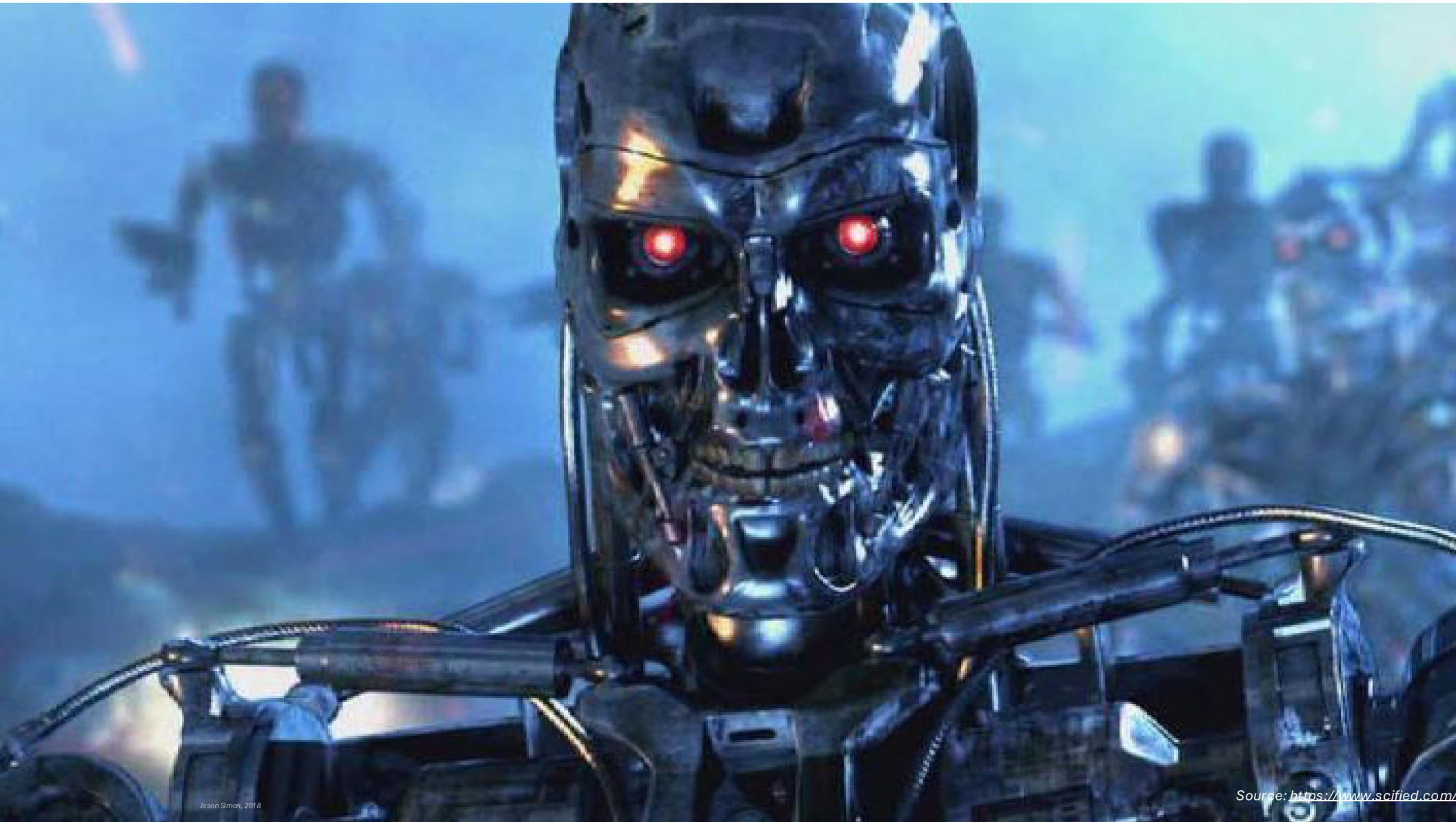
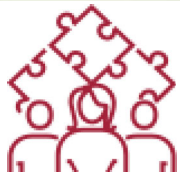Jason Simon, 2018

Be an Analytics Champion

AIR, NACUBO, EDUCAUSE Joint Statement on Analytics

GO BIG— MAKE AN INSTITUTIONAL COMMITMENT TO ANALYTICS.

INVEST WHAT YOU CAN— YOU CAN'T AFFORD NOT TO.

ANALYTICS IS A TEAM SPORT— BUILD YOUR DREAM TEAM.

ANALYTICS HAS REAL IMPACT ON REAL PEOPLE— AVOID THE PITFALLS.

PREPARE FOR SOME DETOURS ON THE ROAD TO SUCCESS.

TICK-TOCK, TICK-TOCK— THE TIME TO ACT IS NOW.

But we have a blind spot

Data and Analytic Literacy

Introducing a theoretical model for
Higher Education Analytic Literacy

**Understanding
Data Domains
in Context:**

- Finance & Student Accounts
- HR and Payroll
- Student Demographics
- Enrollment Management
- LMS and CRM
- Advancement
- Co-curricular Data
- State and Federal Data
- Academic & IE Metric Data

**Understanding Analytic
Methods, Approaches &
Ethics/Bias:**

- Reports
- Alerts
- Statistical Methodologies
- Linear Forecasts
- Predictive Analytics
- Machine Learning
- Champion Modeling
- Artificial Intelligence

**Understanding Use
Cases, Value, &
Return on Investment**

- High Level Awareness of Technical Architecture
- Reliance on Data Governance Practices
- Understanding of Systems Integration (or lack thereof)
- Emphasis on Lift and Business Case Development

Be a Resource Champion: Financial Support for Resource Allocation, Commitment, and Investment

Cultural Commitment: Personal Interest, Passion, and Commitment to Improving Analytic Culture at Institution

Individual Data Literacy: Experience and Ability to Read, Write & Communicate Data in Context

Leveraging the Model:
Higher Education Analytic Literacy

Accelerating the Understanding of Data Domains:

Starting:
- Ask what exists
- Ask where it is stored
- Clarify and ask for definitions
- Identify RACI

Maturing:
- Ask about integrations across systems
- Ask about business processes that impact data quality
- Create communities of practice

Expanding Analytic Methods, Approaches & Confronting Bias:

Starting:
- Examine current forecasting
- Document methods of data manipulation
- Question the impact data has on constituents

Maturing:
- Initiate machine learning (ML) and artificial intelligence (AI) applications
- Question the impact of historical bias on AI and ML

Leveraging Use Cases, Value, & Return on Investment

Starting:
- Think through ROI and model potential savings
- Investigate different offerings and options in analytic space
- Identify use cases for impact

Maturing:
- Request measures of efficiency and lift for a given decision
- Build a three-year resource strategy
- Invest in talent and skills

Be a Resource Champion: Starting- Shift Conversation to Investment ➡ Maturing- Invest According to Lift & ROI

Cultural Commitment: Starting- Model Behaviors for Others ➡ Maturing- Convene Others of Similar Mindset
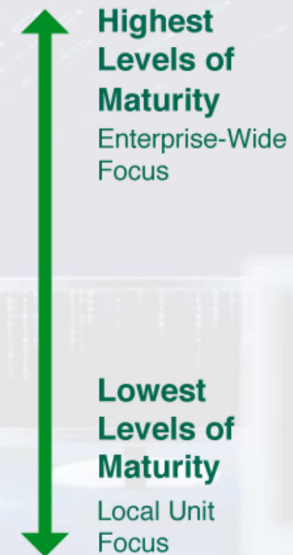
Individual Data Literacy: Starting- Understand Your Data ➡ Maturing- Communicate & Explain Your Findings

Institutional Data Literacy - Organizations:
Becoming a Learning Organization

Assessing Campus Data Maturity Categories:
SAS Information Evolution Model and Associated States of Being

Evaluates:
Personnel
Systems & Tools
Data Priorities
Data Quality
Culture
Innovation

INNOVATE
Progressive

OPTIMIZE
Progressive

ENTERPRISE
Foundational

DEPARTMENTAL
Challenged

INDIVIDUAL
Challenged

Highest Levels of Maturity
Enterprise-Wide Focus

Lowest Levels of Maturity
Local Unit Focus

Adapted from Zeid (2014) Business transformation: A roadmap for maximum organizational insights.

