Analytics in Higher Education
The pathway to our future

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Louisville

ABOUT THE CITY

The Pronunciation Conundrum:

~~Lewis-vil~~

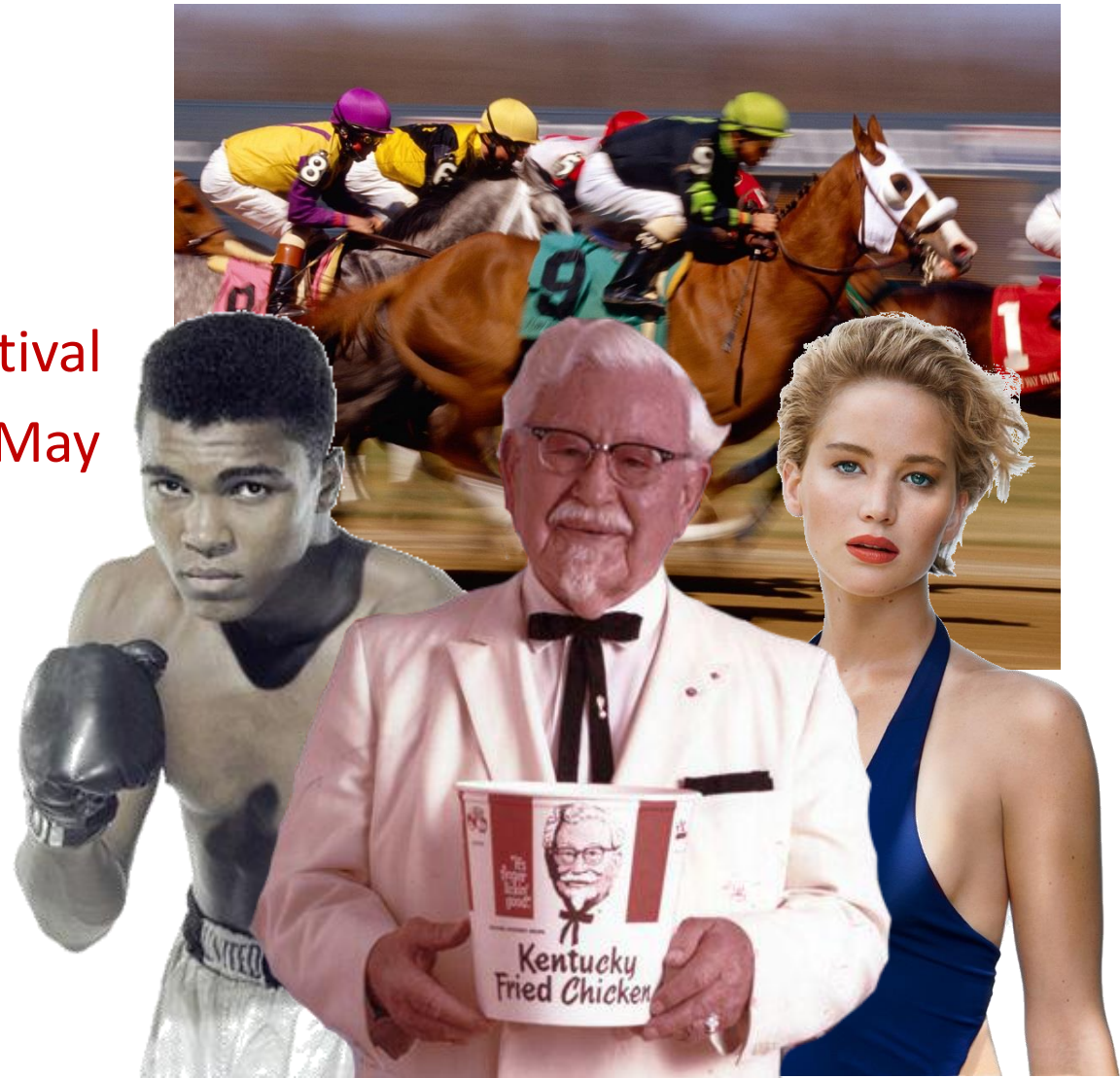LOO-a-vul

LUH-vul

Loo-A-vil

LOOEY-vil

Louisville

Home of:

The Kentucky Derby

- Multi-Week International Festival
- First Saturday in May
- 150,000+ attend

Muhammad Ali

Jennifer Lawrence

…and, of course…

Analytics

- "**Analytics** is the use of data, statistical analysis, and explanatory and predictive models to gain insights and act on complex issues."

