TELLING A STORY WITH DATA

Dr. Stephanie Bond Huie, Vice Chancellor
Office of Strategic Initiatives
About UT System

- 217K students
- 52K degrees
- 37% of all degrees in Texas
- 40% are STEM degrees
- 900 MDs from 4 medical schools
- 2 new medical schools coming online
- $2.7B in research
- 50% from federal sources
- 2/3 from health institutions
- 8 Nobel laureates
- 47 members of IOM
- 44 members of NAS
- 59 members of AAAS
- 40% is hospitals, clinics, prof fees
- 13% state appropriations
- 9% revenues from tuition & fees
- 5 university-owned hospitals
- 1.4M hospital days annually
- 20K faculty
- One of largest employers in Texas
- A decade of earnings
- Students who left between 2002 and 2013 and entered the Texas workforce
Using Data to Tell a Story
Things to Consider

- Audience
  - How much do they know about the subject?
  - How familiar are they with data?
  - How much time do I have to engage them?
- Story / Message
- Goals
- Data available
- Elements of data presentation
Elements of Data Presentation

- Data points (measures)
- Breakouts (categories)
- Format
  - counts, percentages/ratios, etc.
- Context
  - benchmarking, write-ups
- Visuals
  - graphs/charts, tables, diagrams, images/logos
- Design
  - layout, colors
Complex is not always better
Best Practices

• Be Data Smart
  • Data is just data
  • Research and analysis transform the data into information
  • Visualization and presentation make that information consumable

• Beware Data Marketing
  • Data should tell a story, but only in the sense that the visualizations presented should accurately reflect underlying patterns
  • Not all data consumers are data savvy
  • Use good data practices and be consistent
Data Visualizations
Data Visualizations

• Facilitate understanding of complex information
• Provide context
• Allow user to interact and select specific data
• Support and inform policy-making decisions
• Evaluate the impact of policies, initiatives
Using Data Visualization to Inform Policy

• Use trend analysis and predictive modeling
• Communicate message to audiences of all levels
• Collaborate with other researchers, educational leaders, visualization experts, and outside agencies
• Provide benchmarks for comparison and/or progress
Example: Initiative Impact

- Presenting multiple data points
- Tracking progress
- Evaluating success
How to Make It Happen
Building Capacity in Your Organization
Building a Foundation

• Customer service
• Timeliness
• Reputation for quality—are you trusted?
• Solid knowledgebase
  • Content experts
Expanding Skill Sets

Expanding skill sets—beyond reporting

• Complex data analyses
• Strong technical writing
• Data presentation (visualizations)
• Communications
OSI’s Organizational Structure

Organizational Structure

Leadership

Institutional Research
- System-wide data collection, analysis, reporting, and in-depth research

Business Intelligence
- Create and maintain all components of Productivity Dashboard and supporting data warehouse

Communications
- Data presentation and reporting; communications and marketing of tools; design, writing, editing of content

Information Systems
- Manages the technology infrastructure, develop applications to support initiatives

Administrative / Project Management
- Administrative support; project management support
This chart shows the relationship between the OSI competencies and the major projects and functions of the office. The chart demonstrates the complexity of the work, a visualization of how each project has many different contributors from our office. OSI uses a multi-disciplinary approach for more creative problem-solving.
Focus on Communication Efforts

• Tell your story
  • Advertise
  • Talk to others about what you are doing (conferences, meetings, etc.)
  • Social media and blogging efforts
• Collaboration w/ external relations (communications/public affairs)
• In-house professionals
Case Study

The UT System Dashboard
Driving Forces

- Board of Regents
- Executive leadership
- State and national trends
Who is the Dashboard for?

Audience: Everyone

- System Administration
- Campuses
- Government; private industry; media
- Public access
- NOT a primary source for students/parents
Finding a Dashboard Solution

End-User Features

• Public-facing (no log-in required)
• User-friendly
• Ability to export
• Web-based custom reporting
• Mobile-friendly
Finding a Dashboard Solution

Internal Requirements

• Data warehouse integration with BI tools
• Streamline processes with automation
• Analyze large data sets
• Conduct robust statistical analyses
Dashboard Version 1

- First launched in December 2011
- Began as online fact book—not a true dashboard
- Started with 10 Core Indicators
- Grew to more than 70 measures
- Included some benchmarking
- Added some interactive data visualizations
User Feedback

• Hard to find what you are looking for
• Long load times
• No context
• Too few outcomes measures
The (r)Evolution of The UT System Dashboard
Responding to User Feedback

• Improve user experience
• Include more outcomes measures
• Create a functioning and highly-focused dashboard
• Incorporate more benchmarking, context, and analysis
• Design to be responsive, and easy to maintain and change
A Collaborative Effort

**DASHBOARD ADVISORY GROUP**

**Focus**
- Overarching goals
- Content Areas
- What matters? (metrics)
- Feedback and guidance

**Members**
- Executive Leadership
- Campus Vice Presidents/Provosts

**WORKING GROUPS**

**Metrics Development**
OSI staff, System staff, campus IR staff
Responsible for:
- Metrics - Refine and Define
- Data Sources
- Breakdowns, Drill-down levels
- Benchmarks/Targets

**Design and Presentation**
OSI staff, System staff
Responsible for:
- New design/user interface
- Data presentation
- Technology selection

**Primary Content Areas**
- Students
- Faculty
- Research / Tech Transfer
- Finance / Productivity
- Health
The Collaboration Process

Workflow at each interchange

OSI Lead / Team

Executive Team

OSI Staff

Working Group

Advisory Group

Propose

Refine / Define

Feedback
Enhancements to the Dashboard

- Improved user experience to promote use
- Focused on outcomes measures
- Added context (What? Why?)
- Developed more infographics
- Created data narratives (stories)
Lessons Learned

• Start small—and start where you are
• Change is hard—expect resistance
• Demonstrate success and value and build on that
• Give them what they want—but show them what’s possible
• Make the hard sell
  • And then do it again
  • And again
Demo

- http://data.utsystem.edu