Cultivating a Data Culture in Higher Education (2018) editors: K. Powers & A. Henderson

Institutional Data Literacy: Where are you?   EXCEL Workbook

INDIVIDUAL	DEPARTMENTAL	ENTERPRISE	OPTIMIZE	INNOVATE
Challenged Level	**Challenged Level**	**Foundational Level**	Progressive Level	Progressive Level
Focus is on immediate and tactical needs	**Focus on individual department metrics - "looking good"**	**Balance between department and enterprise needs**	**Automating of insight- driven decision making**	**Proactive and focused on continuous improvement**
Focus is on here and now	**Entire departments are savvy with data**	**Enterprise drives focus - KPIs established**	**Value chain ethos drives out waste to reduce costs**	**Fosters and rewards innovation at all levels**
Supports day-to- day operations	**Follow solid processes to govern data**	**Information is a critical asset. Internal and external data integrated**	**Heightened focus on external market conditions- foresight is easier**	**Exceptional at incorporating external data sources**
Narrow "Stovepipe" applications and transaction systems	**Data structures and analytics work in silos. not institution wide. Multiple versions of truth**	**Institution understands business value chain. Data quality is appreciated**	**Unstructured data analysis is the new norm - driving additional insights**	**Analytics-driven product and service decisions & dominates in industry**
Decisions after the fact	**Teams aware of future possibilities, unequipped to breakdown silos**	**Enterprise-wide use of data drives growth and goals.**	**Expansion of operations as better data reduces risk**	**Groups formed leveraging competencies**

CULTURE-CENTRIC ANALYTICS LEADER: A CULTURAL COMMITMENT

VISIBLE & KNOWN

Tools and Facilities

Program Charter

Technology

Financial Resources

Policies and Rules

Staffing Resources

HIDDEN & LESS OBVIOUS

Attitudes Around Data

Communication Patterns

Informal SME Processes

Social & Emotional Skill

Existing Unsolved Problems

Conflict Resolution Practices

Politically-Driven Behaviors

Orientation Towards Change

Individual Work Demands

Adapted from Hall, E. T. (1976). *Beyond culture*. Garden City, N.Y: Anchor Press.

Jason Simon, 2018

A Framework for Analytic Maturity:

Where are we and where do we need to be?

Document Storage and Hand-Entered Information:

Focus:
Paper Trails

Impact:
Lost Data - Missed Analysis Opportunities

Data Outcomes:
Scraped Yet Error-Prone Data

Reporting:

Focus:
What happened in the past?

Impact:
Too Late to Help Individuals But Now Understand the Impact

Data Outcomes:
Static & Autopsy Data

Alerts:

Focus:
What is Happening Now? How can we intervene?

Impact:
Improve Outcomes for Current Constituents

Data Outcomes:
Transactional Data Reflects Here & Now

Predictive Analytics:

Focus:
What could happen in the future?

Impact:
Augment Outcomes for Constituents Today & Tomorrow

Data Outcomes:
Future-Focused Data & Validated Predictions

Machine Learning & AI:

Focus:
How can we best optimize outcomes in the future while increasing human efficiency?

Impact:
Expand Outcomes at a Local, Regional, & National Level

Data Outcomes:
Automated & Efficient Data Informing Strategy

Individual Data Literacy

FORRESTER

Building Data Literacy
The Key To Better Decisions, Greater Productivity,
And Data-Driven Organizations

Study Publication Date: February 2022

Nearly 80% of employees say they're more likley to stay at a company that sufficiently trains for the data skills they need.

Only 47% of employees say they have been offered data training by their organization.

82% of decision makers say that they expect at least a basic data literacy from **all employees in their department**.
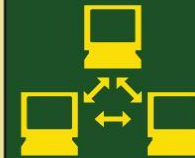
Only 40% of employees say their organization has provided the data skills they're expected to have.

Source: Forrester (2022) Building Data Literacy

What we could be teaching about data literacy:
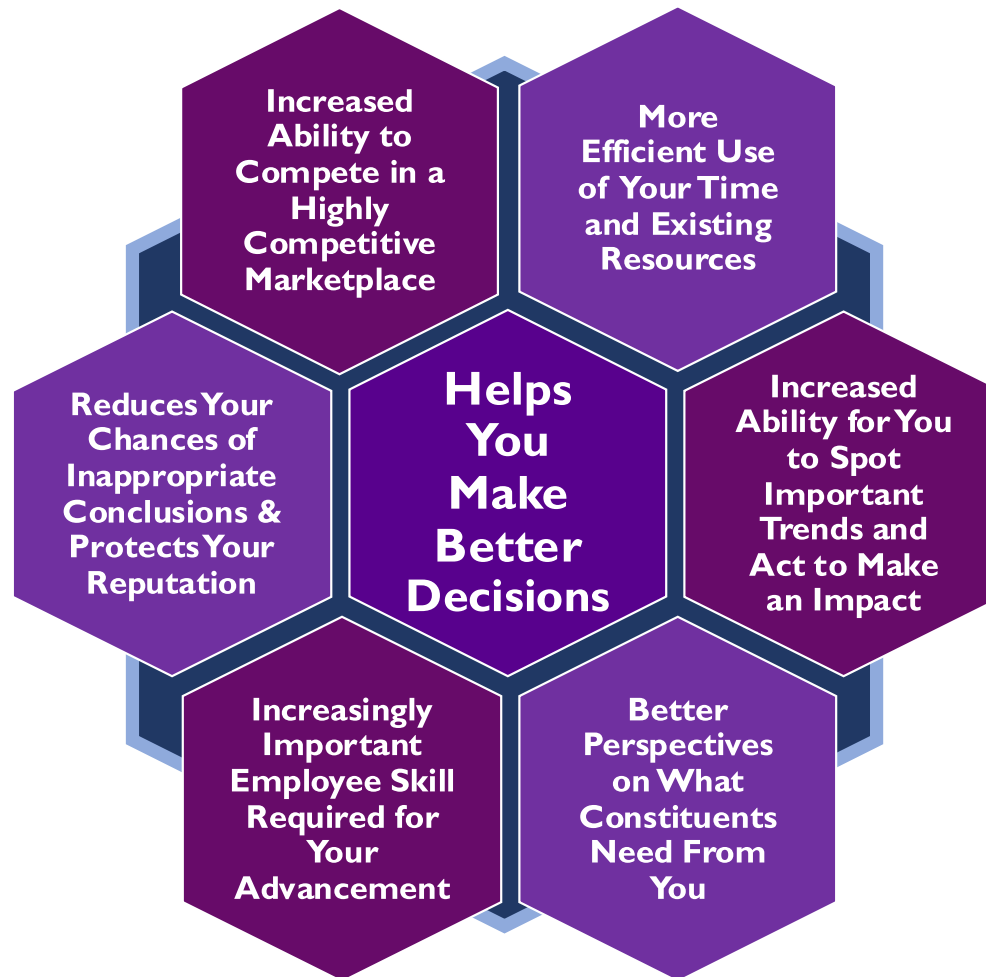
How people feel when you ask them to look at the data