  Source: EDUCAUSE

- "**Analytics** is the purposeful and intentional use of data, statistical analyses, and explanatory and predictive models to gain strategic insights to act on institutional priorities."

  Source: EDUCAUSE/Goldstein

Analytics

- Decreases in state appropriations

  UofL has moved from a **state-supported** institution (in 1998-1999, the Commonwealth of Kentucky provided 71% of total public funds) to a **state-assisted** institution (by 2017-18, that support had dropped to 30%)

- Concerns about affordability of higher education

- Questions regarding the value of a college degree (return on investment)/debt upon graduation

- Increasing competition (for-profit institutions, massive open online courses (MOOC))

- Shifting student demographics with varying levels of academic preparedness

Analytics

- Implementation of institutional strategic plan and associated priorities
- Need for the alignment of resources to advance identified areas of institutional strength
- Demand for transparent accountability requiring the creation of performance metrics consistent with federal and state requirements
- Positioning institutions to create local and global partnerships (serving as an economic engine/community engagement catalyst)

Analytics

WHAT STRATEGIC PRIORITIES CAN BENEFIT BY THE USE OF ANALYTICS

- Enrollment management
- Student success
- Academic scholarship and entrepreneurial research
- Faculty productivity (promotion and tenure)
- Continuous quality improvement
- Resource allocation
- Facilities management
- Community engagement (local and global)
- Academic program development
- Strategic Planning and Implementation Group (SPIG) and Budget Advisory Committee (BAC)

Analytics

- Failure to optimize the use of data collected in the institution's information management system and associated software applications (e.g., faculty productivity, course evaluations, etc.)

- Small fraction of collected data are used now – primarily in enrollment management, finance and budgeting, and student progress.

  Source: EDUCAUSE

  Number of tables in PeopleSoft compared to the number of tables used to create official files

Analytics

- Lack of a universal culture valuing data-driven decisions
- Concerns that accountability will change the academic enterprise
- Varying opinions on how best to assess quality and institutional effectiveness
- Costs (staff, training, statistical tools)
- Misinterpretation of data
- Data quality

