

# ED TALK – DATA ANALYTICS

RSM approach to business intelligence



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# Your speakers



**Cindy Berg**

Senior Manager

[cindy.berg@rsmus.com](mailto:cindy.berg@rsmus.com)

563 888 4419

Cindy has specialized in serving higher education institutions audit and consulting needs for 19 years. She is also RSM's student financial aid expert.

# Your speakers



## **Mike D'Agostino** Manager

[mike.d'agostino@rsmus.com](mailto:mike.d'agostino@rsmus.com)  
816 751 4055

Mike specializes in Business Intelligence, Data Warehousing, and Database Administration. He has participated in the architecture and development of many custom data warehousing and business analytic solutions.

# Why is everyone talking about data analytics?

Optimize resources

Faster better decision-making

Cost reductions

New opportunities

# Business Intelligence vs. Data Warehousing vs. Decision Support vs...

**Business Intelligence**

**Decision Support**

**Data Analytics**

**Data Warehousing**



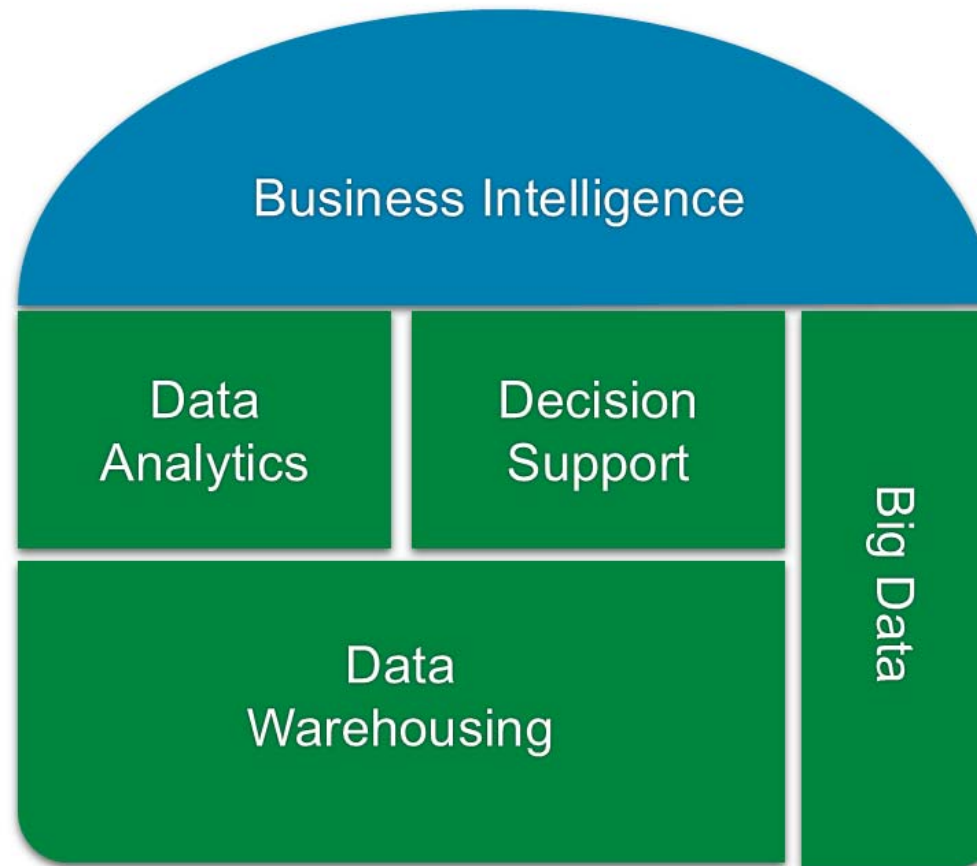
**Big Data**

**RSM BI:**

***Business intelligence is about empowering organizations to truly leverage their data as an organizational asset to foster innovation, drive organizational excellence and create competitive advantage***