POP QUIZ!
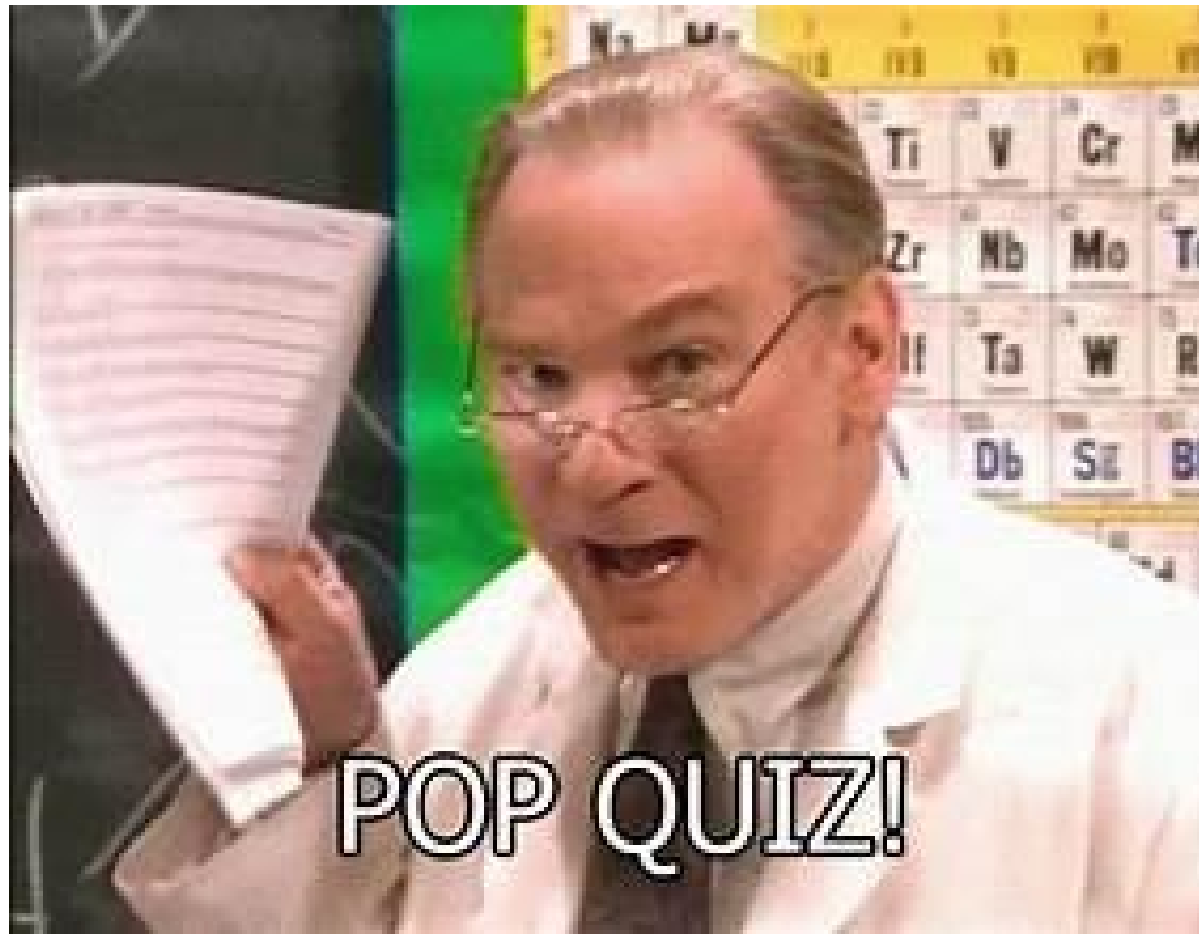
GARTNER'S DEFINITION OF DATA LITERACY

noun: talent, skill, or proficiency in a particular area.

"the ability to read, write and communicate data in context, including an understanding of data sources and constructs, analytical methods and techniques applied, and the ability to describe the use case, application and resulting value."
Gartner, 2021
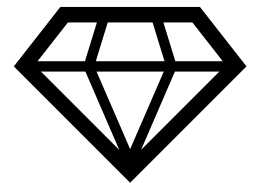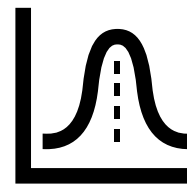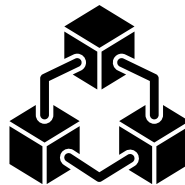
Data Literacy — Individuals

Inquire
Ask the right question

Inspect
Find/select the right data/report/dashboard

Interpret
What have I learned?

Iterate
Do I need to look at additional data?

Inform
Communicate results for data-informed decision-making

Self-Service – Promise…

... vs Reality

IEA Strategic Plan 2023 Update

VISION | *To create a University-wide culture of institutional effectiveness*

MISSION | *Leveraging strategic data assets to provide timely, accurate, and actionable information to support decision-making and continuous improvement and effectiveness at all levels of the University*

Strategic Goals

| Promote the use of data in strategic planning & decision making. | Increase data literacy & the understanding of analyses. | Promote a culture of effectiveness & continuous quality improvement. | Lead the reaffirmation of accreditation process. |

Strategic Initiatives

1. Increase the education/training of survey research results to our stakeholders. 2. Advance self-service capabilities. 3. Implement new advanced analytic tools for decision and policy support.	1. Expand & enhance stakeholder education services.	1. Implement a sustainable administrative & student support unit review process.	1. Strategize & coordinate on the HLC assurance process. 2. Coordinate & oversee the quality initiative project.

OHIO UNIVERSITY
1804

Using Design Language
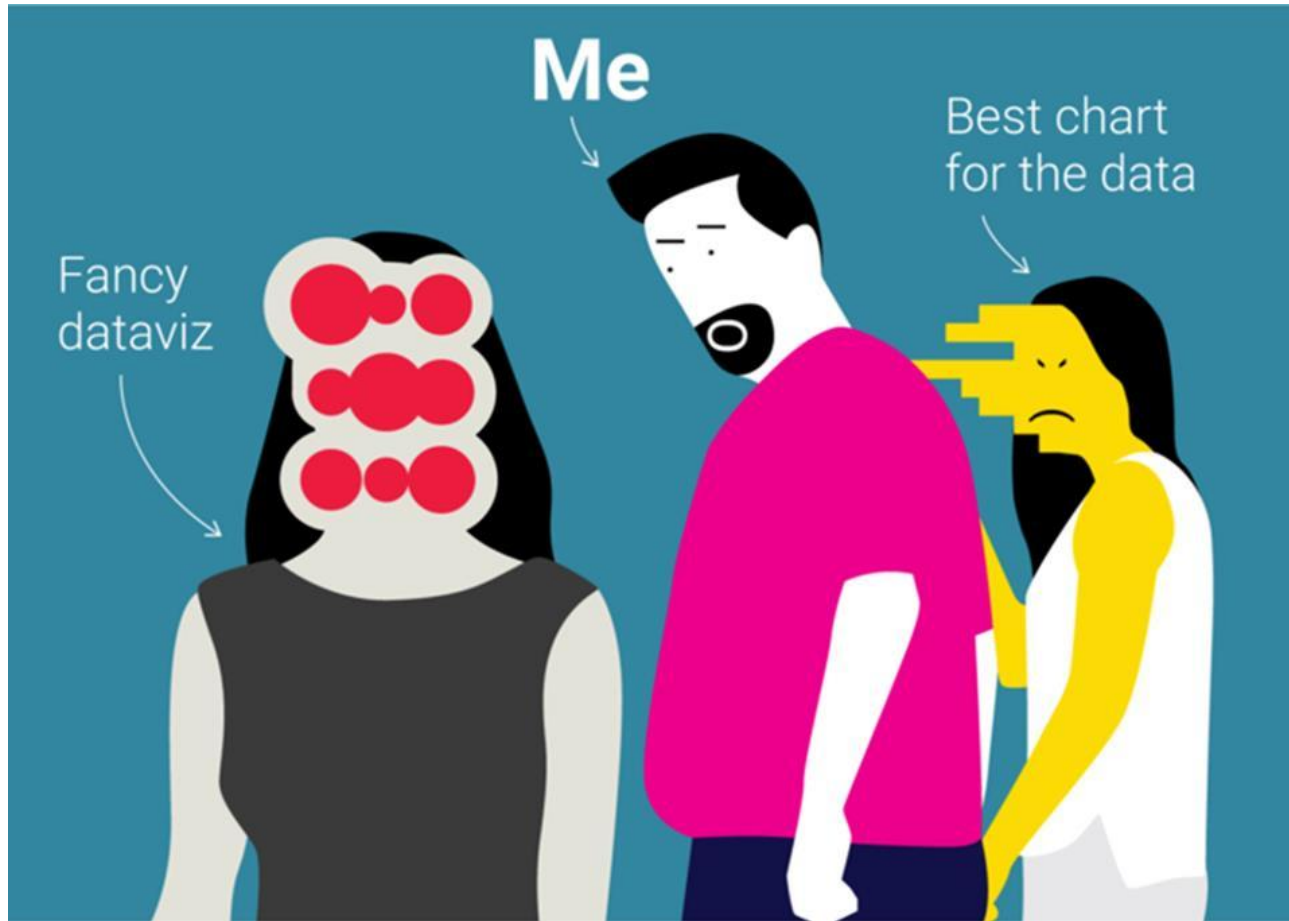
Using Design Language

