Building a Self-Service Business Intelligence System for Strategic Decision-Making

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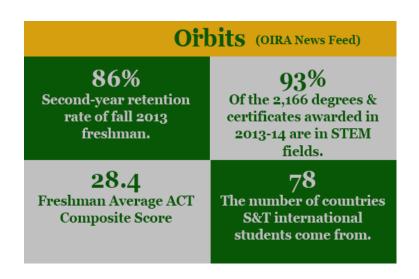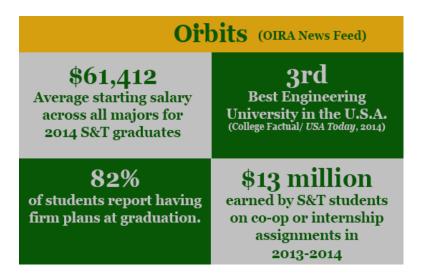**Jerry Hammons, M.S.**
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MISSOURI S&T

Founded 1870 | Rolla, Missouri

MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY

About Us

- Official data reporting office

- Comprise of 4 FTE staff

- Access to UMDW & S&T EDW

Orbits (OIRA News Feed)

86% Second-year retention rate of fall 2013 freshman.	**93%** Of the 2,166 degrees & certificates awarded in 2013-14 are in STEM fields.
28.4 Freshman Average ACT Composite Score	**78** The number of countries S&T international students come from.

Orbits (OIRA News Feed)

$61,412 Average starting salary across all majors for 2014 S&T graduates	**3rd** Best Engineering University in the U.S.A. (College Factual/ *USA Today*, 2014)
82% of students report having firm plans at graduation.	**$13 million** earned by S&T students on co-op or internship assignments in 2013-2014

Agenda

- Why a Self-Service Business Intelligence system?
- Pilot Phase – Aiming for Success
- Live Demo of data
- Post Pilot – Roll Out plan
- Questions & Answers

The Context

- We are a PeopleSoft database management institution
- Databases are Oracle-based
- ETL: Perl and SAS
- Reports: Golden, Perl, SAS & SPSS
- Data tools: Excel and Access

The Context

PeopleSoft live in 2004

- 3 databases (Student, HR & Finance)
- 32k tables
- 27k views
- 730k columns
- ½ billion records
- Big data with volume, velocity, and variety

Why a Self-Service Business Intelligence (SSBI)

- Allow greater **self service and data transparency.**
- Promote a **data driven culture**
- **Empower analysts/users** to slice and dice data
- **Improves efficiency and effectiveness**
- **Add value** to academic and research operations
- **Meet executives' needs** for information

Pilot Phase -- Assessment

- Scope
  - 5 months
- Goals -- Ensure BI tool is
  - Easy to use
  - Scalable
  - Robust
  - Mission-critical
  - Agile & Flexible
  - Low operational cost and risk
  - Compatibility with network infrastructure

Pilot Phase -- Assessment

- Interviews
  - Customers across campus and outside
  - Peers (Purdue, TAMU, USU)
- Competitive analysis
- High level engagement
  - With IT, UM-IR and UM-DW Team
- Cost analysis of leading BI tools in the market (SAS, Tableau, Information Builders, IBM Business Analytics)

Pilot Phase -- Assessment

- We chose **Tableau**
  - Overall **cost of ownership** is the lowest
  - **Compatibility** with existing tech at S&T
  - **Live connection** to data sources (no in-memory data dumps)
  - Support of **column-based security**
  - Easy **collaboration** – simple and accessible
  - **Vendor support**
  - Have **desktop and server/cloud-based** sandbox capabilities

Pilot Phase - Deployment

- Licenses
  - 2 Tableau Desktop
  - Limited Tableau Server

- Hardware set-up
  - Install Tableau Server 8.2
  - Access and security management checks
  - Windows 2008 R2

Pilot Phase – Projects Implementation

- 0 experience with Tableau

- Tableau Training and Tutorials

- 2-3 weeks to prepare the data

- 2-3 weeks to learn how to build dashboards

LIVE DEMO

Post-Pilot Plan

- Conduct a roadshow information session with senior management and potential users
- Roll out analytics and dashboards in phases
  - Soft roll out of admissions and enrollment in fall 2015
  - Further roll out in Fall 2016, etc.
- Make it available on your tablet device (IPAD)
- Get information you need anytime, anywhere

Post- Pilot Phase

- Keep momentum
- Foster executives engagement
- Create networking opportunities
- Support collaboration
- Provide communication platform
- Live data (one-day old)

Questions & Answers