

From Data to Decisions

Scaling Analytical Capabilities to Drive Change

The Student Success Collaborative

Navigating GoToWebinar

Managing Your Audio and Screen

Using Your Telephone

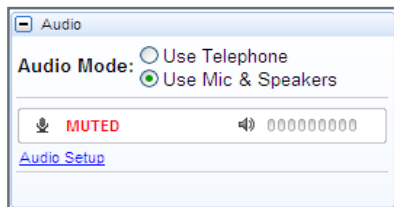
If you select the "Use Telephone" option, please dial in with the phone number and access code provided.



The screenshot shows the 'Audio' dialog box. Under 'Audio Mode:', the 'Use Telephone' radio button is selected. Below this, the dial-in information is displayed: 'Dial: +1 800 555 1212', 'Access Code: 141-607-114', and '(and additional numbers ...)'. At the bottom, it says 'You are connected to audio'.

Using Your Microphone and Speakers

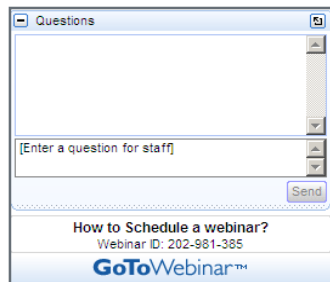
If you select the "Use Mic & Speakers" option, please be sure that your speakers or headphones are connected.



This screenshot shows the 'Audio' dialog box with the 'Use Mic & Speakers' radio button selected. Below the mode selection, there is a 'MUTED' status indicator with a microphone icon and a volume level indicator showing '000000000'. A link for 'Audio Setup' is at the bottom.

Asking a Question

To ask the presenter a question, type it into the question panel and press send.



The screenshot shows the 'Questions' panel. It has a large text area for entering a question, a 'Send' button, and a status bar at the bottom that reads 'How to Schedule a webinar? Webinar ID: 202-981-385' and the 'GoToWebinar' logo.

Minimizing and Maximizing Your Screen



- Use the orange and white arrow to minimize and maximize the GoToMeeting panel.
- Use the blue and white square to make the presentation full screen.

Foundational to Success Efforts

Targeting Data Where and When IT Can Make a Difference

*How Advisors
Inflect Student
Success*



Right Intervention

- Advising conversations
- Academic support
- Behavior 'nudges'



Right Student

- High attrition risk
- Off-path choices or behaviors
- Struggling with major process



Right Time

- Head off poor decision
- Mitigate problems
- Plan effectively

*Where IT
Provides Value
and Support*



Right Data

- Retention risk models
- Process completion
- Service utilization



Right Partner

- Advising staff
- Academic faculty
- Admissions/Fin. Aid
- Campus services



Right Time

- JIT capacity adjustments
- Regular analysis
- Emergency outreach

- 1 Current State of Decision Support in Higher Education
 - 2 Three Tactics to Empower Your Analytics Staff
 - 3 Promote Data-Informed Decisions With SSC Campus
-



Current State of Decision Support in Higher Education

PART

1

Decision Support the Goal, Not Data Support

Fundamentals of Analytics Only Get Us so Far

“A Common Currency” Was an Important Step in the Right Direction...



Sustainable Data Governance

- Institutional ownership of data
- Common data definitions



Improved Data Quality

- Poor quality data identification
- Standardized entry processes



Role-Based Data Access Models

- Scalable methods for permissions
- Less subjective criteria for access

...But Better Data Doesn't Mean Better Decisions



Perfect Data Warehouse

- All-encompassing
- Perfectly clean data



Better Decisions

- More-informed
- Made faster
- With better outcomes



“When it comes to setting the course for the university, it is critical that decisions be made using the most current and relevant data possible.”