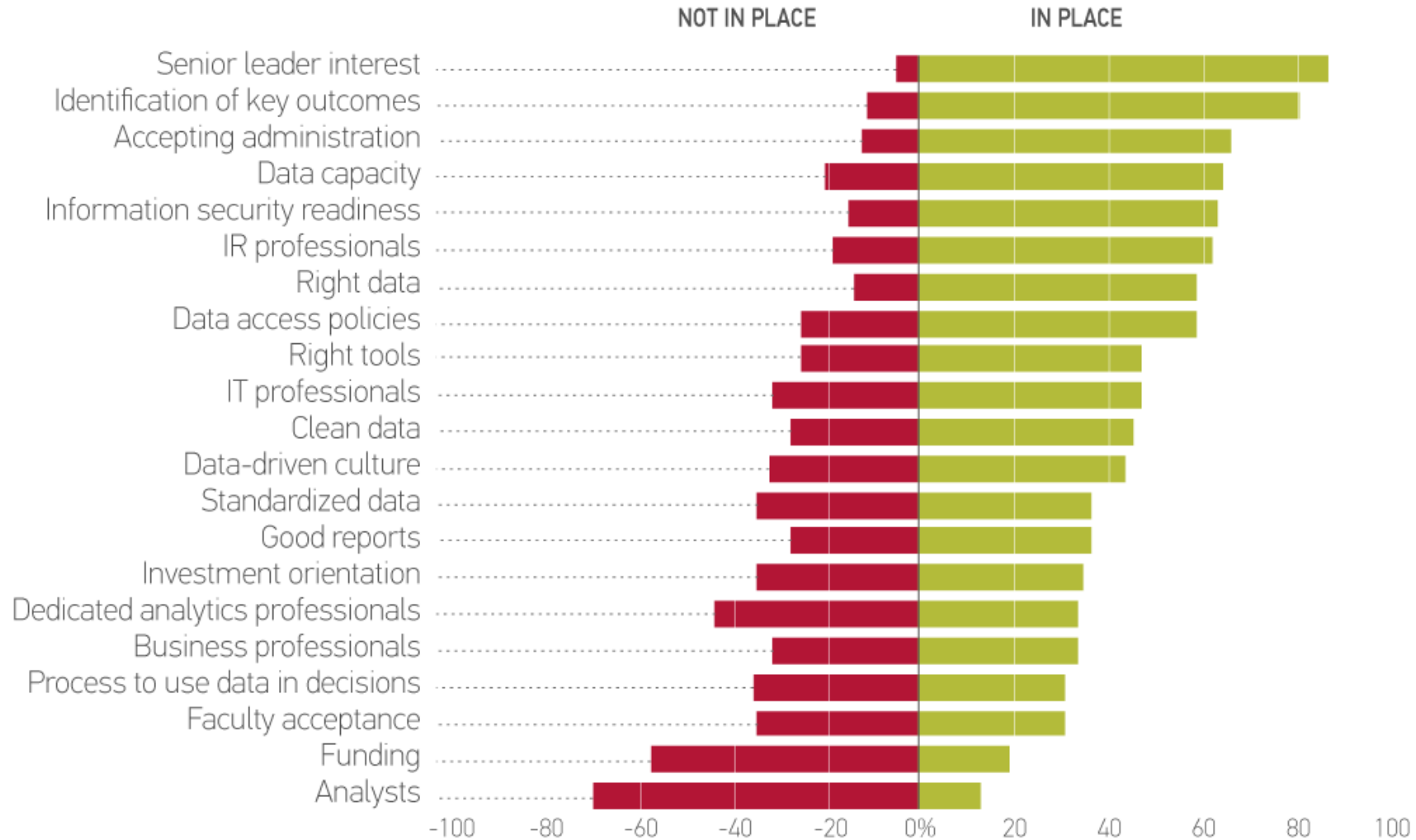# **Analytics**

- Disagreement regarding the appropriate use of transactional data versus census data

    Balancing "real time" reporting against replicability

- Belief that unit-/discipline-specific silo data systems are more programmatically descriptive

- Resistance to standardizing data definitions and the use of the university's information management system

- Trust (relinquishing control)

Analytics
WHAT IS IN PLACE?

	NOT IN PLACE	IN PLACE

Senior leader interest
Identification of key outcomes
Accepting administration
Data capacity
Information security readiness
IR professionals
Right data
Data access policies
Right tools
IT professionals
Clean data
Data-driven culture
Standardized data
Good reports
Investment orientation
Dedicated analytics professionals
Business professionals
Process to use data in decisions
Faculty acceptance
Funding
Analysts

-100 -80 -60 -40 -20 0% 20 40 60 80 100

Source: The 2012 Study of Analytics in Higher Education (Jacqueline Bichsel, Ph.D.) – EDUCAUSE 2012 Annual Conference

Analytics

SO ... WHAT DOES THIS SAY?

