Data Analytics: How to Tell the Story

SACUBO
SOUTHERN ASSOCIATION OF COLLEGE AND UNIVERSITY BUSINESS OFFICERS

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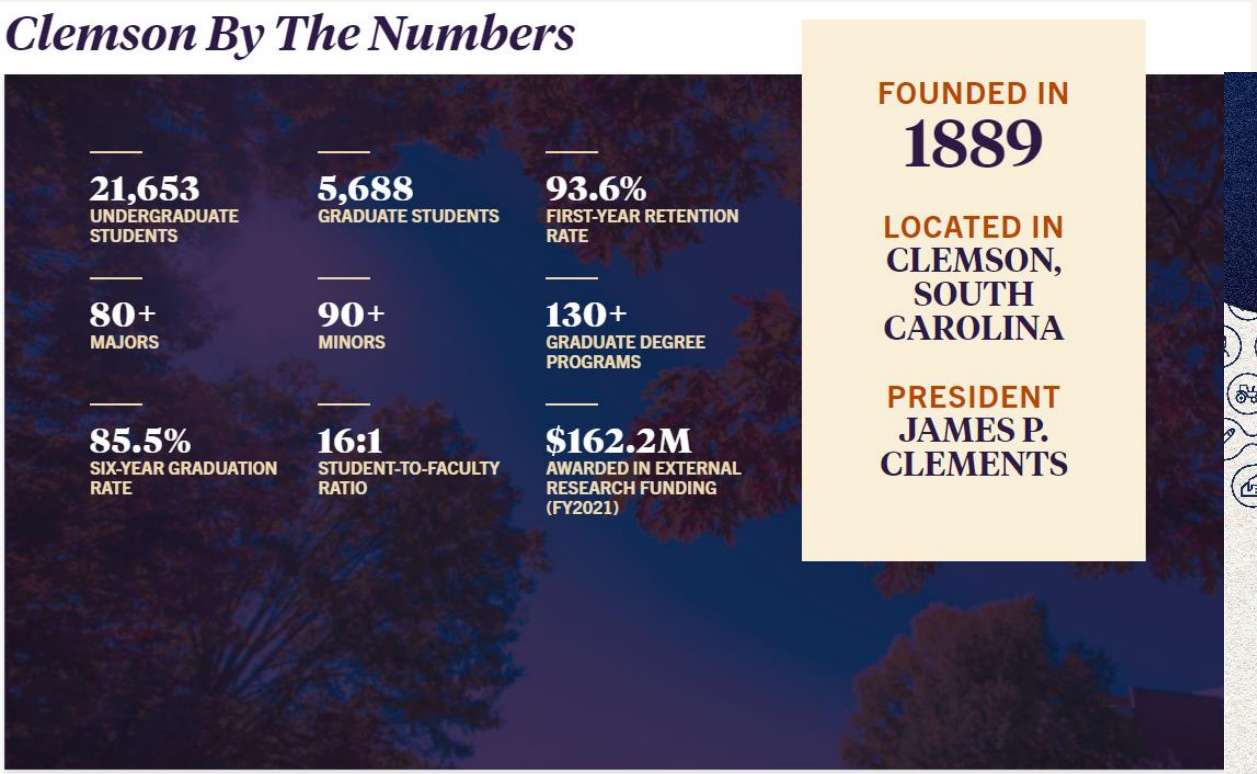
School of ACCOUNTANCY

Wilbur O. and Ann Powers College of BUSINESS

Clemson University

Clemson University is a public land-grant research university (R1) in Clemson, South Carolina. Founded in 1889, Clemson is the second-largest university in South Carolina.



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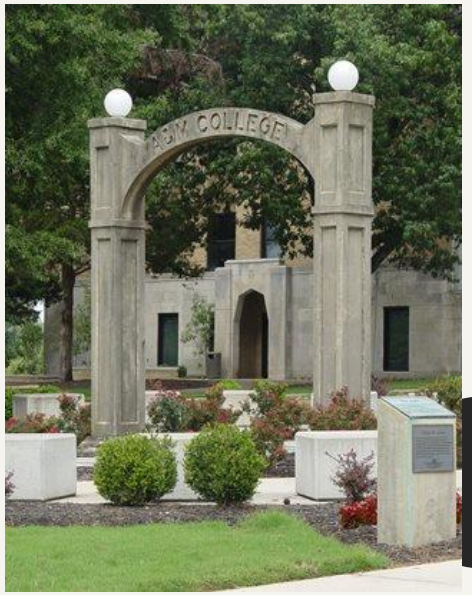
Arkansas State University

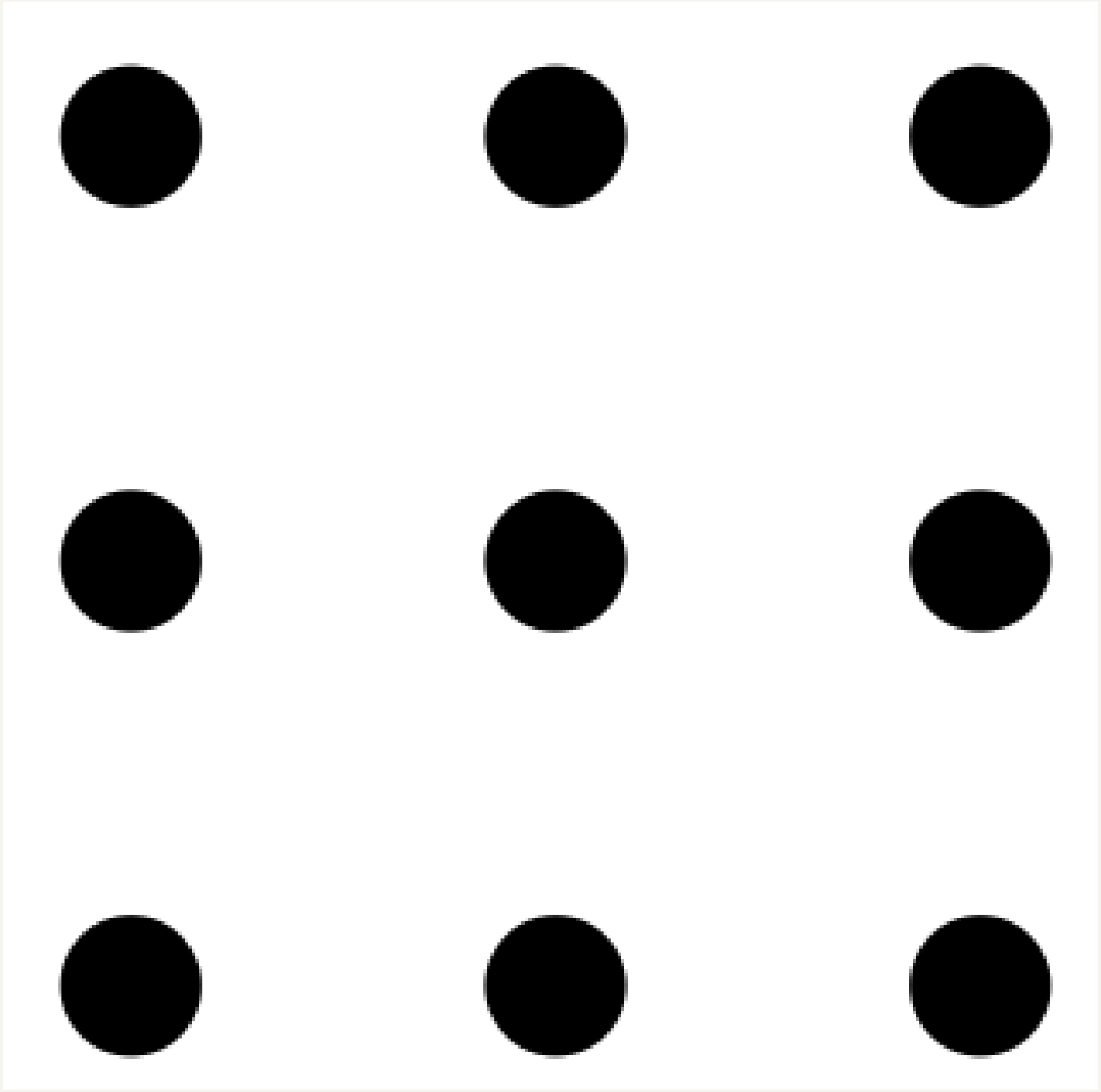
Arkansas State University (**A-State** or **ASU**) is a public research university (R2) located in Jonesboro approximately 70 miles northwest of Memphis, TN. It is the flagship campus of the Arkansas State University System and the second largest university in Arkansas. A-State was founded in 1909 and sits on 1,376 acres.