*Sam Houston State University
Office of the President
Performance Report*

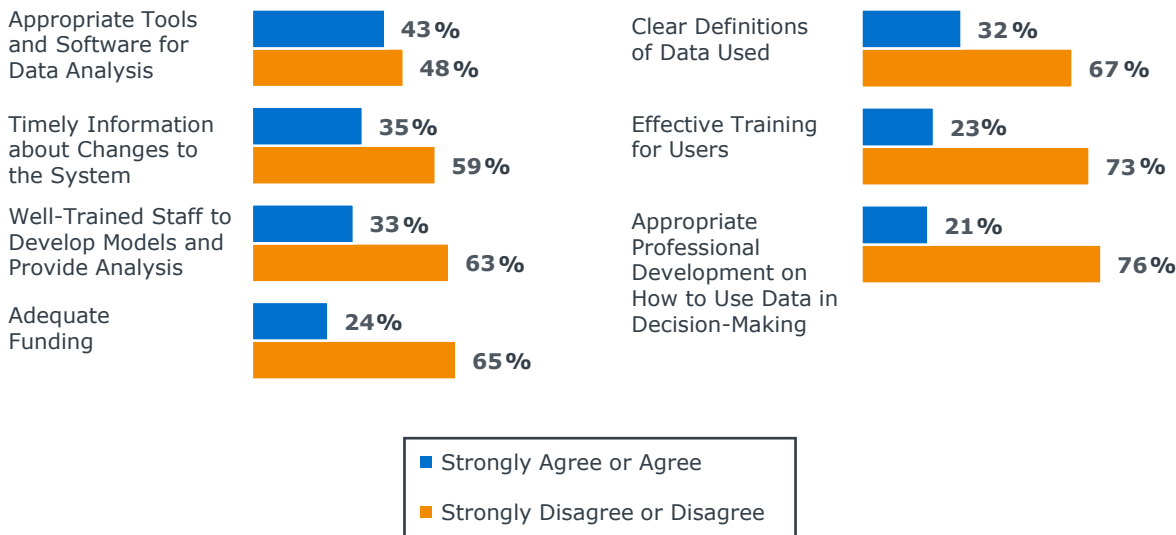
Performance Gap Remains Low Across the Board

Tools, Communications, Resources—All Unsatisfactory

Decision Support Missing the Mark with Academic Leaders¹

Deans and Department Chairs' Agreement Level with Provision of Analytical Support, 2014

n=209+



1) Numbers fail to add up to 100% because "Don't Know" was excluded.

Use of Data Anticipated to Increase

Expectations for CIOs to Deliver on Decision Support Growing in Parallel

Feeling the Pressure

“Attention on analytics is everywhere; it’s pervasive. The CIO’s role is not perfectly clear, but it is clear that analytics is a critical issue for many senior leaders at the institution.”

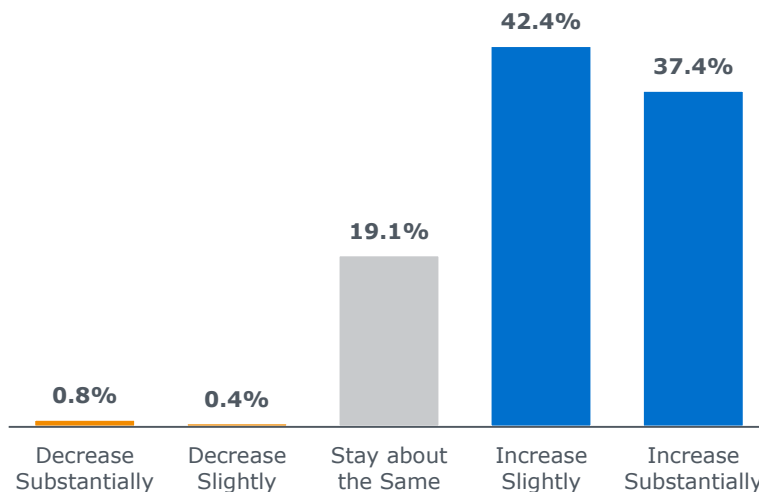
*Dana Roode
Chief Information Officer
University of California, Irvine*



Demand for Data Expected to Grow

Deans and Department Chairs’ Anticipation for Change in Usage of Analytics in Next Year, 2014

n=262



Data at the Expense of Insights?

Efforts Well-Intended, but Not Best Serving Institutional Needs

More Data Not Leading to Insights



More Reports



More Ad Hoc Requests



Fewer Insights

What Is Strategic Business Intelligence?



*Fewer Reports,
More Key
Performance
Indicators*



*Proactive Education
Rather than
Reactive Reporting*



More Insights



A Lesson from Attention Economics

"A wealth of information creates a poverty of attention and a need to allocate that attention efficiently among the overabundance of information sources that might consume it."

*Herbert A. Simon
Economist*

BI Inundated with Requests...

...At Expense of Predictive, Prescriptive Analyses

Struggling to Be Strategic

“We continue to need to be reactive, to jump in and help to fix problems, which really is sucking away bandwidth to focus on strategic areas and otherwise contribute our expertise to campus.”