NOT IN PLACE | IN PLACE

Senior leader interest
Identification of key outcomes
Accepting administration
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Information security readiness
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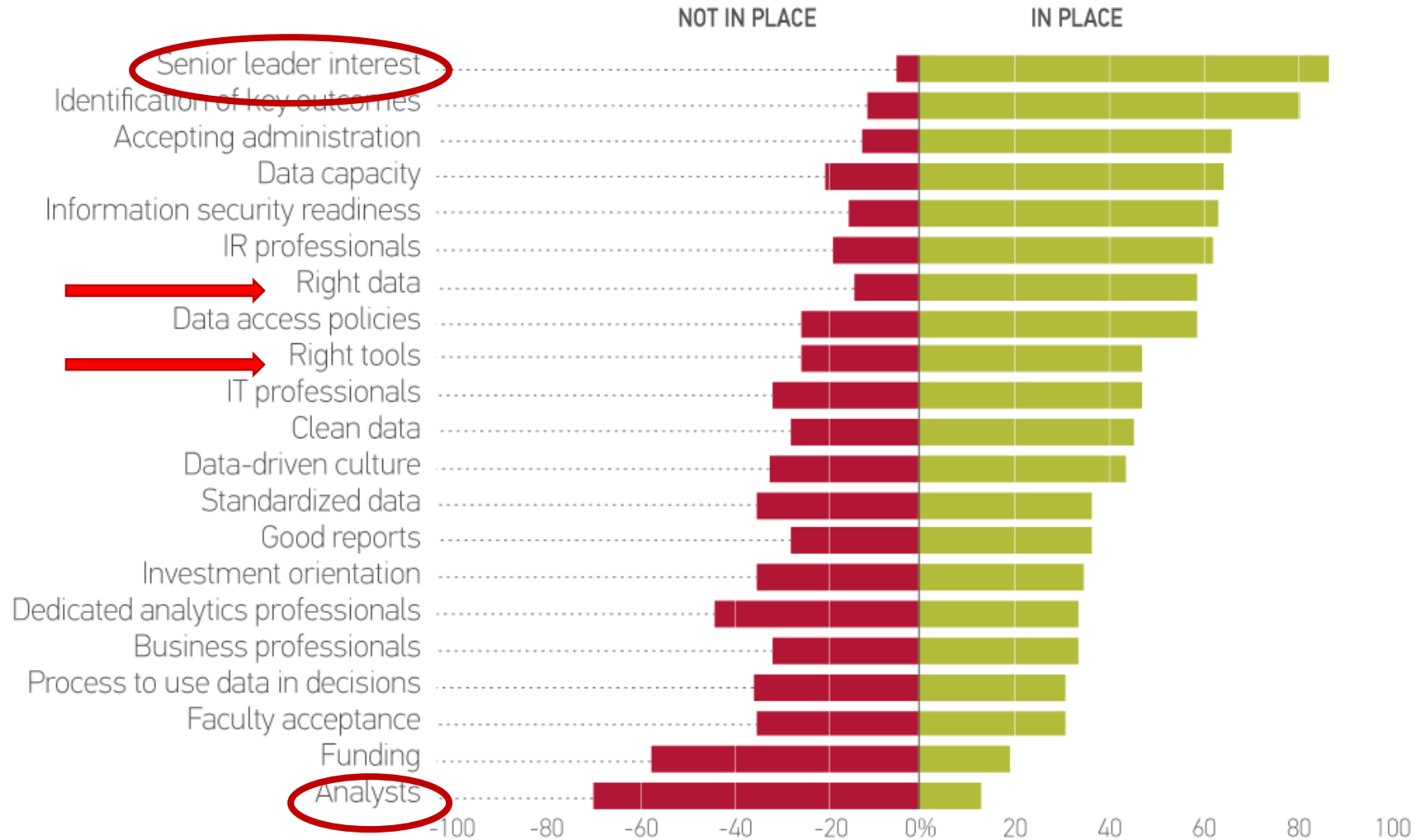**Source**: The 2012 Study of Analytics in Higher Education (Jacqueline Bichsel, Ph.D.) – EDUCAUSE 2012 Annual Conference

Analytics

- Need strong, public, and consistent executive sponsorship
- Establish questions that drive data/statistical analyses
- Effectively use collected data to answer established questions
- Engage in open and transparent communication among key stakeholders
- Engender the trust of the university community by providing appropriate and informing analyses (create successes/demonstrable "win/win" examples)
- Leverage existing infrastructure and investments

Analytics

- Underestimating the value of the role of functional subject matter experts in interpreting the data

  Statistical software /application does not have discernment requiring trained and skilled analytic oversight

- Rushing the acquisition and deployment of analytic tools without establishing system and reporting requirements

Analytics

- Formative Assessment

  Gathering of information about student learning—
  during the progression of a course or program
  and usually repeatedly—to improve the learning of **those students**.

Formative Assessment Examples

- Student Work Analysis
- Strategic Questioning
- Classroom Polls

- Journals
- Quizzes
- Self Assessments

Source: Leskes, A. (2002). Beyond confusion: An assessment glossary. *AAC&U Peer Review*, (4) 2/3.