Dashboard Layout:

- At least 20pt padding space between visualizations
- At least 10pt padding space between filter column and visualizations
- Content should not go higher on the page than the bottom of the ADS logo

Dashboard Guides

Specialty Dashboard Guides

This dashboard is more complicated than many of the common content dashboards. If you encounter difficulties using this dashboard, we are happy to help. Please contact PRO-ADSHelpAndSupport@catmail.ohio.edu

Examples of Questions the Non-Success Dashboard can answer:

- How are students performing in 1000 level courses?
- What is the letter grade distribution of students in a program, course, or section?
- Has the non-success rate for my students gone up or down over the past 5 years?
- What is the difference in non-success rates by Race/Ethnicity, Sex, URM status or First Gen status?
- What are the non-success rates of key foundational courses in a program?

OHIO Course Non-Success Dashboard Information

Class Comparison Page: Used to compare the Non-Success rate for up to 4 courses

View comparisons by last 4 academic years (Fall-Spring-Summer) or by the same term type over 4 years

Available Filters:
- Campus
- College
- Department
- Course Lvl
- Course Name

This page works best with 4 or fewer courses selected

Course Non-Success Analysis Page: 5-year non-success rates & grade distribution

Filters work best in order. See these explanations for instructions on how to best use the filters on each page

Select dropdown to view Race/Ethnicity, Sex, First Gen Comparisons over time

Use selector to define preferred "non-success" criteria. This filter carries over to all pages

Available Filters:
- Term
- Campus
- College
- Dept.
- Course Lvl
- Course Name
- Section

View non-success grade distributions for the selected semester

Course Section Breakdown Page: Shows Non-Success rate distribution & averages by course section

Shows Non-Success rate for each course section. Shape indicates component type (Lecture, Lab, etc.)

Available Filters:
- Campus
- College
- Department
- Course Lvl
- Total Headcount (Course Size)
- # Students in Section
- Course Name
- Class Component

Hover over individual data points for details including section number, course headcount, instructor name

Hello **Loralyn Taylor**,
Welcome to your **ADS** Data Navigator!

Email Support   Help Guides   How-to Videos

Explore ALL Dashboards by Topic:

Your Project Folders:
(Click a folder to view dashboards within)

Admissions

Enrollment

Faculty/Staff

Student Success

Common Content   Admissions Detail   Enrollment Detail   Success Detail   Chairs and Directors

What's New in ADS?
(Click a dashboard name to go there)

Dashboard Name	Description	Use it for:		Date Publi..
End of Term Return Rate	Return Rate Analyis using only final, end-of-term data. Does not include point in time return rate	Exploring return rate data for entire terms as a whole once they are past.	Success Detail	5/2/23
Fall Enrollment Comparison	Large-scale comparison across campus or colleges by different demographics and enrollment met..	Comparing specific metrics (Ethnicity/Sex/First Gen, etc) across multiple campu..	Enrollment Detail	3/21/23
Gray Associates Score Explorer	Provides Gray Associates Score Details joined to Institutional Program Offerings	Exploring Gray Associates Econometric Scores for Academic Programs in vari..	Chairs and Directors	2/14/23

Get HELP:
(You can also find this help menu at the top of every page in the navigator)

Easy Navigation

Role based permissions

Explore by Topic or Folder

Explore new resources

Easy access to help

Easy Navigation

Hello **Loralyn Taylor,**
Welcome to your **ADS** Data Navigator

✉ Email Support   ⓘ Help Guides   ▶ How-to Videos

EXPLORE by Topic:

Admissions   Enrollment   Faculty/Staff   Student Success

Short business use-case

Dashboard Name	Description	Use it for:	
APR - Student Flow by Entering Major (with Campus Select)	Shows flow of students (retained, left ohio, or graduated) term by term through 6 years after ..	Tracking student outcomes for specific programs or colleges term by term	Success Detail
Course Non-S	✓ Keep Only ⊘ Exclude	Viewing non success rates for programs, courses, or sections. Analyzing Failure rates over time or by course	Success Detail
Course Succe Covid	APR - Student Flow by Entering Major (with Campus Select) Go to this Dashboard ↗		
End of Term Return Rate	Return Rate Analyis using only final, end-of-term data. Does not include point in tim..	Exploring return rate data for entire terms as a whole once they are past.	Success Detail
Math DV Placement History	Historical Data for Students with a 'DV' Math Placement	Viewing success information for Math DV placement students	Success Detail
Ohio Honors Program_Student Success Overview	Student Success details pre-filtered for students in OHIO Honors Program	Analyzing success information for Ohio Honors Program students	Success Detail
Ohio Online - Student Success Overview	Student Success details pre-filtered for OHIO Online Students	Analyzing Success information for OHIO Online Students	Success Detail
Student Flow by Entering Major on Athens Campus	Tracks students' primary majors through the first 6 years after they begin as Athens First-ti..	Tracking student major changes and switching in/out of a program.	Success Detail

Direct Link

Folder location

![OHIO UNIVERSITY | INSTITUTIONAL EFFECTIVENESS AND ANALYTICS]

Academic Performance Management Dashboards

The Academic Performance Management effort with HelioCampus created new data structures that integrate student financials and faculty compensation at the class section level. Following the implementation of APM IEA recognized a need to further partition these data to the student enrollment within class sections and began work on this customization. This was necessary to examine programs of study and student characteristics. We collectively refer to these data as Academic Activity Margin data. These data are in 4 primary places within 'Strategic Leadership' in ADS: Activity Margin Analyses, Academic Metrics and Data Explorer (AMDE), Graduate Activity Margin Analyses, and the Investment Decision Support Tool. As of June 17, 2024 these have only been distributed to the Deans, however the AMDE's intended audience is Chairs and Directors.

Activity Margin Analyses

This dashboard contains tuition charges, instructor costs (pay and benefits assumptions), financial aid, and state share of instructions in an explorable contribution margin report. These are not transactional accounting data, but rather summarized data from course enrollment, degrees, student financials, payroll, and state reports that reflect revenue after expenses for the institution's primary academic revenue sources. In testing against actual accounting transactions, variance is less than .5%. Except for the College of Osteopathic Medicine all academic activity at the institution is included.

Graduate Activity Margin Analyses

This dashboard is very similar to the Activity Margin Analyses, however undergraduate courses taught by graduate students are identified so that the financial impact of our graduate programs can be understood. This is important in evaluating our traditional graduate programs.

The Institutional Effectiveness & Analytics office has a versatile staff, trained in computer programming, statistical analysis, survey design, data management, and information presentation. They are capable of providing the university with regular management and planning information and ad hoc information. The IEA office has made a plethora of data resources available to stakeholders in six major subject areas:

1. Admissions
2. Enrollment
3. Courses
4. Student Success and Outcomes
5. Survey Data
6. Faculty/Staff

There are four areas at which you can find data on all of the major subjects...