*Anja Canfield-Budde
Director of Enterprise Data and Analytics
University of Washington*

”



Estimated Time Spent on Ad Hoc Requests

25-100%

Significant Money and Time Expenditures

\$10,000

per ad hoc report request (fully loaded cost)

3-6

week backlog for typical unit-level requests

3,500

hours spent on ad hoc reporting over 12 months at one research university

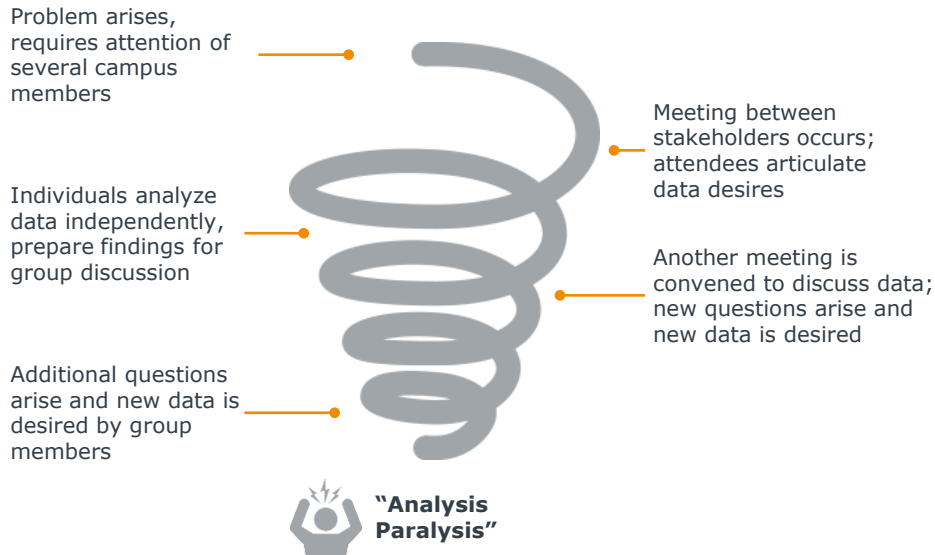


Lack of Reliable Data Causes Fewer Decisions

Decision Making Often Suffers in Highly Analytical Environments

Decision Making Process Iterative by Nature

Each Discovery or Point of Skepticism Leads to an Additional Area of Inquiry





Three Ways to Empower Your Analytics Staff

-
- Upskill Distributed Analytics Staff
 - Promote Single Versions of the Truth
 - Enhance User-Friendliness of Self-Service Resources

PART

2

Expectations Developing Faster than Support

Struggling to Educate for Data-Informed Decision Making



We Must Become Data-Informed...

"At [Arizona State University], I could see that we would not be able to innovate fast enough without analytics. Without analytics, we can't understand what's going on, we can't understand the complexity of what we're trying to do, and we can't measure our progress. We needed tools to help us make better decisions—about everything... Every facet of the institution requires robust analytics."

*Michael Crow
President
Arizona State University*



...But Are We Ready?

"An increasing number of managers must take action based on analytical results. But unlike the earlier adopters who embraced analytical approaches, these more recent adopters are not as well versed in the concepts, tools, systems and techniques of contemporary analytics. They are not comfortable making decisions based on analytical approaches that they do not fully understand. Yet they must still make these decisions."

*Kimberly Holmes
Senior Vice President of Strategic Analytics
XL Group*

Data and Analytics Functions across Campus

Everyone Wants in on the Data Action

Q: What Do These Units All Have in Common?

*Information
Technology*



*Office of
Advancement*



*Enrollment
Management*



*Provost's
Office*



*School of
Medicine*



*College of
Engineering*



Beyond Central Abilities

“More and more campus members are coming to the recognition that they have to have internal, in-house skills to fully leverage the potential that BI offers.”

*David Swartz
Chief Information Officer
American University*

A: All of these units have their own decision support functions—individual staff or entire teams—acting independently of each other, and often with legacy skillsets

Leveraging Internal Intelligence

Partnering with the Business School for Analyst-Level Training



AMERICAN
UNIVERSITY
WASHINGTON, DC

Partnership Elevates Capabilities of Distributed Analysts

Information Technology

- *Data Science:*
Data management and manipulation
- *Analytical Tool Use:*
Data navigation, retrieval, filtering, and mining

Business School

- *Visual Communication:*
Creating charts and graphics that convey meaning to others
- *Change Management:*
Converting knowledge of data analysis to policy and practice changes

Technical Insight



Business Problem Insight

Returning the Favor

Business intelligence staff can teach courses or individual lectures on topics such as data visualization or information management.



