# Analytics Open Labs

December 2, 2016



Find Chris Thuringer and tell him your link blue id!

We are now using Tagger to track attendance at Open Labs.

Slide decks will be available on our IRAA website after each session.

http://www.uky.edu/iraa/open-labs-presentations

#### Open Labs schedule

9:00 AM - Two concurrent sessions:

- Beginner hour presentation
- One-on-one analyst sessions please feel free to schedule in advance through <u>analytics@uky.edu</u>

9:30 AM - 30 minute presentation targeted at 'consumers', focused on how to use and retrieve meaningful data from dashboards already available on the IRAA website and Tableau Server.

10:00 AM - 30 minute presentation targeted at 'creators' and Super Users with more in-depth discussions on Tableau Desktop, HANA data models, presentations by other Super Users, etc.

10:30 AM - Time for questions, discussion, group work sessions, more one-on-one training, etc.

Presentation topics will be announced 4 to 6 weeks out. This is to allow for flexibility in what is covered.

http://www.uky.edu/iraa/hana-and-tableau-training

#### Fall 2016 Analytics Open Labs

#### <u>12/2/16</u>

9:30 AM – Preliminary Spring Retention 10:00 AM – Dashboards for Operational Data

<u>12/16/16</u> 9:30 AM – End of Term Reports 10:00 AM – All The Awesome Stuff We Did In 2016! (there will be \*\*prizes\*\*)

Training Page <u>http://www.uky.edu/iraa/hana-and-tableau-training</u> Past Open Lab presentations <u>http://www.uky.edu/iraa/open-labs-presentations</u> Send suggestions for additional topics to <u>analytics@uky.edu</u>

#### Change of Location for December 16th

On December 16 we will be in the new **Academic Science Building** (Rose & Huguelet), Room JSB 108.

This will be our default location throughout Spring 2017.

#### Tableau v10.0

IRAA recommends that all users Tableau Desktop  $\underline{v10.0}$ . We are currently only be supporting v10.0.

Those still on 9.X should upgrade to 10.0.

You should **NOT** upgrade to 10.1.

Tableau Desktop v10.0 can be found: <u>http://www.tableau.com/support/esdalt</u>.

#### Change to Fall 2016 Reporting Census Date

The Reporting Census Date has changed to October 15th starting this Fall.

The Reporting Census Date has previously coincided with the last day to add a class.

The Analytics Team has made changes to our data models over the last two weeks. We ask that you notify us if you see inconsistencies.

We will be doing some analysis on the students who are now excluded / included in the cohort.

#### Job Postings

CPE:

Executive Director, Data, Research and Analysis

KCTCS:

- Director of Information and Reporting, Job #9709
- Director of Institutional Effectiveness and Policy, Job #9746
- Institutional Research Analyst, Job #9745
- Data Warehouse Research Specialist, Job #9744

#### The Dreaded Dash (aka "-")

In many of our data models, we have replaced Null values with "-".

This is now having a strongly negative impact on HANA performance.

What would be the impact of removing all "-" values, replacing them with Null?

Stuff that might break:

- Filters that specifically include or exclude "-"
  - Filters that just simply leave out "-" entirely would NOT be affected
- Calculated fields that use "-"
  - E.g., IF [Field] = '-' THEN 'Craig' ELSE 'Stephen' END

We can make STUDENT\_TEST versions for testing.

## **Preliminary Spring Retention**

#### The Green Retention Dashboard

The finalized Fall 2016 cohort has been added to RETENTION\_INSTITUTIONAL\_PRELIMINARY.

IS\_RETAINED\_1ST\_SPRING is being updated daily: students who have registered for classes in Spring 2017 are 'retained'.

The Green Retention Dashboard (Institutional Retention Dashboard with Preliminary Data) is available in Student Reports and Student Reports Detail

Daily updated data (1st Spring Preliminary) is reflected in the '**Retained 1st Spring**' and '**Retained % 1st Spring**' data fields on the dashboard.

#### **Currently Unenrolled Students**

Lists of individual students are available on the '<u>Student Institutional Retention and</u> <u>Graduation</u>' tab.

Can filter for non-retained students using: Rate Selector = 'Retained 1st Spring' and Selected Rate = 'No'.

Rate Selector	Selected Rate	√× ▼
Retained 1st Spring	Yes	•

This is the official list of currently non-retained cohort students!

Filterable by College, Department, Major, etc.

#### Cohort Enrollment History

<u>Cohort Enrollment History</u> dashboard shows how we are doing compared to previous years.

The Retention Rate is calculated on each day and compared to the same day on the previous year.

This is imperfect since key dates (e.g., end of priority registration, start of term) do not align exactly, but it's close.

For Fall 2016 cohort, UK is trending above all previous years.

#### Cohort Enrollment History (cont).

#### **Cohort Enrollment History**

Data is available in Chart and in Table format.

Filterable for individual Colleges.

Currently, data is not available at individual student level.