1. IEA Website (www.ohio.edu/iea)
The website should be used for quick general data needs. When using website resources, it is important to take heed of footnotes where crucial details regarding campus, term, and student groups are specified. Anyone, regardless of relation to OHIO, has access to the IEA website.

2. Public Interactive Dashboards (https://public.tableau.com/app/profile/ohioiea/vizzes)
Public interactive dashboards are available for quick general data needs including the OHIO Fact Book, retention and graduation rates, and the course and program inventories. Additional public dashboards are available for deeper dives on student and alumni experiences including the Student Involvement Survey, NSSE, OHIO Outcomes, Survey of Alumni, and General Education Assessment dashboards. Anyone, regardless of relation to OHIO, has access to the public interactive dashboards.

1. Admissions Data

www.ohio.edu/iea/student-data/admissions

- Fall admissions data for entering undergraduate first-year students, new transfers, new non-degree undergraduate students, and new graduate students.
- Tables by residency, sex, plan, state, county, and age.
- Data separated by campus.
- OHIO Faculty/Staff ID required to access this page.

www.ohio.edu/iea/student-data/student-profiles

- 7-year summary tables of entering first-year undergraduate and transfer students for total class by college.
- Tables include number applied, admitted, and enrolled
- Statistics include sex, ethnicity, residency, HS rank, and ACT/SAT percentiles.
- OHIO Faculty/Staff ID required to access this page.

www.ohio.edu/iea/university-data/compendium/sections

- 7-year summary tables of applied, admitted and enrolled for fall academic term
- New first-year undergraduates and new graduate students at the Athens Campus.
- Admissions plan data according to the students' declared plan throughout the admissions process.

OHIO Outcomes Dashboard ↗

The OHIO Outcomes Dashboard provides the OHIO community with employment and further education outcomes for its graduates. This dashboard is updated annually.

+ **Learn How to Communicate These Data Accurately**

+ **Questions OHIO Outcomes Dashboard Can Answer:**

+ **OHIO Outcomes Dashboard Can be Used to Support:**

+ **Sources of Outcomes Data:**

OHIO Outcomes by OHIO Institutional Effectiveness & Analytics
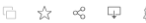
| Summary | Use the Data | Outcome Status | Time to Outcomes | Average Earnings | Earnings Range | Certificates |

OHIO Outcomes Summary

Summary
Ohio University (OHIO) developed the OHIO Outcomes Dashboard to track the outcomes of our graduates. The dashboard contains longitudinal results of tracking our graduates through multiple data sources.

Method
Gathering accurate and reliable student job placement data is pertinent to ensuring precise and timely reporting. The ability to conduct such reporting is enhanced when the source of the information is provided by a data match done from a governmental source of employer-reports. This approach to student outcomes data collection and reporting increases the validity and reliability of reported outcomes by supplementing self-reported outcomes with employer-reported outcomes based on payroll reporting through the Ohio Department of Jobs & Family Services, the State of Ohio's unemployment insurance program, and with postsecondary institution-reported subsequent enrollment reporting through the National Student Clearinghouse, a national student record exchange repository.

Sources of Outcomes Data
1. Ohio Department of Jobs and Family Services (ODJFS)
Through a data sharing agreement with ODJFS, OHIO was able to access all employer reported wages for the 8-year graduating cohorts of 2014-15 through 2021-22. The records included quarterly wages upon which inferences were made about 3, 6, 9, and 12-month job placement status. The data match generated a 66% match rate between OHIO graduates and employer unemployment insurance payroll reports.
2. National Student Clearinghouse (NSC)
The National Student Clearinghouse is a national student record exchange repository that institutions utilize to engage in degree verification, enrollment verification and student educational outcomes research. NSC has 3,600 participating colleges and universities, which represents 99% of students enrolled in public and private institutions in the United States. OHIO supplemented the ODJFS data with the NSC subsequent enrollment data to obtain further educational pursuits of our graduates. The data match from NSC increased the knowledge rate by 66% to 73% for all the graduates from the graduating cohorts.
3. Career and Further Education Survey (CAFE)
The Career and Further Education Study is designed to collect information on OHIO graduates about one year after graduation. It is one of several university-wide studies for assessing the impact of OHIO programs on its graduates. These studies were implemented in 1981 as a result of suggestions made by a committee of faculty and staff and have been reviewed and continued by subsequent assessment committees. The questionnaire collects information in two major sections:
 - employment information (e.g., income, occupation, job satisfaction, first job lead, and length of time to first job).
 - further education after graduation from OHIO (e.g., program of study, degree sought, financial assistance, satisfaction with education at OHIO, and professional certification sought).
Responses to the CAFE Survey increased the knowledge rate by 4% to 77% for all the graduates from the graduating cohorts.
4. Graduation Application Survey
By 2024, bachelor's degree graduates are surveyed in the semester when they apply for graduation; therefore, each annual cohort includes graduates from the Summer, Fall, and Spring semesters. Survey responses are combined and used to supplement the bachelor graduates' employment and further education information. Since Spring 2024, the survey has been expanded to graduates of all degree levels. Graduation application survey responses have been included beginning with the 2020-21 cohort. And since then, the 'In Volunteer Service' category was added to the placement status. The graduation application survey data increased the knowledge rate of bachelor degree graduates by 5% for 2020-21 cohort and 8% for 2021-22 cohort. For all cohorts of all graduates, these survey responses increased the knowledge rate by 1% to 78%.

User Guide
For more information about the contents and uses of the dashboard, please refer the user guide document by clicking on the book icon.

OHIO UNIVERSITY | INSTITUTIONAL EFFECTIVENESS AND ANALYTICS

Data & Reporting User Group
- DRUG
  - Comprehensive updates

Analytics & Decision Support
- Viewer Group
  - Review, update, remind
- Explorer Group
  - Can develop dashboards
  - Sandbox access
  - Limited data extracts
  - De-identified data
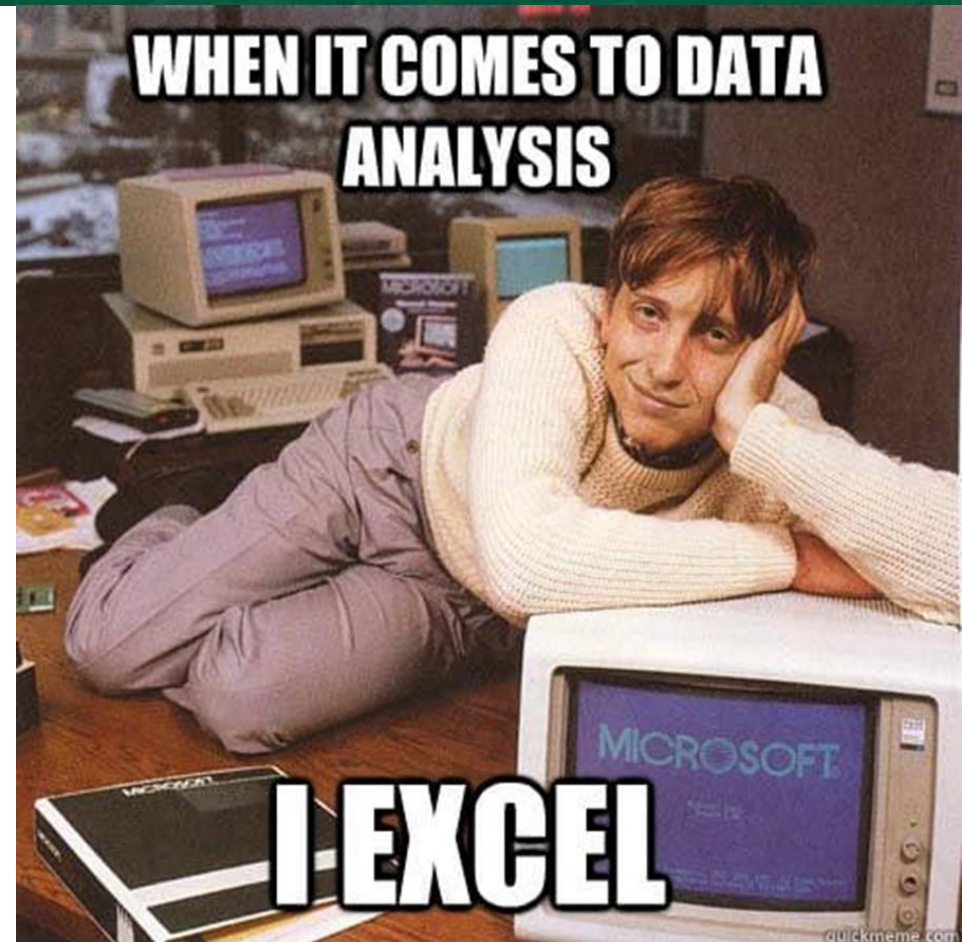
Empower Data Use