Enrollment: 14,085 **Faculty/Staff:** 1,500+ **Fields of Study:** 150 **Facilities:** 145 buildings
Alumni: 90,000+ **Athletics:** NCAA Division 1 **Conference Affiliation:** Sun Belt **Assets at 6-30-23:** $488,768,839 **FY24 Operating Budget:** $214,911,492

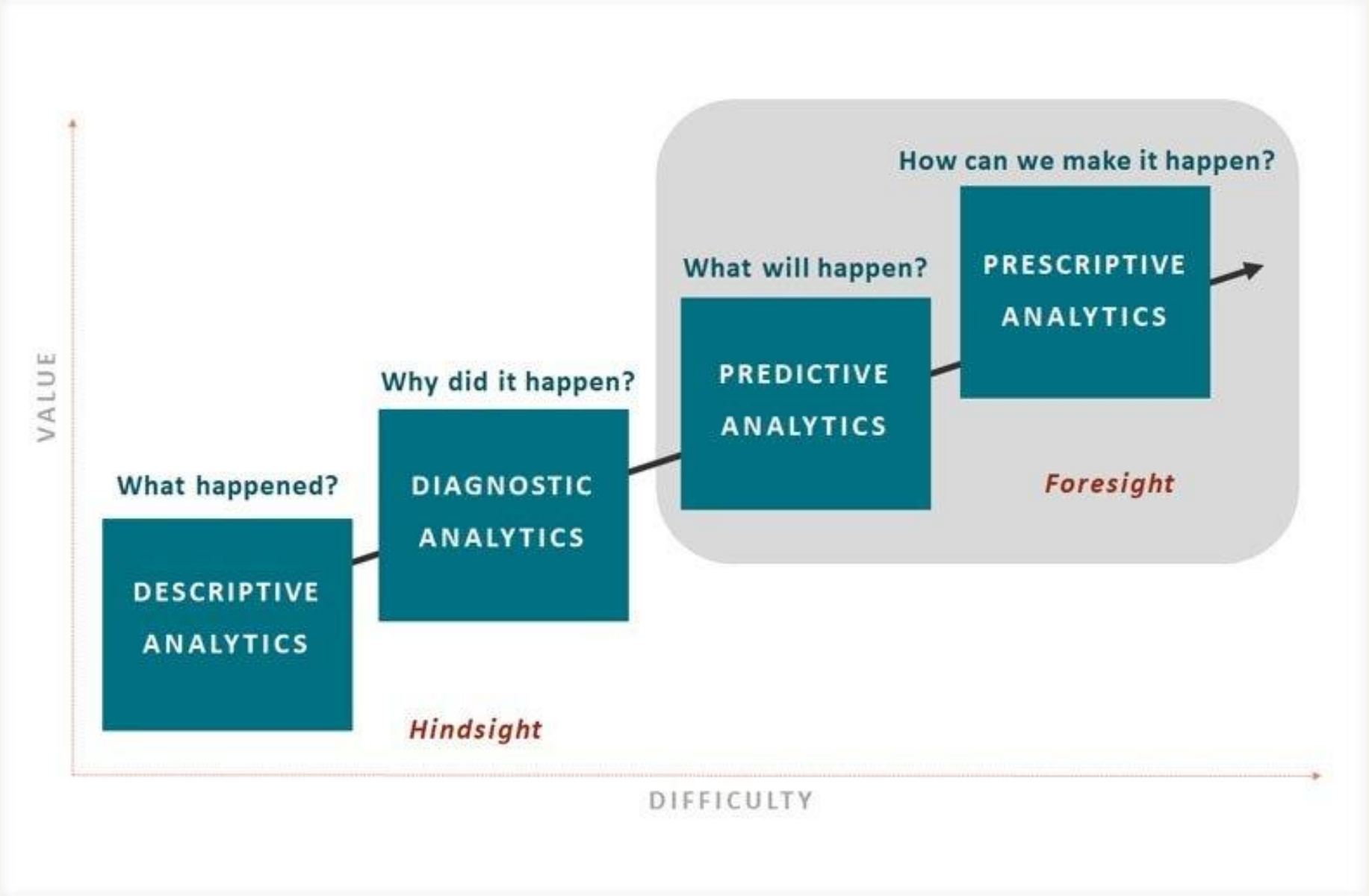


Course Objectives

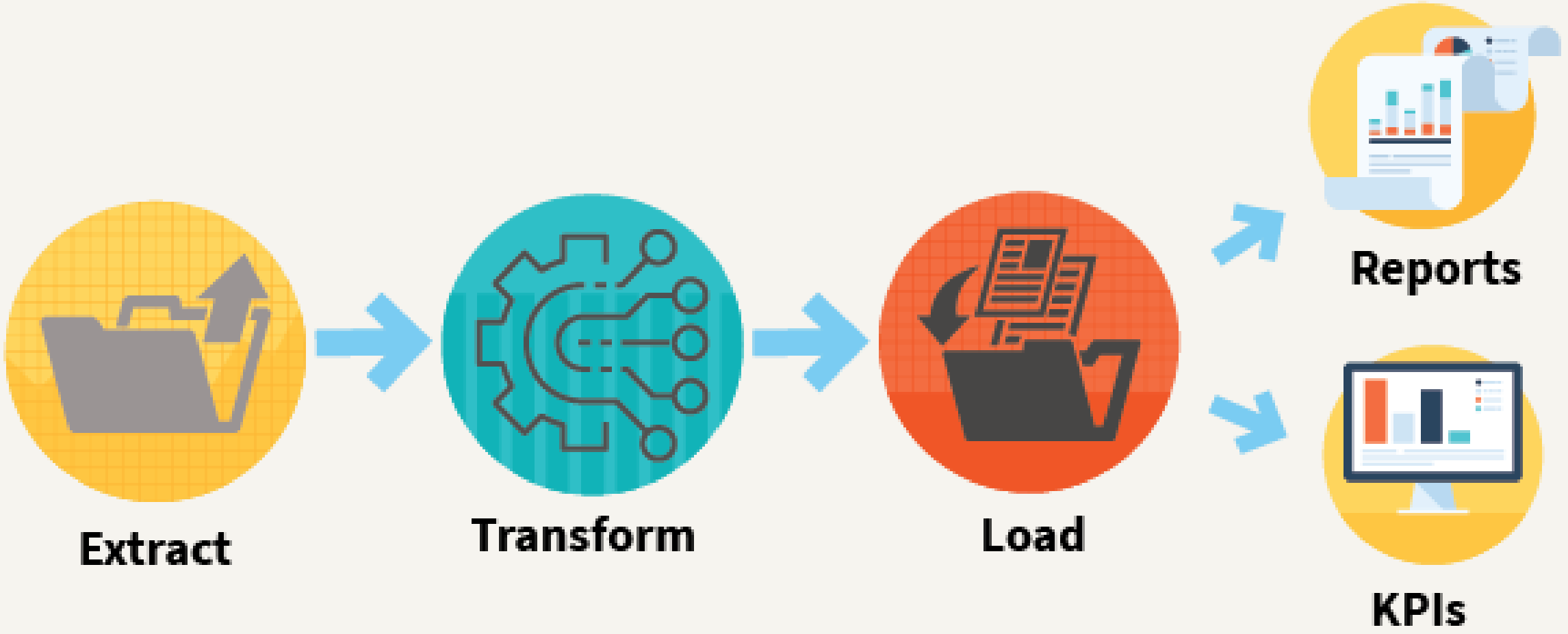
- Discuss ways to identify operational areas within the institution for analysis.
- Explore ways to collaborate across departmental units to enhance the analytic process.
- Identify ways to communicate data to stakeholders in a timely and consistent manner.