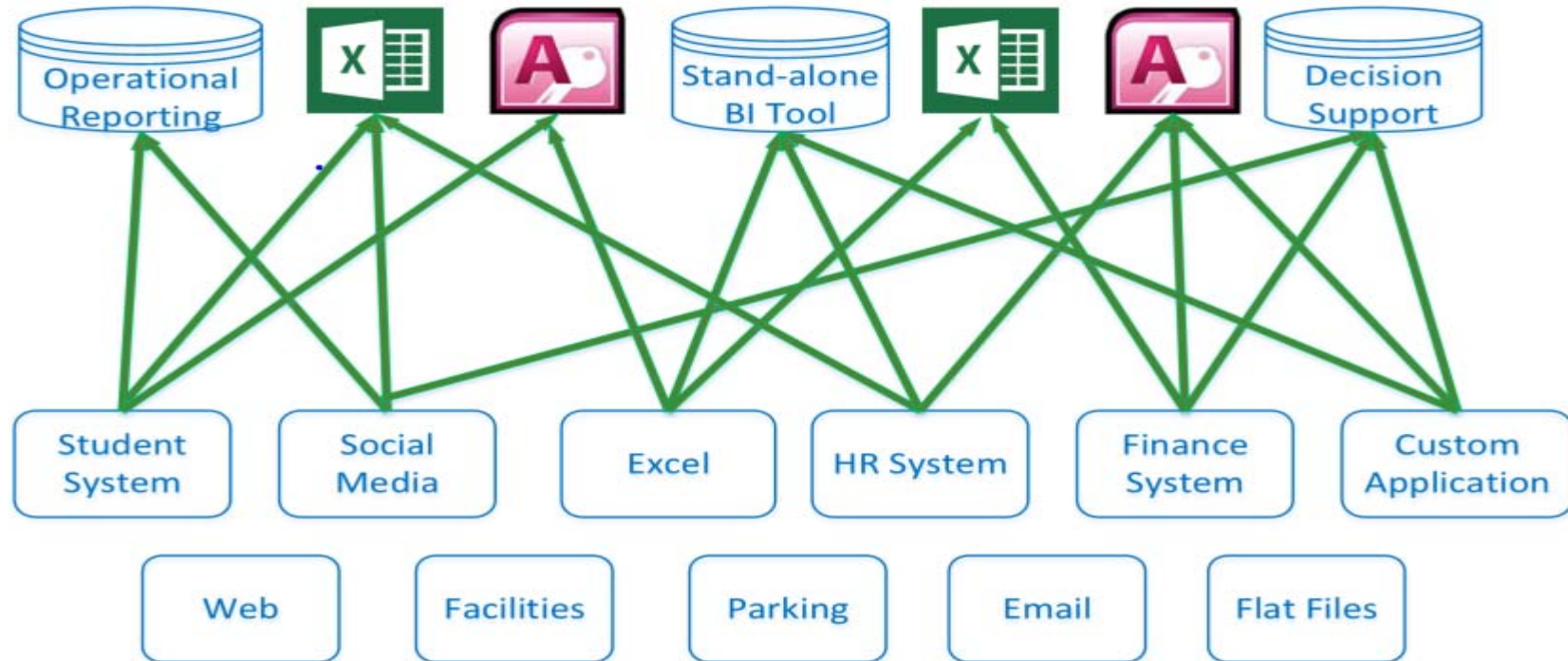
# Making Sense of it all

*The below terms are often used interchangeably*



# The Challenge – Typical Situation

*In addition, many do not have the ability to effectively and efficiently transform their raw data into actionable information*



## Issues:

- *Conflicting answers to the same question*
- *Different definitions for the same data or calculation*
- *Timing differences*
- *Data quality*