It Takes a Village

Leveraging Community Expertise to Solve Individuals' Problems

University of Michigan's Analytics and Business Intelligence Community Proving Popular



>400

members in Google+ community

Topic Areas:

- Announcements
- Tips and Questions
- Career Opportunities
- Emerging Tools
- Training Resources
- News

Large, Active Community Leads to Same-Day Answers with Minimal IT Involvement

Wendy B, Sept. 25:

"Is anyone familiar with Level of Detail expressions? I'm trying to calculate a rate of events in a hierarchy using an overall total as a denominator... but when I attempt to look at one event type in a control chart, the denominator changes to the count of rows with that event, despite the EXCLUDE..."

Rachel R, Sept. 25:

"Here's an article that helped me..."

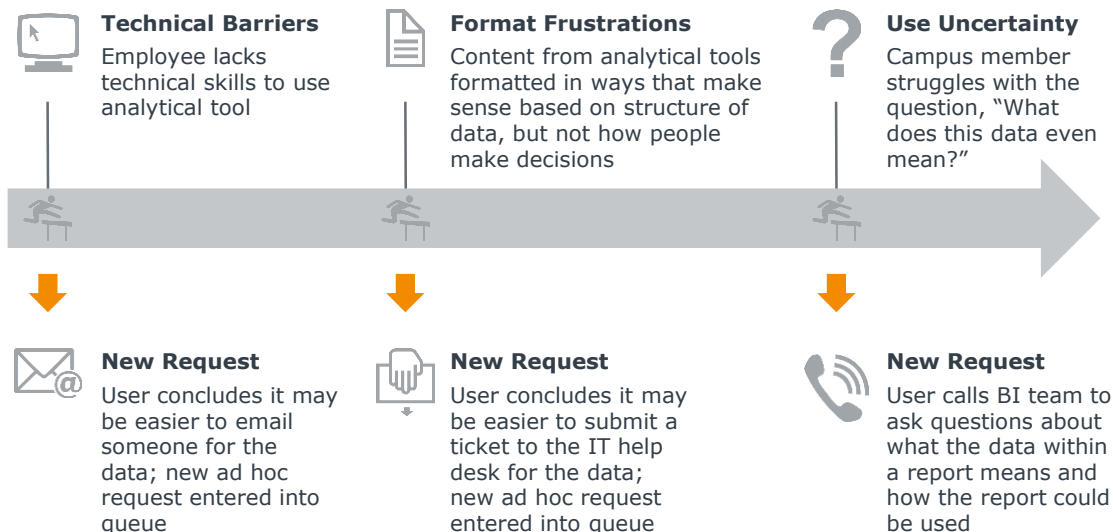
Wendy B, Sept. 25:

*"That was **exactly** the answer I needed! Thank you so much!"*

Decision Support from a User's View

Every Hurdle Not Cleared = New Ad Hoc Request for Your Team

Many Hurdles in the Way of Self-Service



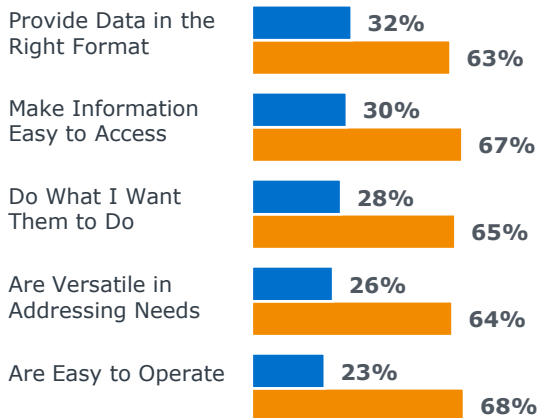
Usability Gets an F

Self-Service Impossible without Tools Easy to Operate and Navigate

Analytics Tool Experience Unsatisfying¹

Deans and Department Chairs'
Observations of Data Analytics Tools, 2014

n=215



■ Strongly Agree or Agree
 ■ Strongly Disagree or Disagree

Analytics a Chore

“Overall, academic leaders do not find the data analytics tools available to them to be particularly usable... In fact, not a single respondent strongly agreed that their institution’s data analytics tools were easy to operate.”

Lisa Helmin Foss
AVP and Associate Provost
Strategy, Planning, and Effectiveness
Saint Cloud State University

1) Numbers fail to add up to 100% because “Don’t Know” was excluded.