Consistent vocabulary
- Simple, intuitive

Standardized definitions
- Common understandings

Documentation
- Force multiplier
- Continuity planning

Intuitive
- Multiple on-ramps
- Increased comfort, increased use

Empower Data Use

Reduce Barriers
- Training
  - Address level and business case
- State the whys

Continuing Support
- Available

Proactive Communications
- Nudging

Building Data Culture

Require data support for decisions
- Review & discuss data

Focus
- Institutional priorities WHERE data could make a difference

Incorporate into IE Practices
- Program Review metrics

Build Communities of Practice
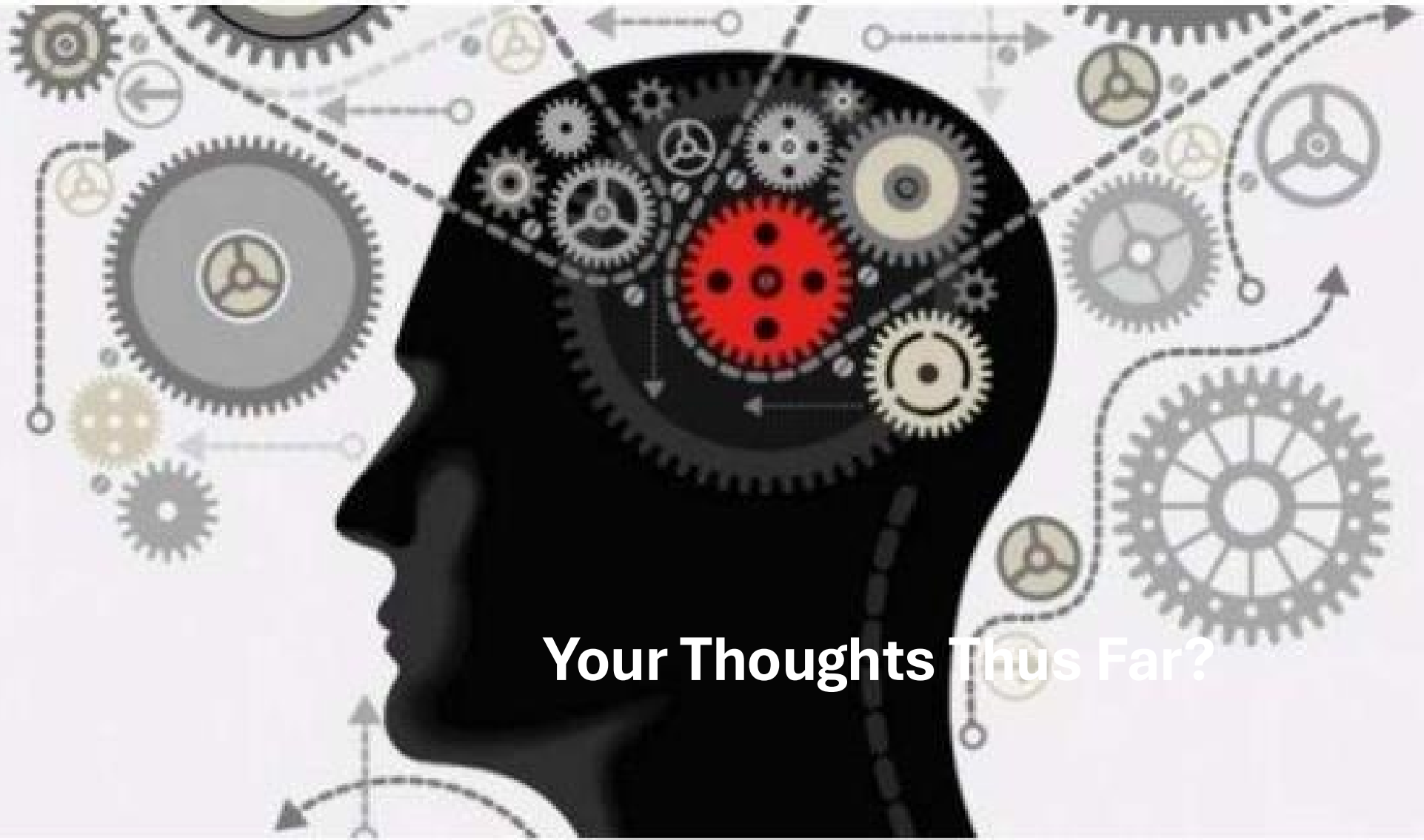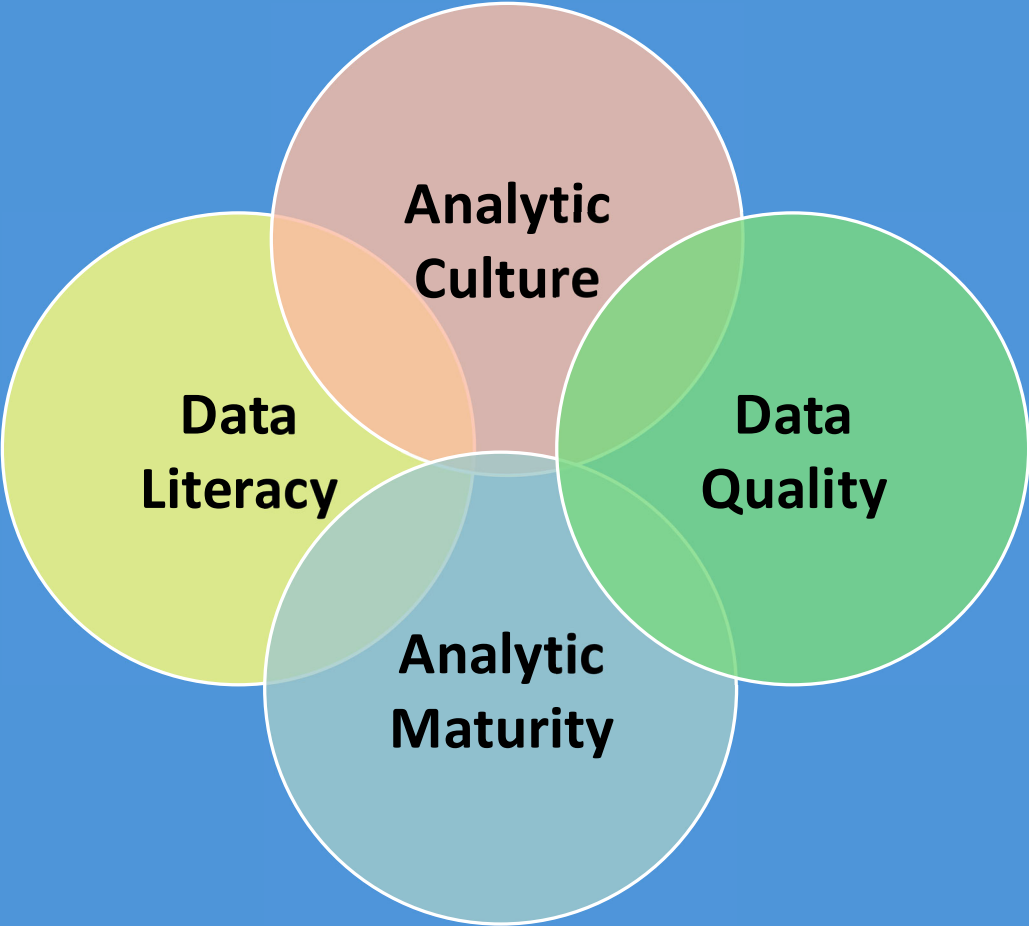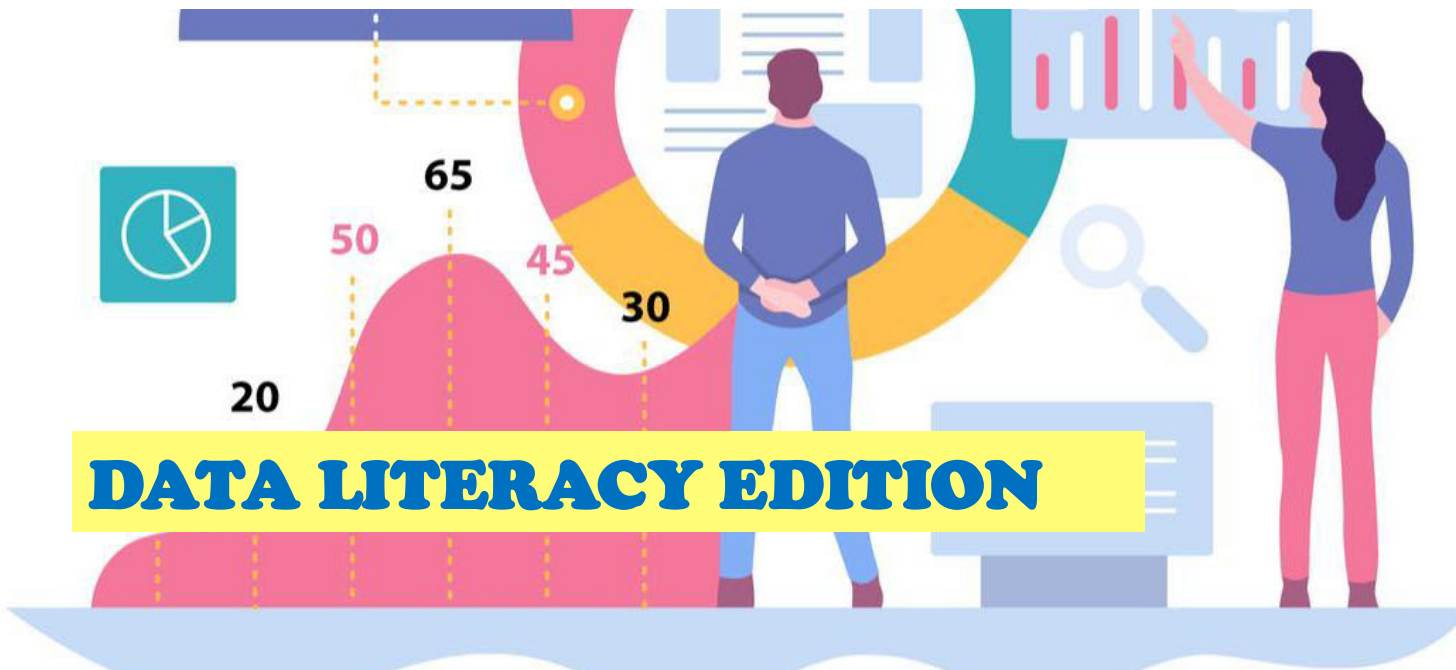- Multiple levels