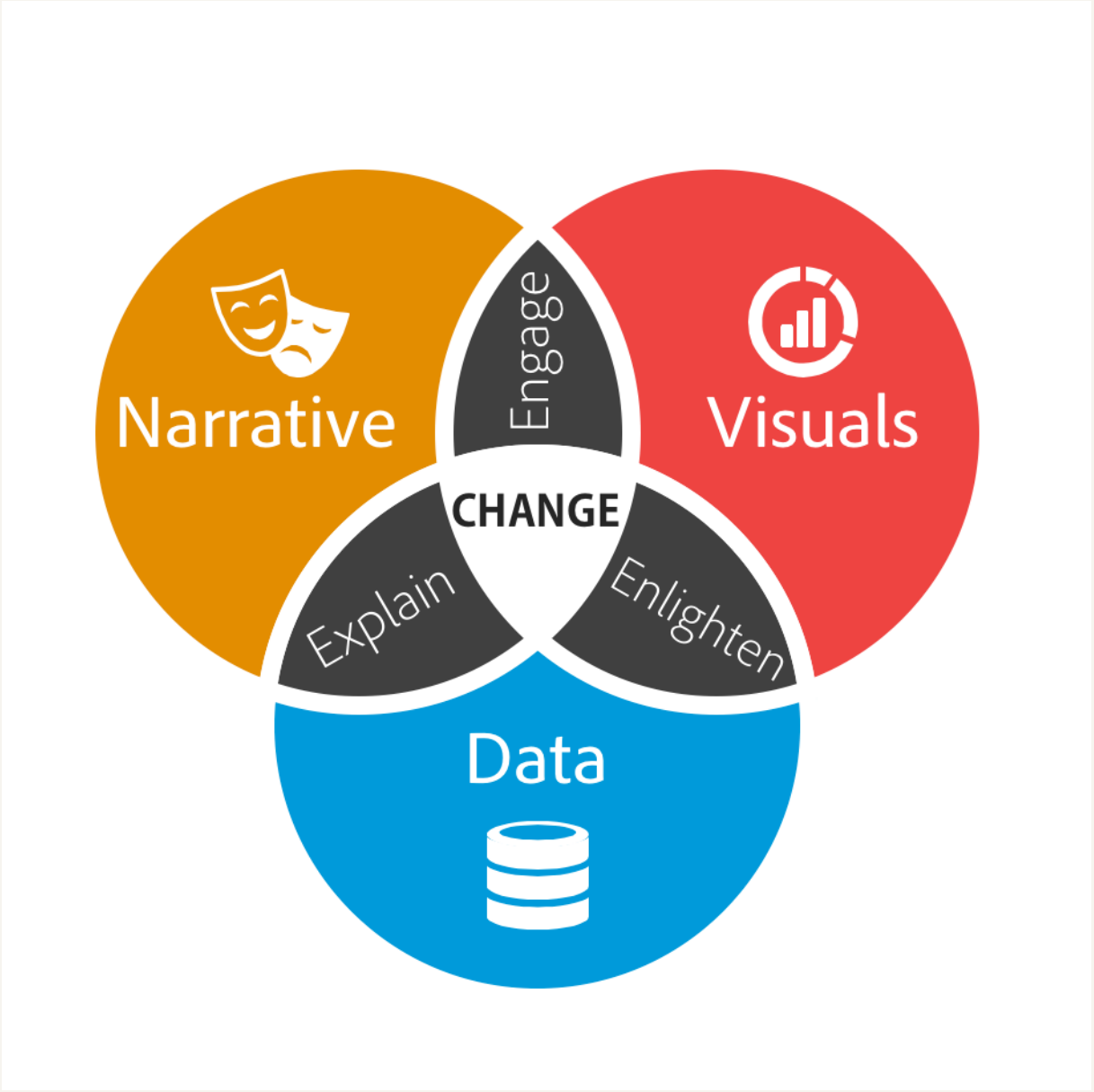
Types of analytics

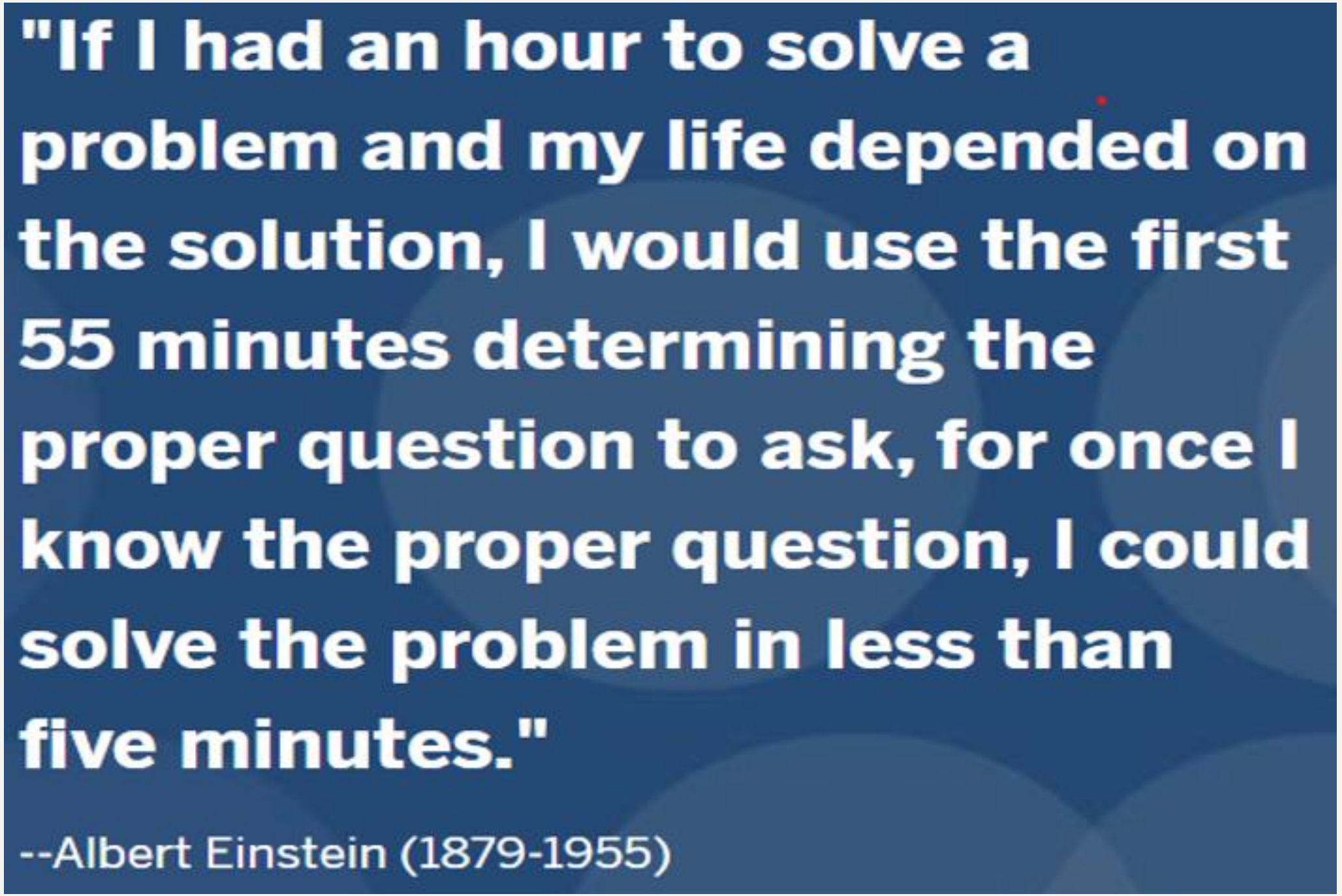


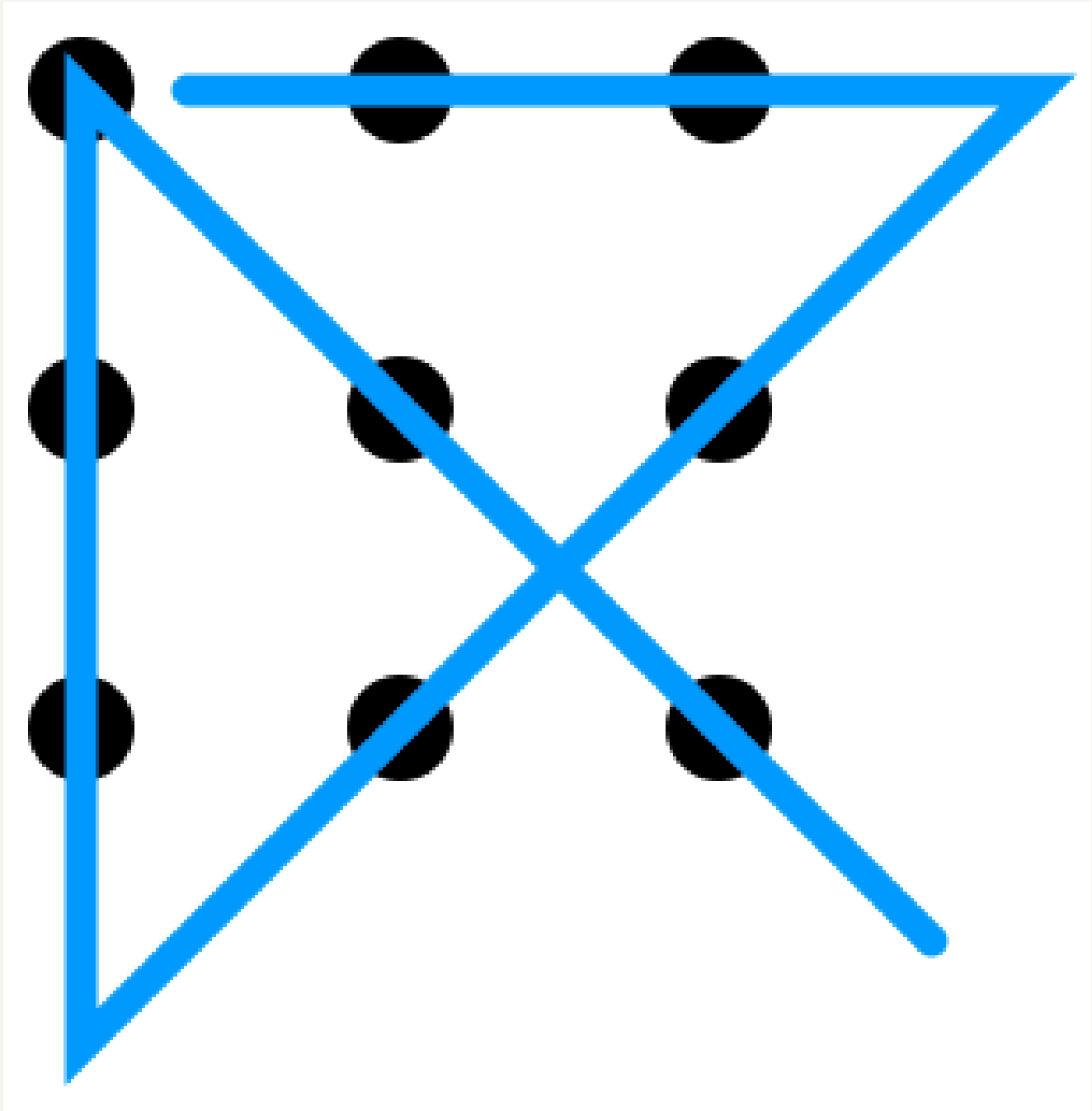
Extract – Transform – Load (ETL)