Analytics

- Summative Assessment

  Gathering of information at the **conclusion** of a course, program, or undergraduate career to improve learning or to meet accountability demands. When used for improvement, impacts the **next cohort** of students taking the course or program.
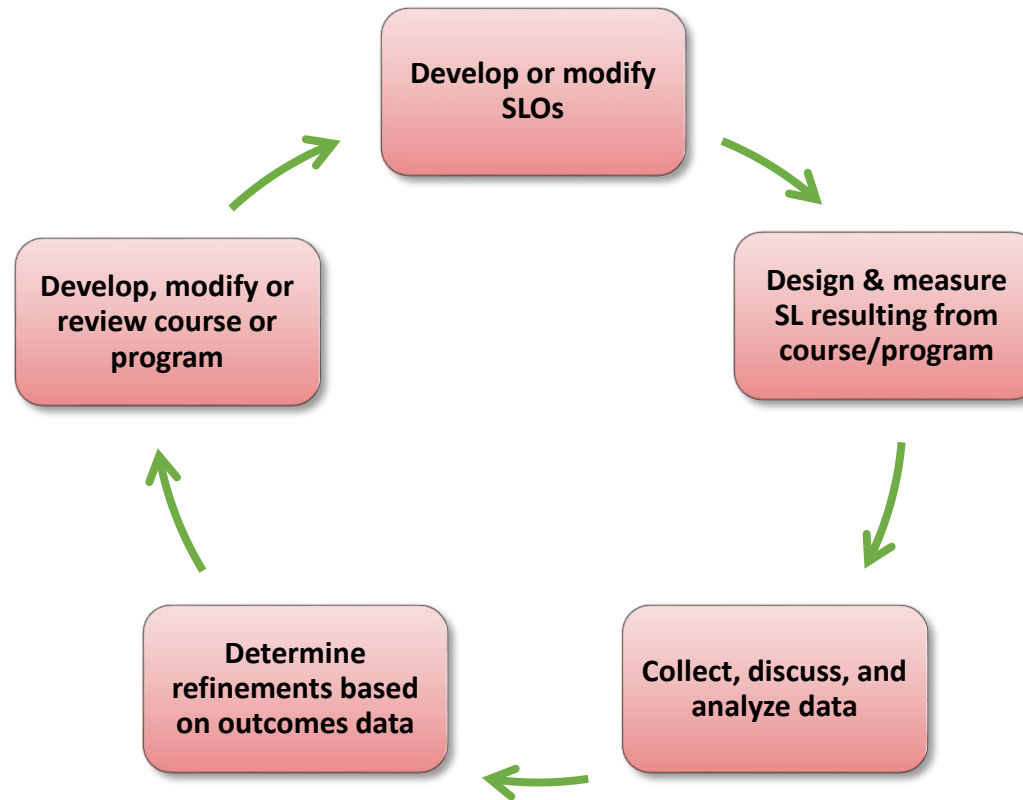
Summative Assessment Examples

- Capstone Projects
- Final Projects
- Midterm/Final Exams

- Papers
- Portfolios
- Recitals/Performances

Analytics
CLOSING THE ASSESSMENT LOOP

Process of Institutional Effectiveness

WORK BETTER

ANALYZE RESULTS

USE TOOLS TO ASSESS DEGREE OF SUCCESS

WORK BETTER

WORK BETTER FOREVER

WORK

ANALYZE RESULTS

ANALYZE RESULTS

DETERMINE OUTCOMES

ANALYZE RESULTS

USE TOOLS TO ASSESS DEGREE OF SUCCESS

GET RESULTS OF ASSESSMENT

USE TOOLS TO ASSESS DEGREE OF SUCCESS

START

GET RESULTS OF ASSESSMENT

GET RESULTS OF ASSESSMENT

Source: David Garrison, and Carol Yin, LaGrange College, used by permission.

Our Experience

Louisville

Enrollment: 22,367 (fall 2015)

- Undergraduate: 15,985
- Graduate/Professional: 5,595
- Post-Doc/House Staff: 787