Cultivate Data Champions

Your Thoughts Thus Far?

Building Blocks:

Analytic Culture

Data Quality

Data Literacy

Analytic Maturity

Cosmo Quiz

BY JASON & LORALYN

DATA LITERACY EDITION

Thinking about your institution, evaluate each statement.

Dimension	Never	Occasionally	Always
Inquire: Training takes place on data awareness and competency within the community	0	1	2
Inquire: Requestors transparently share the reasons why they need data up front	0	1	2
Inquire: Requestors by and large know what they are asking for the first time around	0	1	2
Inquire: Leadership actively asks for data in conversations/meetings	0	1	2
Inspect: Campus data resources are clearly catalogued for users to find	0	1	2
Inspect: Data are clearly defined in a manner to promote appropriate usage	0	1	2
Inspect: Data products are documented effectively indicating source and last refresh date	0	1	2
Inspect: Reports, Analytics, or Ad-hocs avoid technical variable names in favor of common terms.	0	1	2
Interpret/Iterate: Training takes place on statistical methods and data interpretation across the community	0	1	2
Interpret/Iterate: Data are accompanied by formal IR recommendations to assist with interpretation	0	1	2
Interpret/Iterate: : Reports, Analytics, or Ad-hocs contain flags/notations to indicate important findings	0	1	2
Interpret/Iterate: IR teams carve out time to discuss findings/suggest other data sources or approaches	0	1	2
Inform: Leaders visibly demonstrate how decisions were informed by data and analysis	0	1	2
Inform: IR work products, tables, etc. are cited in strategic planning/policy recommendations	0	1	2
Inform: Training takes place for teams and users on leveraging data for decision-making/story-telling.	0	1	2
Inform: Utilized data are clearly documented, sourced, and cited in online or print sources for others.	0	1	2

0-10 Points
"Getting Intentional with Data Literacy is Key"

Identify your biggest pain points in the data literacy lifecycle and intervene

Conduct an IR output audit- ask for feedback on how data is shared

Re-examine ways IR can assist with better understanding findings

11-21 Points
"Build on Promising Practices"

Investigate easier ways to help make data more visible and consumable

Consider partnering with training units to introduce data literacy content

Identify automated or formatting changes to expand data awareness

22-32 Points
"Don't Settle & Keep Goings"

Highlight data consumers who have role modeled data informed decision making

Share best practices with other data providers broadly across your campus

Intentionally orient new employees around data literacy

1

2

3

Top 3 Areas I Need to Address in My Planning Today Related to Data Literacy at My Institution

Cosmo Quiz

BY JASON & LORALYN

65

50

45

30

20

DATA QUALTIY EDITION

Data quality can be measured along 9 dimensions. Thinking about your current ecosystem how would you rate the following elements of OVERALL data quality on your campus?

Dimension	Poor	Fair	Good	Excellent
Completeness: I have what I need.	1	2	3	4
Consistency: I see the same answer from multiple sources.	1	2	3	4
Accuracy: I believe the data are factual.	1	2	3	4
Timeliness: I have what I need when I need it.	1	2	3	4
Currency: I have the latest version of what I need.	1	2	3	4
Integrity: I trust and stand behind what I see.	1	2	3	4
Validity: What I have mirrors what I would expect to see.	1	2	3	4
Auditability: I can see a trail of introduced changes.	1	2	3	4
OVERALL: Our data quality is:	1	2	3	4

0-15 Points
"Time to Surface Challenges for Solutions"

Address the elephant in the room – but via a plan to help build trust

Examine campus practices and conduct a data audit/inventory

Gather like minded allies to engage in planning for a change

16-30 Points
"Time for IR to Lead"

Engage in conversations with trusted partners and SMEs to dig into challenges

Look for ways to formalize currently informal data practices via Data Gov.