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# THE SOLUTION

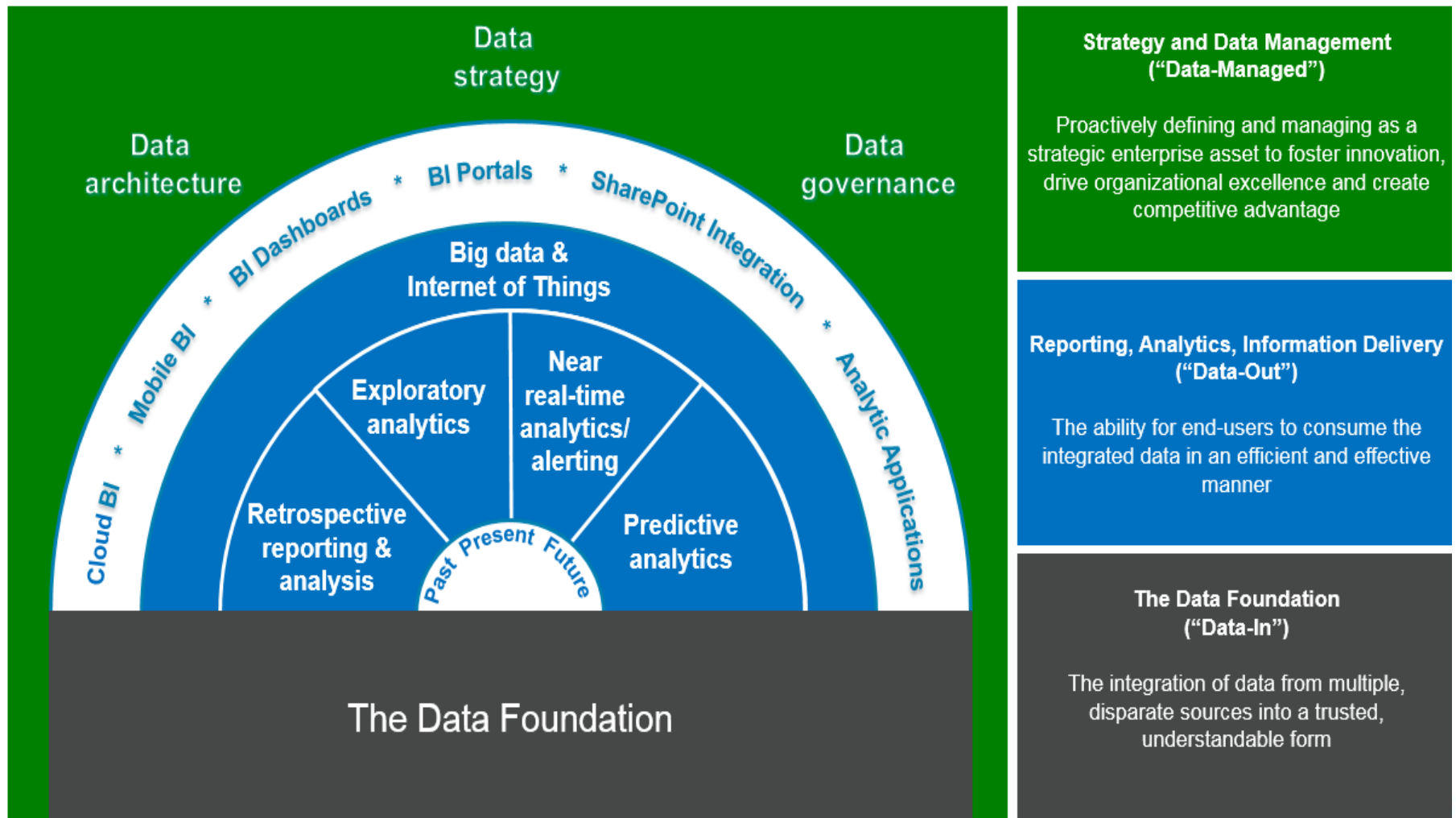




## Business Intelligence Approach

- *Business intelligence best practices follow the “Data-In”, “Data-Out”, “Data Managed” approach which provides the framework to turn an organization’s raw data into the actionable information*