Self-Service for Basic Facts

Cornell Moves to Six Interactive Workbooks for Simple Fact Finding

 Cornell University Search DPB Search Cornell

▼ < | At a Glance | Enrollment details | Enrollment trends | Enrollment by CIP | Race/Ethnicity/Citizenship trends | Intl enrollment trend | >

Cornell University Enrollment Details

All data are as of the end of the sixth week of fall semester classes. In absentia registrants are not included. Weill Cornell Medical College students are not included. Post 2009, students who are in the Internal Transfer Division are counted in the incoming college.

Select student career: Undergrad | Select column one: College | Select column two: Class

Limit to:

- ☒ (All)
- ☒ First time freshmen
- ☒ New transfers (undergrad)
- ☒ Continuing
- ☒ Special, non-degree

Select term(s):

- ☐ Fall 2002
- ☐ Fall 2003
- ☐ Fall 2004
- ☐ Fall 2005
- ☐ Fall 2006
- ☐ Fall 2007
- ☐ Fall 2008
- ☐ Fall 2009
- ☐ Fall 2010
- ☒ Fall 2011
- ☒ Fall 2012
- ☒ Fall 2013
- ☒ Fall 2014
- ☒ Fall 2015

All students: Fall 2012, Fall 2013, Fall 2014 and 1 more

Career	Column one	Column two	Fall 2012	Fall 2013	Fall 2014	Fall 2015	
Undergrad	Agriculture and Life Sciences	Freshmen	673	666	680	662	
		Junior	1,043	1,026	933	928	
		Senior	972	1,108	1,084	995	
		Sophomore	851	796	855	880	
	Architecture, Art and Planning	Freshmen	114	130	123	113	
		Junior	108	112	100	110	
		Senior	168	166	161	169	
		Sophomore	109	106	112	109	
	Arts and Sciences	Freshmen	1,079	1,111	1,096	1,094	
		Junior	1,031	1,028	1,012	977	
		Senior	1,068	996	1,025	984	
		Sophomore	1,099	1,058	1,061	1,055	
	Engineering	Freshmen	786	770	769	748	
		Junior	638	698	732	722	
		Senior	707	752	813	849	
		Sophomore	758	785	764	769	
	Hotel Administration	Freshmen	194	179	187	187	
		Junior	248	238	261	253	
		Senior	250	264	247	268	
		Sophomore	240	252	236	242	
	Human Ecology	Freshmen	293	288	294	277	
		Junior	302	286	326	321	
		Senior	341	317	291	334	
		Sophomore	284	298	307	288	
	Industrial and Labor Relations	Freshmen	164	169	163	166	
		Junior	239	276	281	265	
		Senior	253	250	297	303	
		Sophomore	249	268	243	247	
Total			14,261	14,393	14,453	14,315	
Grand Total			14,261	14,393	14,453	14,315	



Cornell University

Simple Filters Based on Common Requests to IR

Enrollment quick data finder column options include:

- College
- Sex
- Minority
- Race/Ethnicity
- Degree Objective
- Class
- Sector (Endowed/Contract)
- On/Off Campus
- Home State at Matriculation

First Stop for Basic Data Needs

IR Staff Push Factbook as the Go-to Resource

IR Responses to Data Requests Teach Users to Fish for Themselves

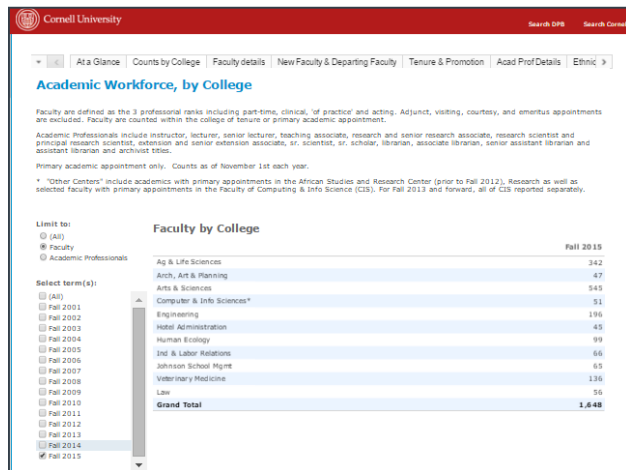


"What percent of faculty at Cornell are in the College of Engineering?"

"Have you checked the Factbook? You can find the answer in the 'Academic Employees' workbook under the 'Counts by College' view. Here's how to get to the data..."



Cornell University



Academic Workforce, by College

Faculty are defined as the 3 professional ranks including part-time, clinical, 'of practice' and acting. Adjunct, visiting, courtesy, and emeritus appointments are excluded. Faculty are counted within the college of tenure or primary academic appointment.