13 Academic Colleges/Schools (including University Libraries)

- 200+ undergraduate and graduate programs
- 3 professional programs – medicine, dentistry, law
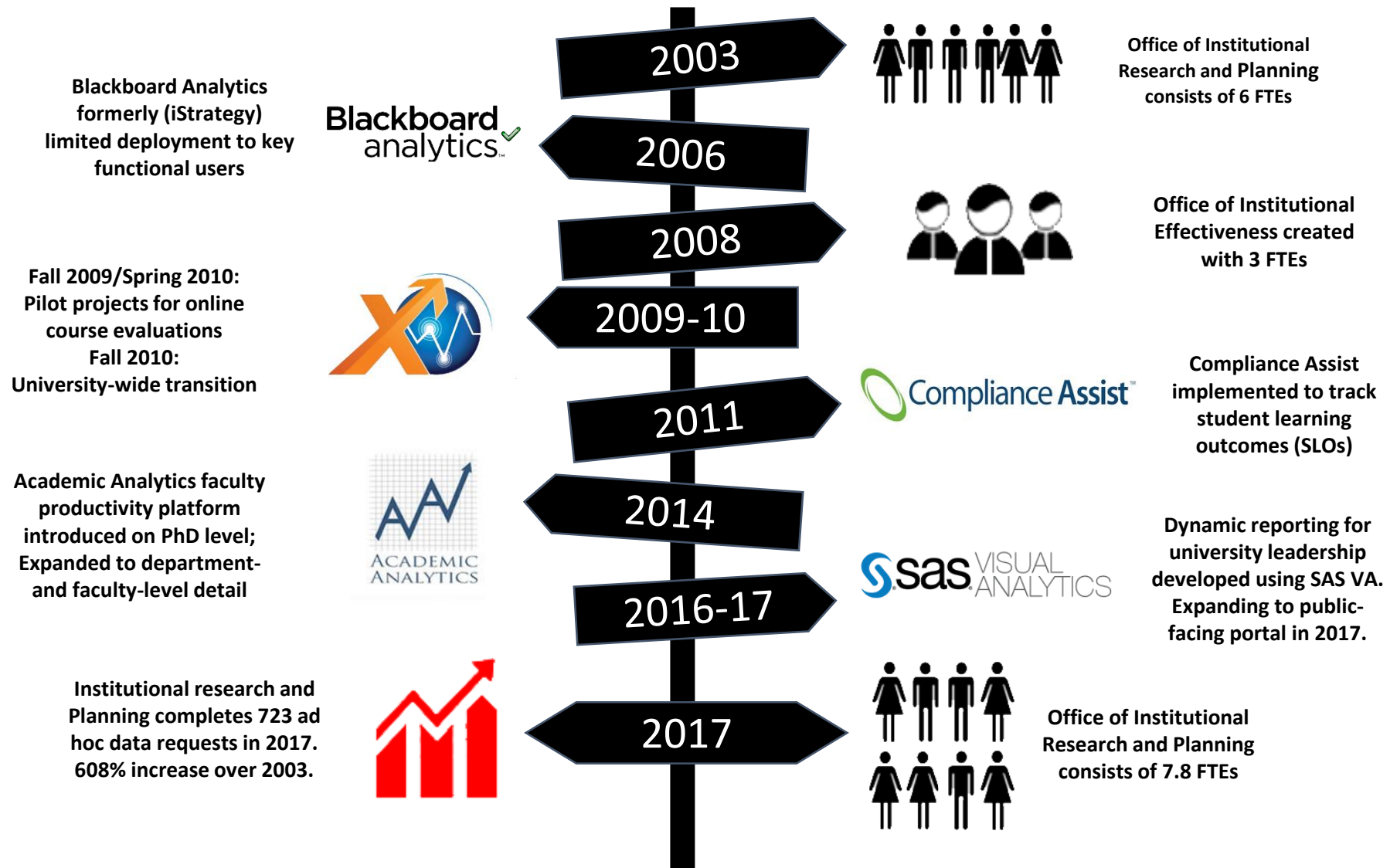- 3 campuses (Belknap, HSC, Shelby)
- Confers ≈5,000 degrees/credentials annually

1,795 Full-time Faculty and 4,405 Full-time Staff

U of L Experience

GROWING THE ANALYTIC ENTERPRISE

Blackboard Analytics formerly (iStrategy) limited deployment to key functional users

2003 — Office of Institutional Research and Planning consists of 6 FTEs

2006

2008 — Office of Institutional Effectiveness created with 3 FTEs

Fall 2009/Spring 2010: Pilot projects for online course evaluations
Fall 2010: University-wide transition

2009-10

2011 — Compliance Assist implemented to track student learning outcomes (SLOs)

Academic Analytics faculty productivity platform introduced on PhD level; Expanded to department- and faculty-level detail

2014

2016-17 — Dynamic reporting for university leadership developed using SAS VA. Expanding to public-facing portal in 2017.

Institutional research and Planning completes 723 ad hoc data requests in 2017. 608% increase over 2003.

2017 — Office of Institutional Research and Planning consists of 7.8 FTEs

Analytics in Higher Education
The **pathway** to our **future**

Questions?

For more detailed information regarding
the material presented, please contact

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