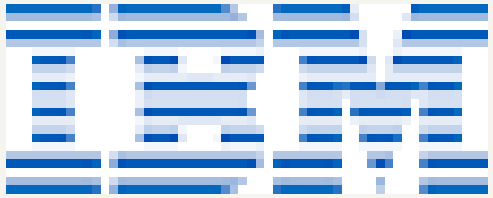
Storytelling aspect of data analytics




"If I had an hour to solve a problem and my life depended on the solution, I would use the first 55 minutes determining the proper question to ask, for once I know the proper question, I could solve the problem in less than five minutes."
--Albert Einstein (1879-1955)



How Is Information Captured and Analyzed



How Is Information Captured and Analyzed

HelioCAMPUS

How Is Information Captured and Analyzed

What information is currently being captured and reported?

- What financial and/or nonfinancial data are you capturing for analytic purposes?
- How is the data being reported?
- What data are we not capturing, but should?

Analytics in Higher Education

Enrollment Management

- Recruitment
- Admissions
- Financial Aid
- Retention rates

Academics

- Program enrollment
- Faculty workload
- Academic program assessment
- Graduation rates

****Not an all-inclusive listing**

Analytics in Higher Education

Facilities

- Deferred maintenance
- Space management
- Environmental management
- Sustainability initiatives

Financial

- Budget to actual reports
- Monthly/Quarterly/ Annual reporting
- Annual audit
- Compliance

Analytics in Higher Education

Student Affairs

- Student involvement
- Participation in extracurricular activities
- Health Services
- Career Services

Human Resources

- Compensation
- Staffing levels
- DEI
- Performance evaluations
- Succession planning