# Business Intelligence Approach



## Example 1

*Eastern Iowa Community College needed access to advanced analytics that focus on student and course information. Key performance indicators include:*

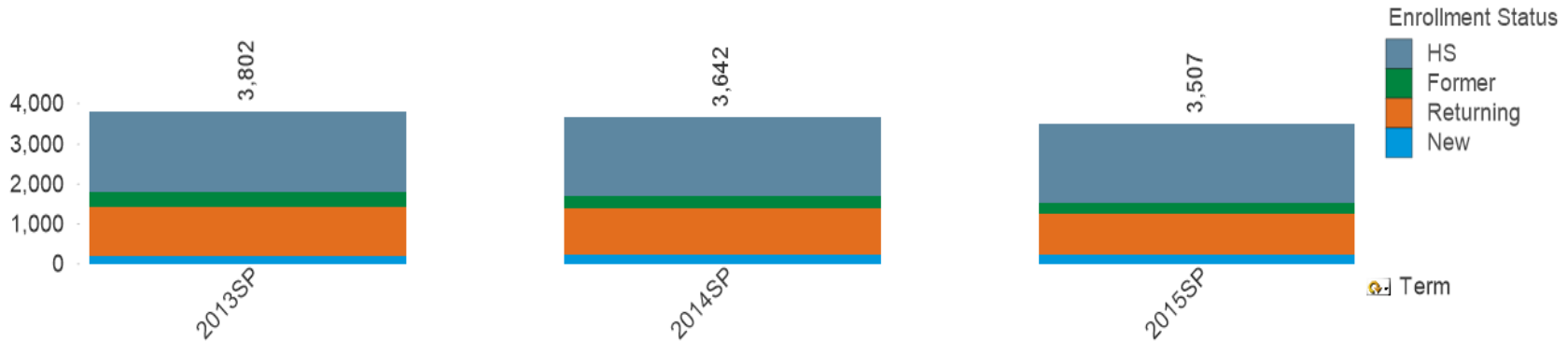
- *Section analysis*
- *Student success*
- *Snapshot reporting*

### Notes

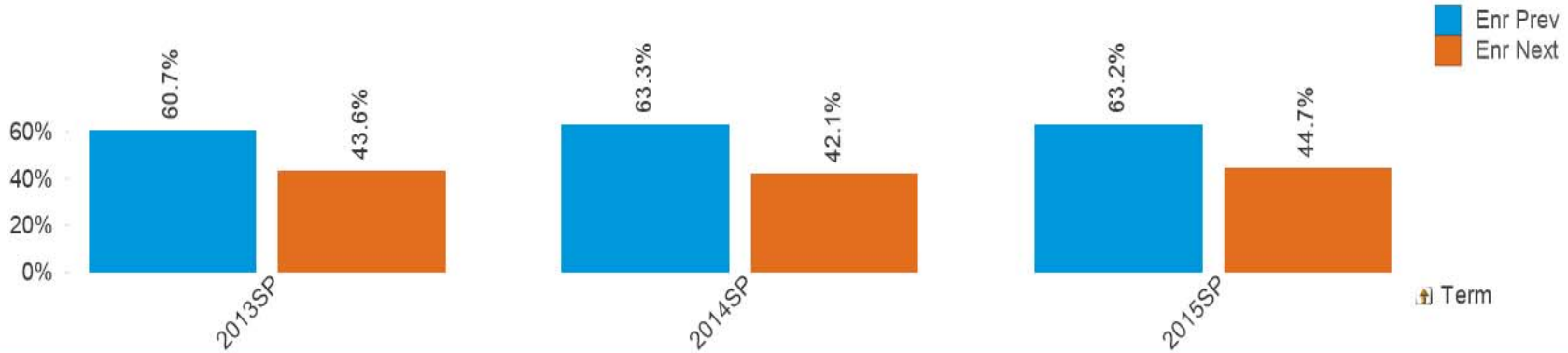
- Integration:
  - Data refreshed on a nightly basis
  - Includes extensive logging and automatic notifications
- Load Processing:
  - Data stored in a database and excel files
  - Include “snapshots” of the data
- Business Rule Application
  - Remedial indicators
  - Enrolled in previous and next term indicators