Invest in tools, technologies, and human resources to drive change

31-36 Points
"Deepening IR Relationships Across Campus"

Continue to promote culture of ensuring accuracy, validity, and trust

Invest in automating data quality practices currently done manually

Consider expanding into new datasets not typically managed by IR

1

2

3

Top 3 Areas I Need to Address in My Planning Today Related to Data Literacy at My Institution

Cosmo Quiz

BY JASON & LORALYN

ANALYTICAL CULTURE EDITION

"Data without insights is meaningless, and insights without action are pointless"

Tomas Chamorro-Premuzic

At My Institution: (if NA or non-existent then choose 1)	1 Very Immature	2 Somewhat Immature	3 Somewhat Mature	4 Very Mature
The tools and facilities for analytics are	1	2	3	4
The technologies needed for analytics are	1	2	3	4
The analytic policies and rules (Including Data Governance) are	1	2	3	4
The role IR played in shaping the campus data and analytics direction	1	2	3	4
The financial resources/budget for analytics is	1	2	3	4
The staffing Resources/FTE for analytic maturity is	1	2	3	4
The overall attitudes around data and how it can be analytically deployed is	1	2	3	4
The communication patterns and practices around analytics are	1	2	3	4
Campus partner perspectives on how analytics can support work are	1	2	3	4
The social and emotional skills of our team around analytic challenges are	1	2	3	4
The leadership team's awareness of existing unsolved problems related to analytics are	1	2	3	4
The established data conflict resolution practices that help/hinder analytics are	1	2	3	4
The use of politically-driven behaviors that help/hinder analytics are	1	2	3	4
The institution's orientation towards change via analytics is	1	2	3	4
The awareness of individual work demands of those who could help/hinder progress is	1	2	3	4

0-20 Points "Falling Behind the Curve"

- Engage President, Provost, & Deans to advocate for analytics
- Leverage relationships with SMEs to inform campus challenges
- Message around leveraging analytics to support campus initiatives

21-40 Points "On the Edge of Change"

- Study other successful IR units who lead in this space
- Identify gaps in your culture and target these areas first with strategies
- Invest in group of SME champions to promote campus analytics

41-60 Points "Positioned to Thrive"

- Continue to promote culture of analytics & look for areas to expand
- Leverage leaders across campus to advocate for analytic team staffing
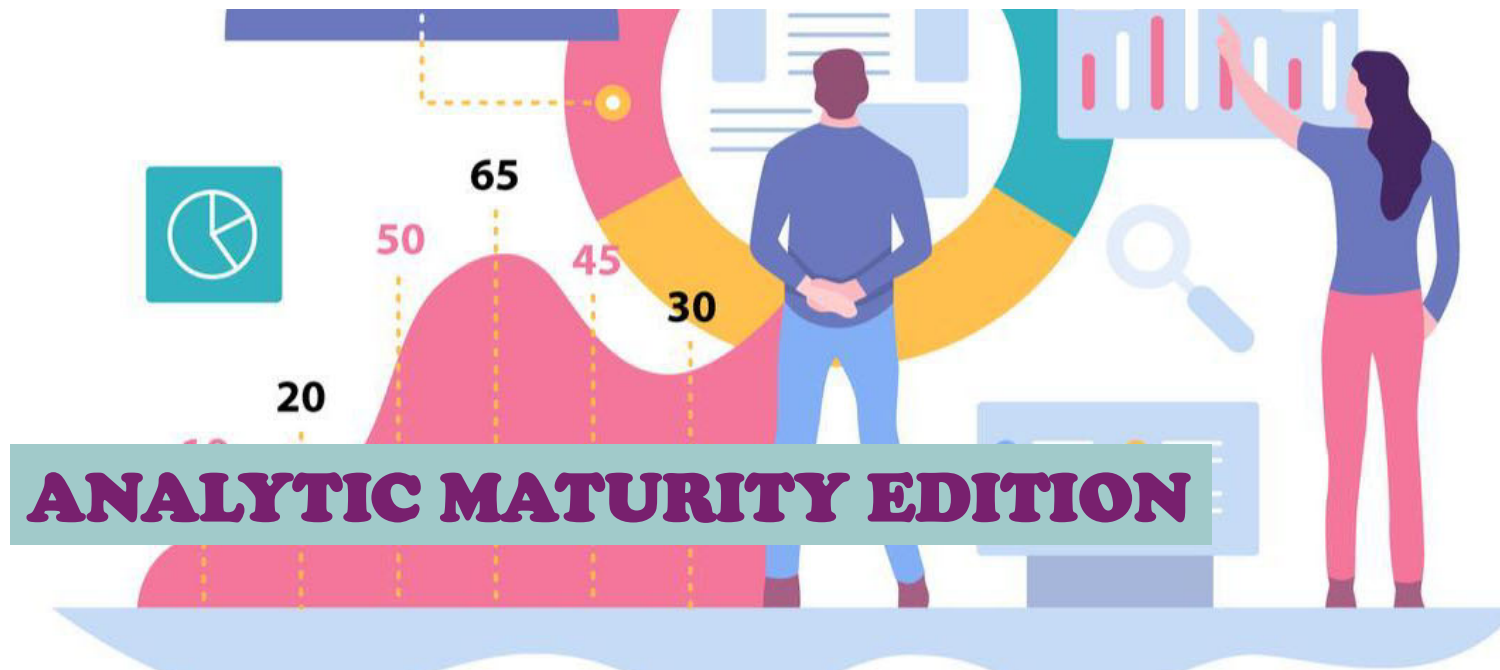- Consider helping other institutions & practitioners

Top 3 Areas I Need to Address in My Planning Today Related to Data Literacy at My Institution

1

2

3

Cosmo Quiz

BY JASON & LORALYN

ANALYTIC MATURITY EDITION

Think about the totality of a typical year in IR. What % of your time do you spend with data being manipulated in the following ways?

Hand-Entering Information on Surveys/Forms for Others:

Ad-Hoc Reporting and Basic Pivot Tables Shared with Users:

Programming Alerts and Automated Warnings in Data for Users:

Building & Deploying Predictive Analytics for Mass Consumption:

Modeling/Training/Implementing Machine Learning & AI Solutions:

| Hand Entering Information | Conduct burden analysis on all projects for a given time period and report costs |
| | Support data ingestion via making a case for coding tools and platforms |

| Ad-Hoc Reporting | Identify patterns in requests and data types as first targets for automation |
| | Identify current technologies or platforms where alert data could be added |

| Alerts & Warnings | Engage stakeholders, SMEs, and executives interested in predictive analytics |
| | Look for institutional challenges solvable with future-focused data |

| Predictive Analytics | Highlight ROI and benefits of analytics & look for new data areas to expand |
| | Identify institutional challenges that could be helped by ML/AI |

| Machine Learning & AI | Continue to invest in staffing talent and make case for staff expansion via ROI |
| | Monitor and be watchful for bias, inequity, and data training assumptions |

1

2

3

Top 3 Areas I Need to Address in My Planning Today Related to Data Literacy at My Institution

Let's Bring It All Together and Develop Your Action Plan

"Data without insights is meaningless, and insights without action are pointless"

Tomas Chamorro-Premuzic

https://hbr.org/2020/02/are-you-still-prioritizing-intuition-over-data

Resources:

- Randy L. Swing & Leah Ewing Ross (2016) A New Vision for Institutional Research, Change: The Magazine of Higher Learning, 48:2, 6-13, DOI: 10.1080/00091383.2016.1163132
- Analytics Can Save Higher Education. Really. A joint statement on analytics from AIR, EDUCAUSE, and NACUBO access at https://changewithanalytics.com/
- Making Analytics Accessible, Understandable, and Actionable. Darren Catalano (2016), Educause Review https://er.educause.edu/articles/2016/10/making-analytics-accessible-understandable-and-actionable
- Planting the Seeds of Analytics. Brian Haugabrook (2016), Educause Review https://er.educause.edu/articles/2016/9/planting-the-seed-of-analytics
- Use This Framework to Predict the Success of Your Big Data Project. Carsten Lund Pedersen and Thomas Ritter (2020) HBR https://hbr.org/2020/02/use-this-framework-to-predict-the-success-of-your-big-data-project

Questions?

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