Academic Professionals include instructor, lecturer, senior lecturer, teaching associate, research and senior research associates, research scientist and principal research scientist, extension and senior extension associate, sr. scientist, sr. scholar, librarian, associate librarian, senior assistant librarian and assistant librarian and archivist titles.

Primary academic appointment only. Counts as of November 1st each year.

* "Other Centers" include academics with primary appointments in the African Studies and Research Center (prior to Fall 2012), Research as well as selected faculty with primary appointments in the Faculty of Computing & Information Science (CIS). For Fall 2013 and forward, all of CIS reported separately.

Limit to:
☐ (All)
☒ Faculty
☐ Academic Professionals

Select term(s):
☐ (All)
☐ Fall 2001
☐ Fall 2002
☐ Fall 2003
☐ Fall 2004
☐ Fall 2005
☐ Fall 2006
☐ Fall 2007
☐ Fall 2008
☐ Fall 2009
☐ Fall 2010
☐ Fall 2011
☐ Fall 2012
☐ Fall 2013
☐ Fall 2014
☒ Fall 2015

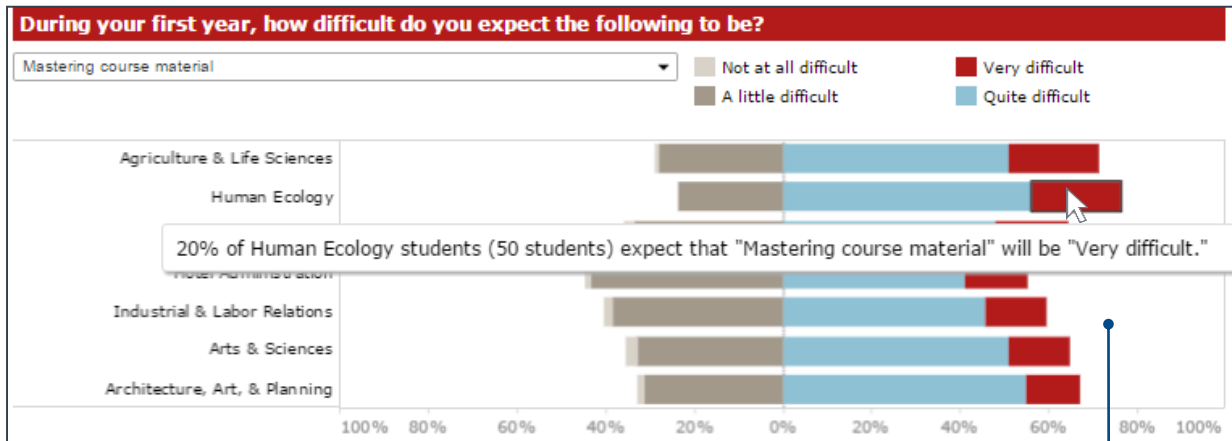
Faculty by College

	Fall 2015
Ag & Life Sciences	342
Arch, Art & Planning	47
Arts & Sciences	545
Computer & Info Sciences*	51
Engineering	196
Hotel Administration	45
Human Ecology	99
Ind & Labor Relations	66
Johnson School Mgmt	65
Veterinary Medicine	136
Law	56
Grand Total	1,648

1. Access the Factbook through the IR website
2. In the "Academic Employees" workbook, go to the "Counts by College" view
3. Select 'Faculty' and 'Fall 2015' (the definition of faculty is above the table)
4. Use the counts to obtain the percent of faculty in the College of Engineering

Encouraging Data Literacy

Translating Visualizations into Descriptive Text to Avoid Misinterpretations



One Right Way

20% of Human Ecology students expect that "Mastering course material" will be "very difficult."



Easy to Get It Wrong

20% of students who expect that "Mastering course material" will be "very difficult" are Human Ecology students.

Easy Fix

IR staff edit the default text provided in Tableau's Tooltips to read more naturally.



Cornell University

Challenge



Inconsistent data quality has trained campus members to be skeptical of data resources



Provide a visual indication of the potential underlying data quality to better inform decision makers about the appropriate level of caution (or lack of need for caution) when viewing the data



Campus leaders lack standardized metrics to compare academic programs across campus



Collaborate with institution leaders on the appropriate metrics to be standardized for routine comparisons and decision making, obtain their mandate to collect metrics from distributed units



Promoting Data-Informed Decisions With SSC Campus

PART

3