# Enrollment examples

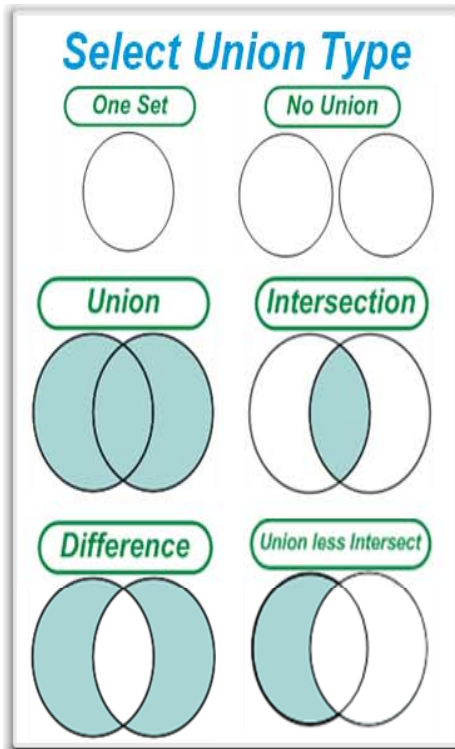
Student Status End-Of-Term



Reenrolling Students By Term End-Of-Term



# Cohort design examples



[View Advanced Analytics](#)

**Group A**

**Intersection**

**Group B**

Term Year	▼	<input type="radio"/>
Semester	▼	<input type="radio"/>

**Student Demographic Criteria** ▼

Cohort	▼	<input type="radio"/>
Gender	▼	<input type="radio"/>
Race	▼	<input checked="" type="radio"/>
Age	▼	<input checked="" type="radio"/>
Limited English	▼	<input type="radio"/>
Student Zip Co...	▼	<input type="radio"/>
Student County	▼	<input type="radio"/>
Student State	▼	<input type="radio"/>
Residency	▼	<input type="radio"/>

Term Year	▼	<input checked="" type="radio"/>
Semester	▼	<input checked="" type="radio"/>

**Student Enrollment Criteria** ▼

Home Location	▼	<input type="radio"/>
Student Status	▼	<input type="radio"/>
Full/Part Time	▼	<input checked="" type="radio"/>
Orientation Flag	▼	<input type="radio"/>
First Term Enr...	▼	<input type="radio"/>
Last Term Enro...	▼	<input type="radio"/>
Program Cluster	▼	<input type="radio"/>
Program Code	▼	<input type="radio"/>
Program Descr...	▼	<input type="radio"/>
Earliest Registr...	▼	<input type="radio"/>
Registration B...	▼	<input type="radio"/>