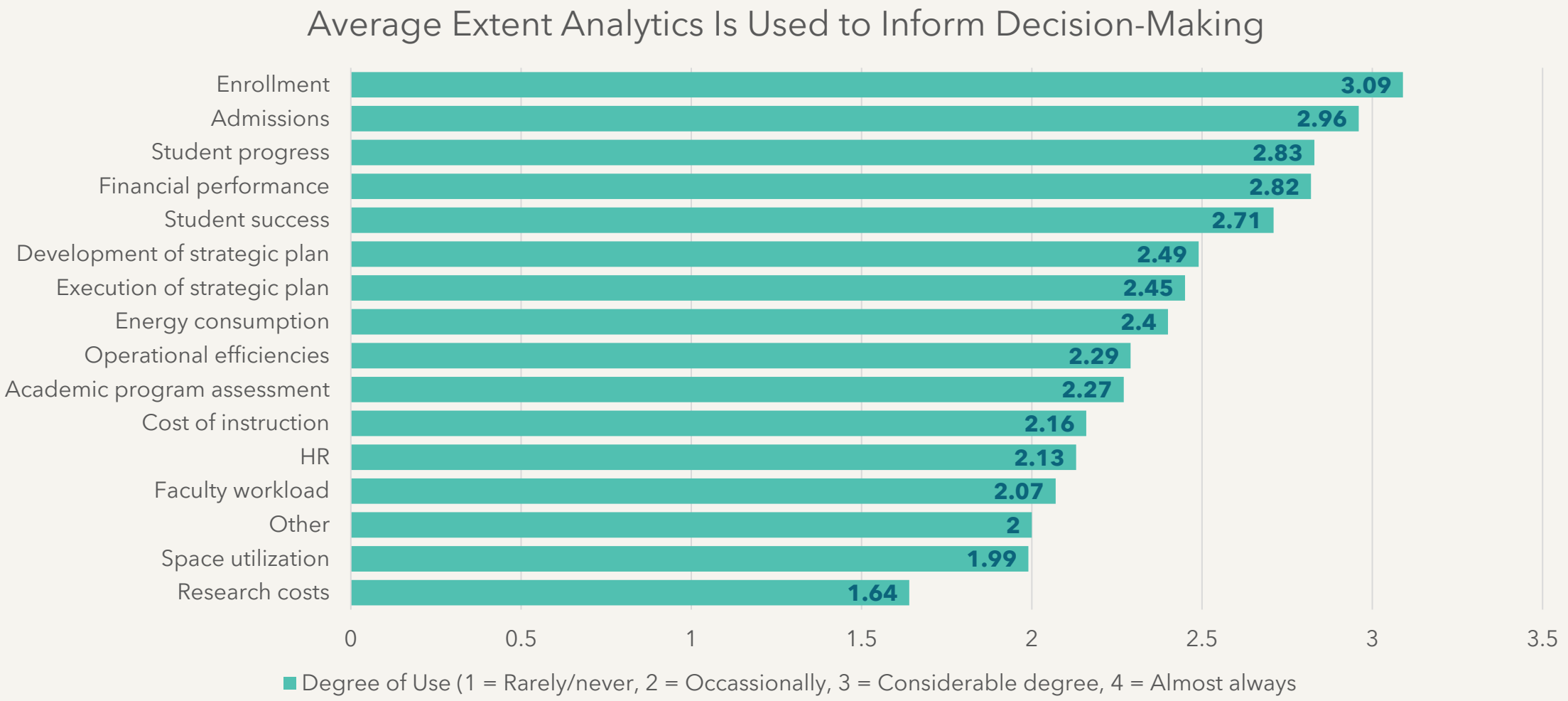
Analytics in Higher Education

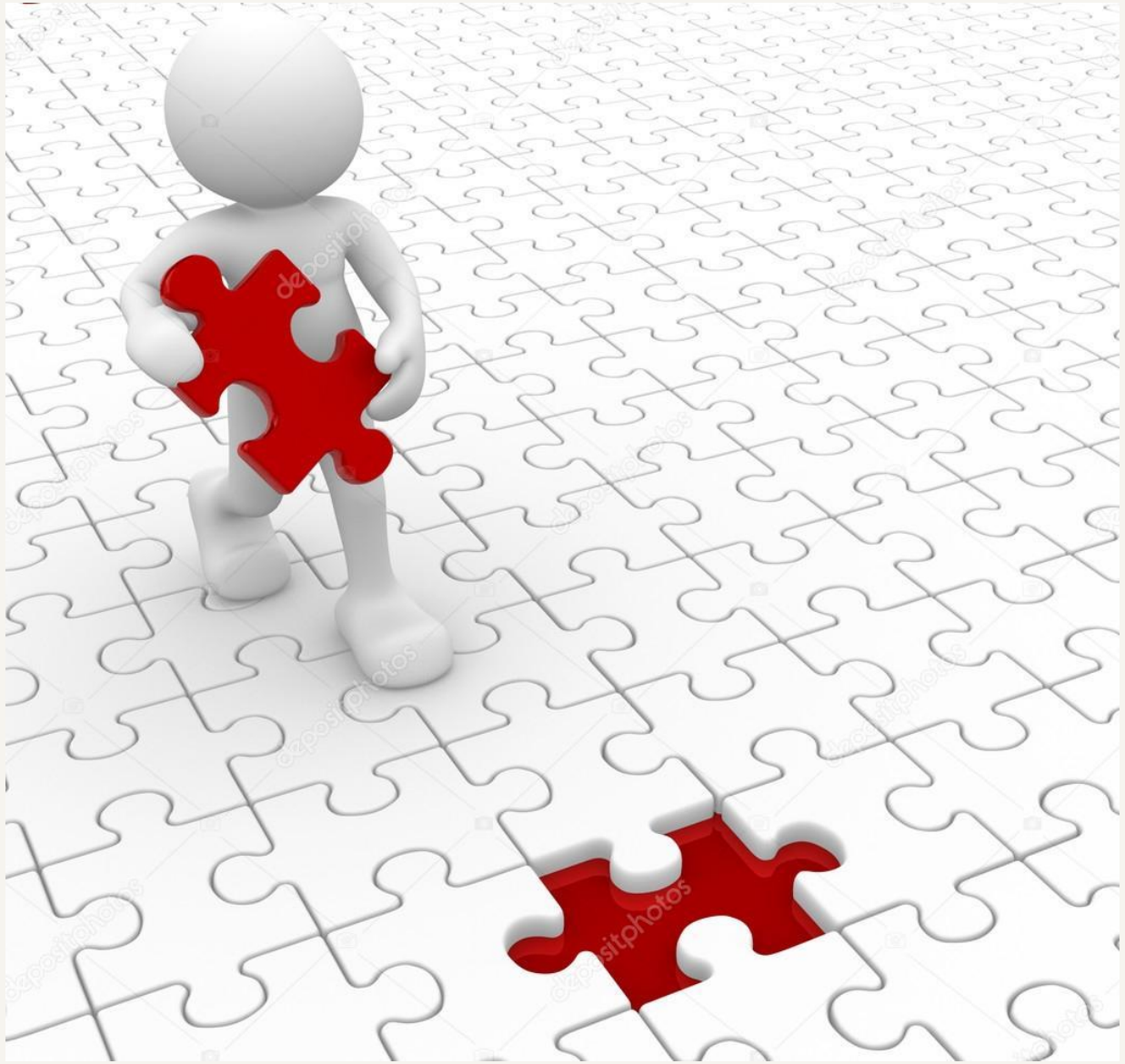
Other Areas

- Enterprise Risk Management
- Research/Sponsored Programs
- Athletics
- Parking Services
- License plate readers
- Research/Sponsored Programs
- College Rankings
- ESG
- Town-Gown Relations

Uses of Analytics in Higher Education

In 2019, NACUBO surveyed 300+ chief business officers about the use of analytics in higher education.





What else?

Higher Education Data Analytics Framework

CULTURE

- How can leaders create a culture that values data-informed decisions?
- How can business officers empower staff across the institution?
