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Let's Talk About Data Analytics

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Find this research paper and other faculty works at: <https://ihe.uga.edu/rps>

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Let's Talk About Data Analytics



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Big Data and Data Analytics Have Arrived in Higher Education

- More advanced technology
- Sophisticated statistics and graphics programs
- Data 'Tsunami'
- Data analytics has been prominently featured in Educause's Top 10 IT Issues
- Growing belief that relationships found using algorithms and Big Data are better than theory and hypotheses (Chin & Shih, 2017)

More Data = Better Decisions ??





Are Higher Ed Officials Ready?

- 2019 Provost and Chief Academic Officers survey - **< 20%** believe their university is effectively using data to effectively inform decisions
- “*Data Rich But Information Poor*” (Reinitz, 2015)
- Questions to be addressed:
 - How can data analytics be effectively harnessed?
 - How can leaders develop strategies for good organization and data governance?
 - How can issues of privacy and ethics be addressed ?



Data-Informed vs. Data-Driven Decisions

- **Data-Driven Decision Making (DDDM)** – roots in organizational learning theories; focuses on algorithms, heuristics, decision rules that empower and minimize human factors
 - **Let the data speak for itself**
- **Data-Informed Decision Making (DIDM)** – focuses on leveraging data to generate insights to provide the context and evidence base for formulating decisions
 - **Let's figure out what the data tells us**



Data-Driven Decision Making

- Data “drive” the decision making (Heavin & Power, 2017)
- Conclusions made using verifiable data or facts
- Base decisions on data rather than intuition (Provost & Fawcett, 2013)
- Guided by algorithms with historical and current data elements
- Human decision makers not needed!



Data-Informed Decision Making

- Recognized **human judgement** is a key
- HEI management is complex, dynamic, requires strategy
- Politics, organizational values, human sensitivity, timing considerations
- Algorithms not perfect
- Data are the base but **context** is as, if not more, important



Data-Informed Decision Making

- More relevant, more useful because the decision context is dynamic
- Acknowledges that not all data are perfect
- Organizational decision making is needs nuance
- Environmental factors may change



No Doubt – Data are Important!

- Data are critical for good decision making in higher education
 - Predictive analytics *can* be helpful
-
- But to fulfill our missions in higher education – we must **continue to engage in human interactions** with stakeholders



What's Happening On Your Campus??

Are you/your colleagues discussing data analytics?

If so, in what ways?

Do you have a data governance plan in place?

Are you satisfied with your data governance plan?

How can you be a collaborative leader with colleagues on your campus to understand critical points related to data analytics

- data security

- ethics, responsible use





A Joint Statement on Analytics from:



Joint Statement from AIR, Educause, and NACUBO

ChangeWithAnalytics.com

Thanks to Lindsay Wayt, NACUBO for slides 11-18

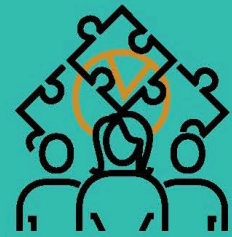


Go big—
make an institutional
commitment to analytics.
#changewithanalytics



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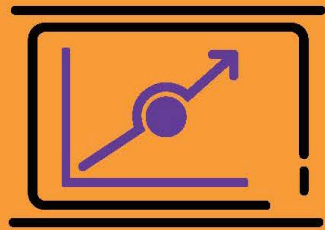
Analytics is a team sport—
build your dream team.

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Prepare for some detours
on the road to success.
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Invest what you can—
you can't afford not to.
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Analytics has real impact on
real people—avoid the pitfalls.

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Tick-tock, tick-tock—
the time to act is now.
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Analytics Can Save Higher Education. Really.



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How Make DIDM Happen?

1. People -- Leadership and the Analytics Community
2. Technology
3. Process and Culture

People



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- **Leadership**

- Commitment, support, willingness to use data to support decision making
- Tie analytics programs to institution's strategy and vision
- Trustees should hold leaders accountable for delivering an effective data analytics strategy

- **Analytics Community**

- Data analysts/engineers – collect, structure, analyze data
- Data architects – ensure data quality and consistency
- Visualization analysts – visualize data, build dashboards
- Data scientists – develop statistical models and advanced algorithms
- Analytics translators – ensure solving business problems
- Delivery Managers – deliver analytics insights and interface with end users



Technology

- Access to up-to-date and user-oriented data management and reporting tools
 - Ability to **integrate data** from multiple sources (e.g., ERPs)
 - Strong **data governance** program – standardized processes, definitions
 - Effective data **reporting and visualization** tools
 - Ability to harness **multiple** forms of data (e.g., data lakes, CRMs)

Process and Culture



- Change business processes to intentionally build analytics culture
- Treat data as an institutional asset, not owned by one group/unit
- Move away from data silos
- Craft strong data governance plan that outlines roles, responsibilities, collaboration, sharing
- Leader focus on institutional priorities, be willing to test actionable insights re: organizational change or operational improvements

Coming in late 2019/early 2020

Webber, K.L. & Zheng, H. (Eds.)

Data Analytics in Higher Education.

Johns Hopkins University Press.