129 Students meet the criteria.

## Example 2

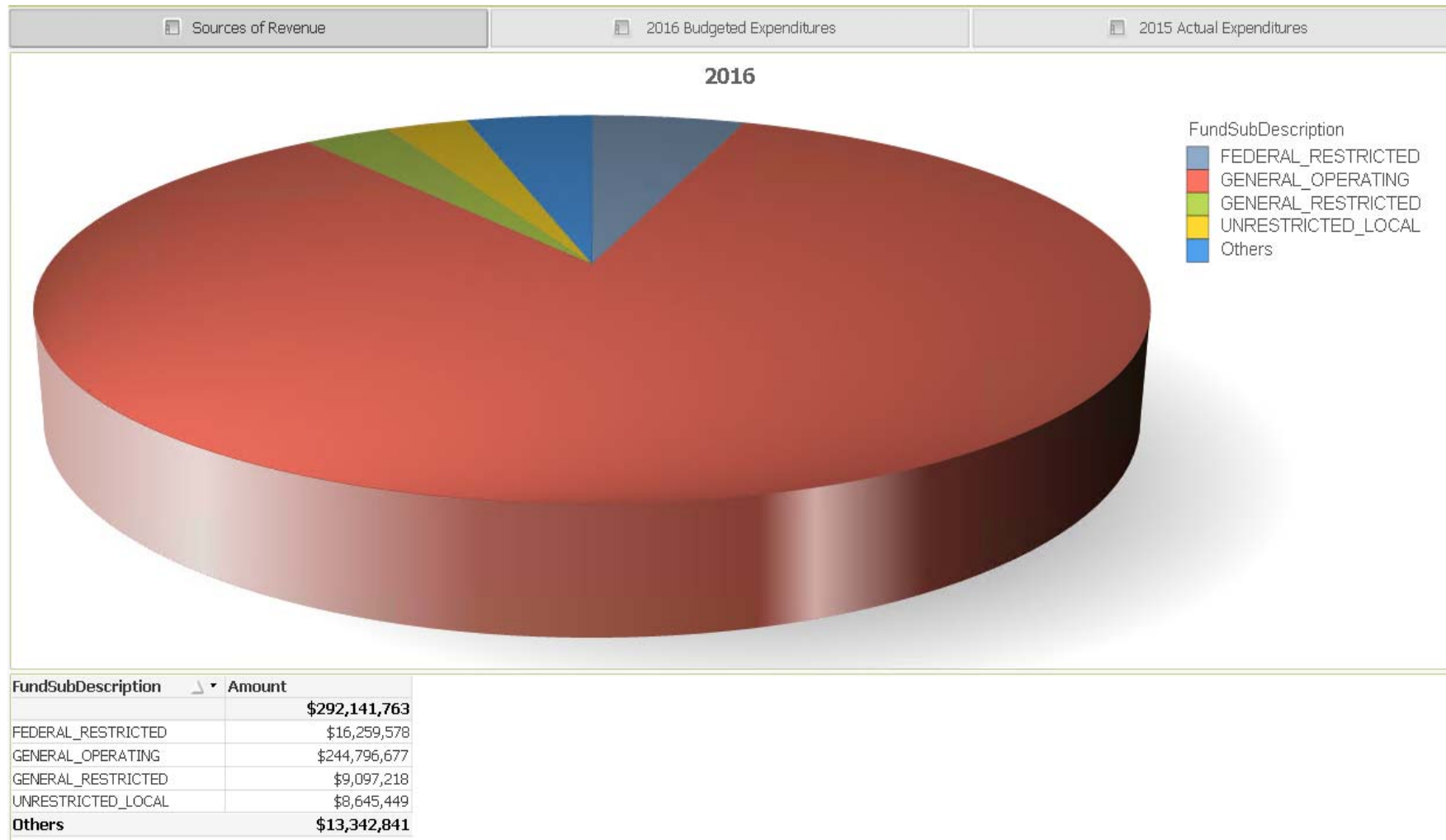
*Higher Education organization needed a data foundation that integrated Finance/Budget, Payroll, HR and manually maintained data. Key performance indicators include:*