- How can business officers collaborate across the institution?

CONTINUOUS CHECK IN

- ✓ Does my institution support a data-informed culture?
- ✓ Is everyone on campus empowered to use data analytics?

HINDSIGHT

What happened?

Why did it happen?

INSIGHT

What is happening today?

Can we act on this information?

FORESIGHT

What could happen?

How can we achieve better outcomes?

RETURN ON INVESTMENT

What are the outcomes?

How has data improved our processes and outcomes?

CAPACITY

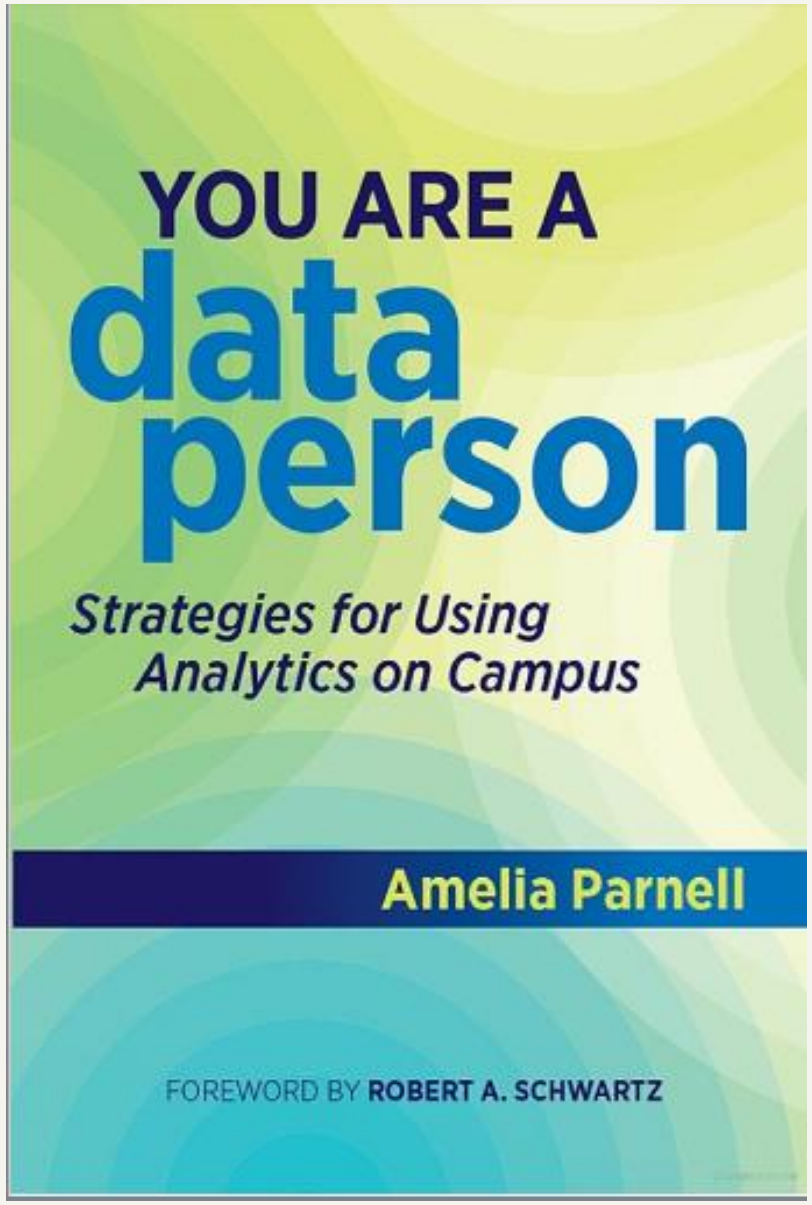
- What tools do we need to facilitate a data-informed culture?
- What skills do our staff need?