## **Dashboards for Operational Data**

#### Operational / Institutional / Regulatory Data Types

Often, the first choice we have to make when writing reports		Frozen	Live
is whether to use Frozen or Live data.	External B.R. (e.g.,	Regulatory	Institutional
We also have to choose between Current/End of Term	Census Date)		
and Census date.	UK B.R.	?	Operational
Choosing (and documenting) among these is critical for all	(e.g., Current / EOT)		
reporting.			_

		Frozen	Live
ta Types in HANA Data Models -	External B.R. (e.g., Census Date)	Regulatory	Institutional
erational	UK B.R. (e.g., Current / EOT)	?	Operational

Our default data type in HANA is **Operational**:

- End of Term (*today* for current term; last day of term for previous terms)
- Live from SAP / source system (usually refreshed nightly)

Generally, operational tables and fields do not have any suffix

Examples:

Dat

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- ENROLLMENT\_STATS\_PER\_TERM\_DEMOGRAPHICS\_DETAIL
- MAJORS\_MINORS\_MULTIPLE
- ACADEMIC\_ALERTS

		Frozen	Live
Types in HANA Data Models -	External B.R. (e.g., Census Date)	Regulatory	Institutional
latory	UK B.R. (e.g., Current / EOT)	?	Operational

Recently, we have been focusing on providing better access to Regulatory data

- Approved by CPE, IPEDS, etc. (when appropriate)
- Available on IRAA Website

Data

Regul

Generally, Regulatory tables and fields have a "\_CPE", "\_CPE\_IPEDS", or similar label as appropriate.

- ENROLLED\_STUDENTS\_CPE\_IPEDS\*
- DEREES\_AWARDED\_CPE
- CLASS\_ROSTER\_CPE
- HR\_YEARLY\_SNAPSHOT\_HISTORY\*\*

# Data Types in HANA Data Models -

Institutional Data is a hybrid:

- FrozenLiveExternal<br/>B.R. (e.g.,<br/>Census Date)RegulatoryInstitutionalUK B.R.<br/>(e.g., Current<br/>/ EOT)?Operational
- Basically, an attempt to bridge gap between Regulatory and Operational
- Often can be used as "preliminary" for Regulatory
- Often more useful for historical trend reporting than Operational

Generally, but less exhaustively, Institutional tables and fields have a "\_INSTITUTIONAL", or similar label as appropriate

- MAJORS\_MINORS\_MULTIPLE\_INSTITUTIONAL
- DEGREES\_AWARDED (Institutional & Operational are the same!)
- ENROLLED\_STUDENTS\_CPE\_IPEDS\*

### **Combining Data Types**

We are building data models that combine multiple data types in the same table

Advantages:

- Fewer data models to keep track of
- Same business rules used across different data types
- Can switch workbooks between data types easily
  - Workbooks that have a button to switch between data types
- Easier regulatory submissions

Disadvantages:

- Using data models correctly can be more difficult - need to make sure you pick the right data type
- Non-trivial to build
- Data models in various development states

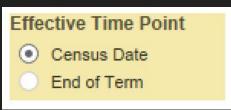
	Frozen	Live
External B.R. (e.g., ensus Date)	Regulatory	Institutional
UK B.R. e.g., Current / EOT)	?	Operational

#### **Operational + Institutional**

# MAJORS\_MINORS\_MULTIPLE & MAJORS\_MINORS\_MULTIPLE\_INSTITUTIONAL

SPECIALZATIONS\_HEADCOUNT = SPT\_MMM\_DEM + SPT\_MMMI\_DEM

Specializations Headcount dashboard



# STATS\_PER\_TERM has IS\_ENROLLED\_CENSUS\_DATE & IS\_ENROLLED\_END\_OF\_TERM



#### Regulatory + Institutional

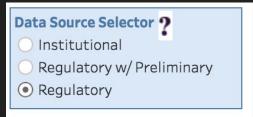
ENROLLED\_STUDENTS\_CPE\_IPEDS has DATA\_SOURCE field in data model.

Institutional and Regulatory Enrollment dashboard has Data Source Selector

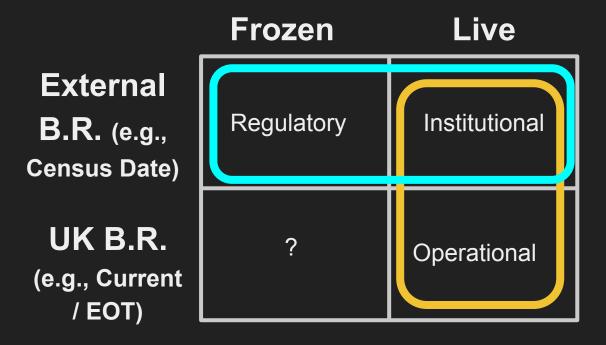
This is the model for new development going forward, e.g.:

- Degrees Awarded
- Class Roster & Credit Hours
- HR Faculty & Staff

	Frozen	Live
External B.R. (e.g., Census Date)	Regulatory	Institutional
UK B.R. (e.g., Current / EOT)	?	Operational



Specializations Headcount VS Institutional and Regulatory Enrollment



B.R = Business Rules

#### **Purely Operational Data**

Many data models and dashboards don't really make sense as Institutional or Regulatory data types and are purely Operational:

- <u>Cohort Enrollment History</u>
- <u>Course Enrollment Curves</u>
- Academic Alerts
- <u>Missing Primary Instructors</u>

#### **Future Directions & Discussion**

All Regulatory models will also include Institutional data.

Attempt to combine Operational, Institutional, and Regulatory in a single data model!

Consolidating External and UK business rules when possible.

Naming conventions

- Many of our TS workbooks are not well named; e.g. "Institutional" workbooks with only Regulatory data
- How descriptive are Operational, Regulatory, and (especially) Institutional?