- *Budget to actual*
- *Payroll to position budget*
- *HR analysis*

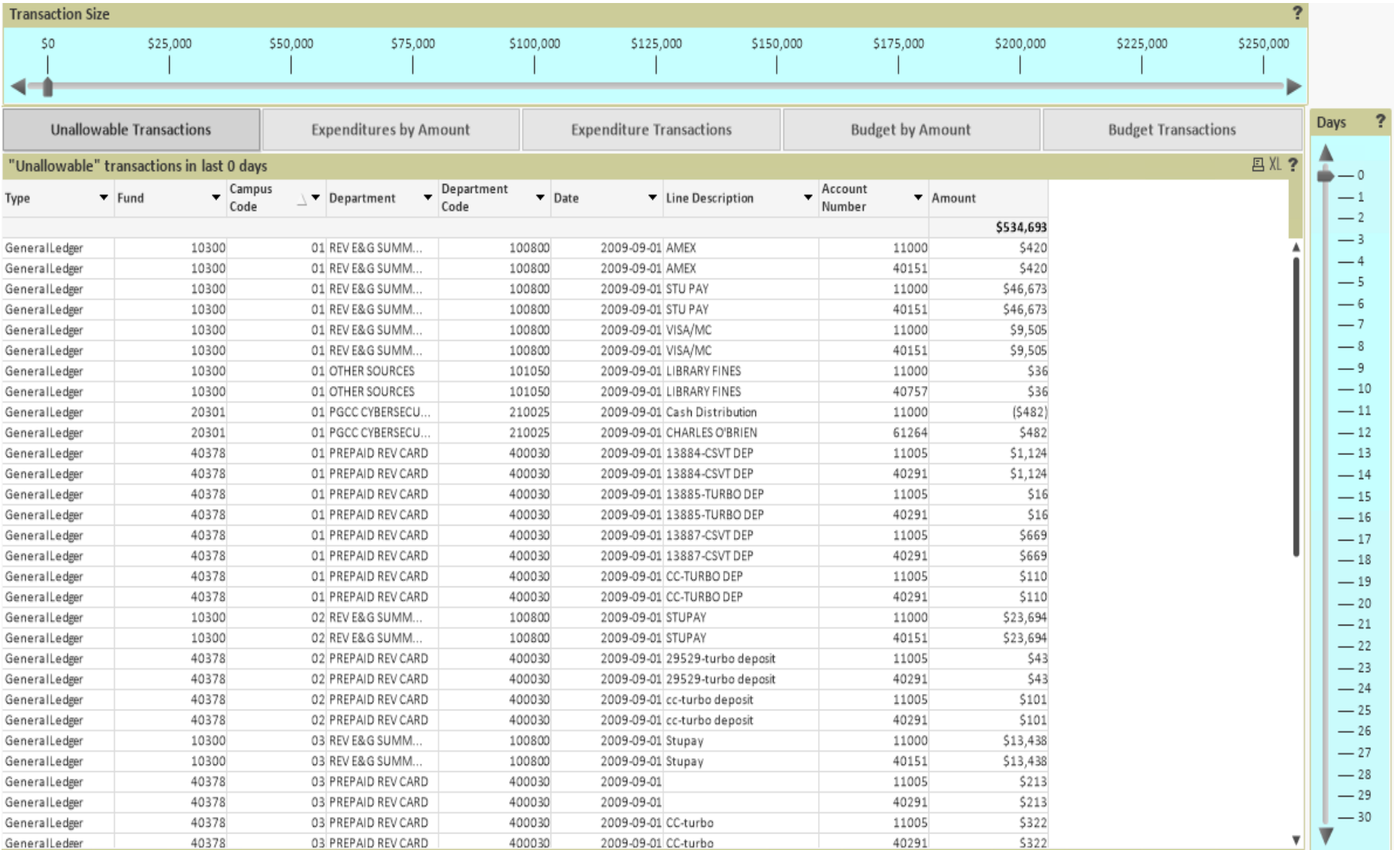
### Notes

- Integration:
  - Loads data from a data base, csv files and excel files
  - Integrates with SharePoint for manually maintained data entry
- Business Rule Application:
  - Data entry error reports
- Data De-Duplication:
  - 3 different ID for same person. School, State, Payroll
- Preventive Data Quality:
  - Business Data Quality: Identifies GL transactions that contain invalid combination of codes (Account, Department, Fund)
  - Technical Data Quality: Only load records with valid dates