CONTINUOUS CHECK IN

- ✓ Does my institution have the human resources needed?
- ✓ Does my institution have the technology to support data analytics?

Notes:
Content in yellow [hindsight, insight, foresight] are adapted from Gartner Pictures (2012), https://www.flickr.com/photos/27772229@N07/8267855748.
Other framework content was developed by NACUBO's Analytics Advisory Group in the fall of 2018.

NACUBO



Data Identity Framework

- Curiosity and Inquiry
- Research and Analysis
- Communication and Consultation
- Campus Context
- Industry Context
- Strategy and Planning

Identifying Opportunities for Analysis

- Lean initiatives
- Strategic initiatives
- Repeatable processes
- Accreditation
- Faculty/staff requests
- What else?

Data Governance

- Single authoritative source for data – “single source of truth”
- Ownership of systems
- Protecting data, ensuring data is consistent
- Hierarchy of approving projects

Importance of Validating Data

- Quality control
- Potential issues created by multiple data entry points
- Ensure you have reliable information

Six Ways to Improve Your Analytics Use

Lindsay Wayt
Senior Director, Analytics

January 2022

Six Ways to Improve Your Analytics Use

1. Define Analytics for Your Institution
2. Build Time for the Strategic
3. Invest in Meaningful Collaboration
4. Set Realistic and Purposeful Goals for Data Management and Use
5. Provide Support and Set Expectations
6. Creatively Invest in Staff

NACUBO Strategic Blueprint

September 20, 2019

- **Strategic Priority 1:** Engage higher education institutions in undertaking necessary transformations to strategically position themselves in the dynamic higher education environment.
- **Strategic Priority 2:** Increase proactive advocacy.
- **Strategic Priority 3:** Drive effective solutions in higher education.
- **Strategic Priority 4:** Strengthen the strategic leadership role of the CBO.
- **Strategic Priority 5:** Lead higher education's integration of analytics to achieve institutional strategic goals.

NACUBO’s Strategic Priorities

Strategic Priority 5: Analytics

- Lead higher education’s integration of analytics to achieve institutional strategic goals.
- Embed analytics content in all NACUBO conferences and workshops.
- Ensure analytics becomes a core activity of the association through educational offerings.
- Work with other organizations to leverage NACUBO’s endeavors.
- Grow NACUBO's data-informed culture.
- Become the leading higher education association utilizing analytics to enhance business development and member engagement.

Go big.

Make an institutional commitment to analytics.

Analytics is a team sport.

Build your dream team.

Prepare.

Be ready for some detours on the road to success.

Invest what you can.

You can't afford not to.

Analytics has real impact on real people.

Avoid the pitfalls.

Tick-tock, tick-tock.

The time to act is now.

Communicating Financial Data

Telling the Story

- Know your audience – “who”
- Know your goal – what is your purpose/objective
- Focus on the narrative – tell the story
- Utilize visuals, focus on key points
- Function over format – prioritize needs
- Summarize key points
- Follow-up – did you meet the needs

Understanding the data

Build your data knowledge

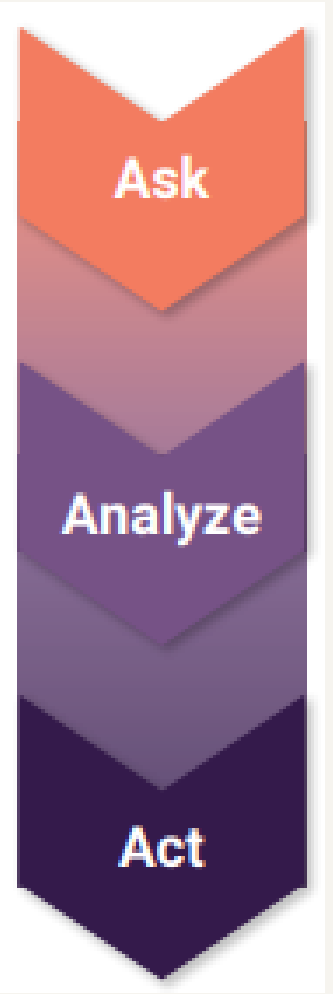
- Be inquisitive
- What data is available
- Is data reliable