# Finance example

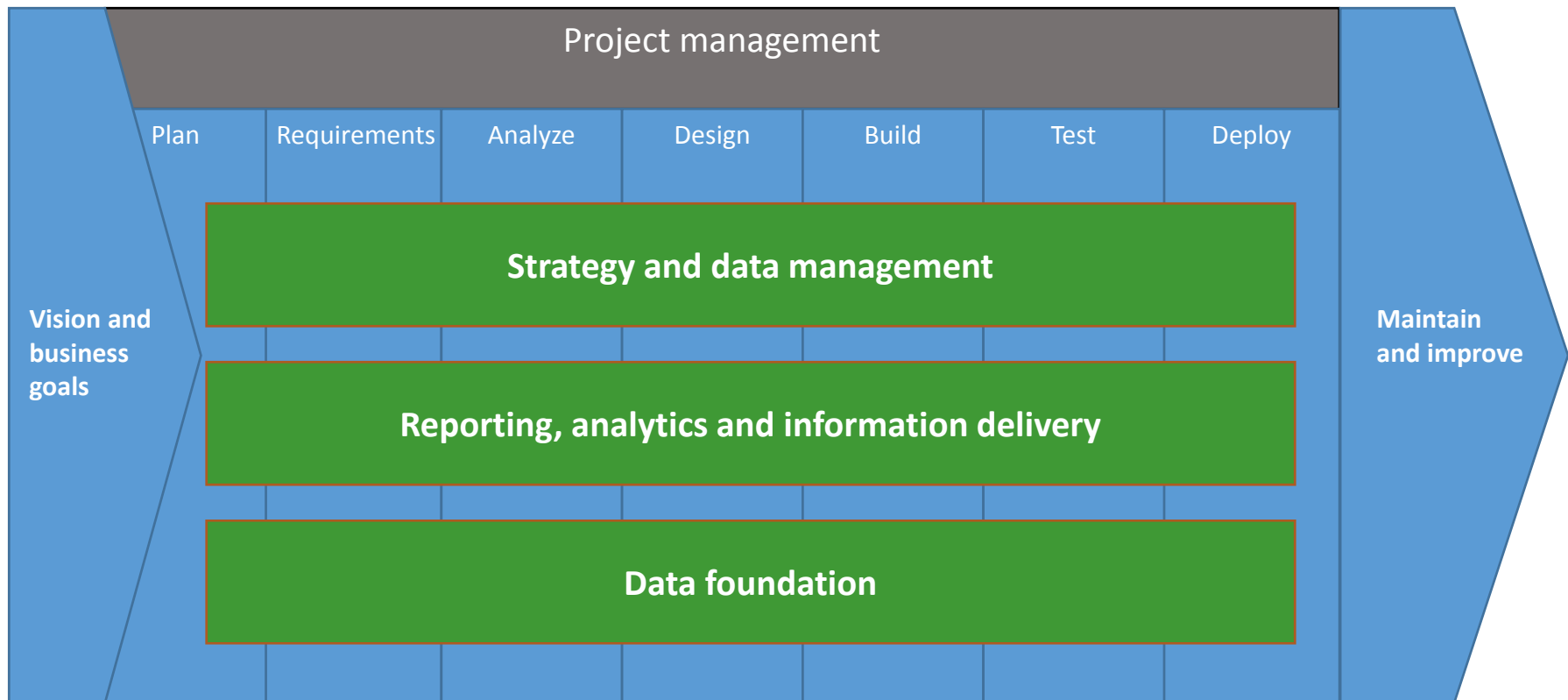


# Guided analytics examples





# How to begin



## Documentation and Deliverables:

- Business goals and objectives
- Requirements
- Data model
- Source-to-Target mapping
- Analytic wireframes
- Testing framework



# QUESTIONS AND ANSWERS?

## RSM US LLP

4801 Main St Ste 400  
Kansas City MO 64112-2543  
816.751.4055

+1 800 274 3978  
[www.rsmus.com](http://www.rsmus.com)

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