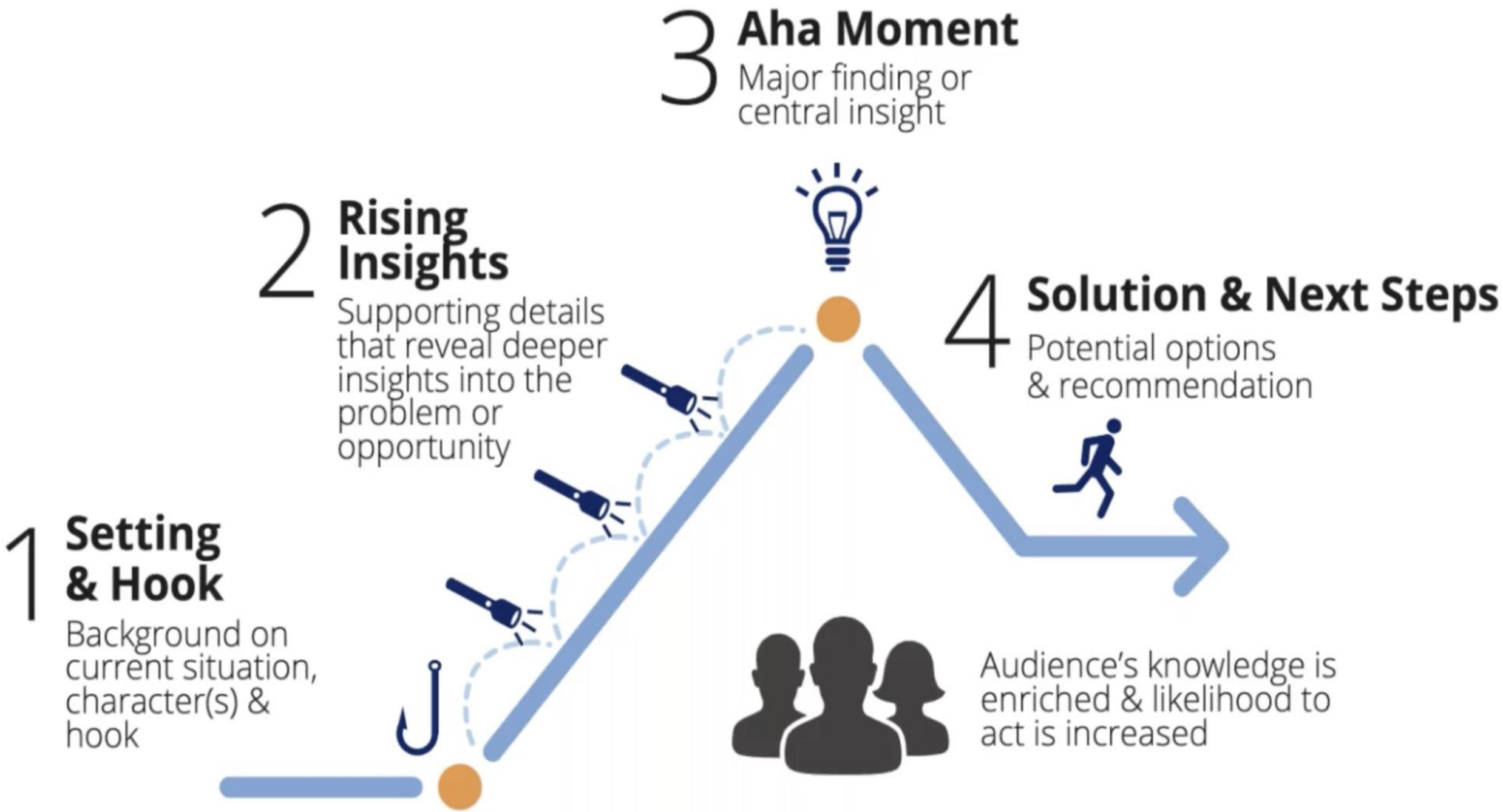
Ask and refine questions

- Do we have the right data
- What else is needed
- What do we not know

Act and reflect

- Assessment
- Feedback

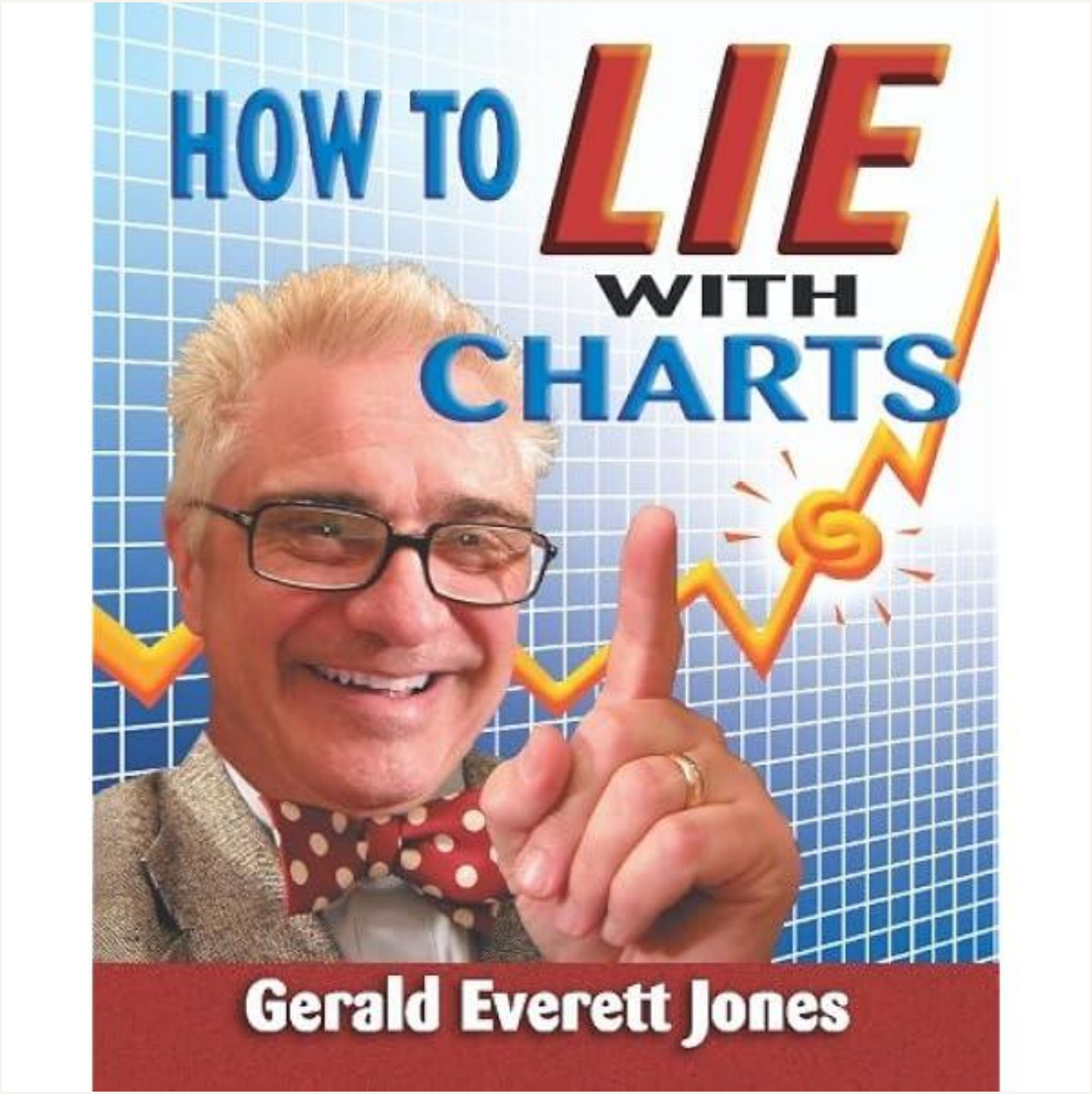




https://www.datacamp.com/blog/seven-tricks-for-better-data-storytelling-part-ii

What To Avoid

- Not preparing properly
- Not knowing the audience
- Lack of organization
- Visuals that distract
- Too much content
- Lack of confidence
- Poor delivery, not engaging
- Presentation purpose not clear
- Not properly concluding presentation


HOW TO LIE WITH CHARTS
Gerald Everett Jones

Steps to Begin Your Analytics Journey

- Utilize higher education resources
- Hire a data analyst
- Establish foundational data skills
- Get data in front of people
- Communicate responsibilities

Steps to Begin Your Analytics Journey

- Act on knowledge gained from conferences (SACUBO, NACUBO, other)
- Utilize students, where appropriate
- Be curious and ask questions
- Ensure sponsorship by senior leaders and broad participation among subject matter experts
- Leverage existing data governance processes

Steps to Begin Your Analytics Journey

- Identify digital resources that fit within the IT ecosystem
- Review existing software and systems within the IT ecosystem
- Embed data analytics use into specific jobs and invest in people
- Tell a story

NACUBO

Professional Development ▾ Resources ▾ Membership ▾ Get Involved ▾ About ▾ Careers ▾ Consulting ▾

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Analytics

The National Association of College and University Business Officers recognizes that higher education institutions are under increasing pressure to find new efficiencies at their institutions and to demonstrate that they are being good stewards of public dollars. Colleges and universities are embracing analytics and using data, technology, and specialized knowledge to improve overall success.