Got Data

TACRAO Conference
Lubbock, Texas
November 2009
University of Central Missouri: Vitals

- 4-Year Public founded in 1871
  - Located 45 minutes from suburban Kansas City

- Moderately Selective
  - Auto Admit ACT 21+ or 100 Index Score
  - 11,191 Enrollment (8,880 undergraduate)
  - 74% fall-to-fall Retention Rate
  - 1500 in freshmen class
  - 800 in transfer class
  - 26% of FTFT Receive Pell

- EM Portfolio consists of UG Admissions, Transfer and Transition Services, Student Financial Services, Registrar’s Office

- Banner SIS with custom built CRM on the front-end, Hobson E-Retain, Televox
You May Benefit From This Program If….

- You have caused your IS person to cry (or curse) after reviewing a report he/she has seemingly taken weeks to extract from the system and saying, “It looks good. Can you add a few more variables.”
- By the time you receive data analysis reports from IR, you have forgotten the research question(s) you were asking.
- You don’t have your own EM data analyst let alone an EM Research Division!
- You are interested in adopting a more data-centric approach to EM through the use of action research.
SEM Planning Model

Starting point for long term success

Meeting Goals
Tactics
Strategies
Data

Enrollment Infrastructure
Structure, Staffing, Skills, Systems, Service

Clear Mission and Goals
Why Data-Driven Approach to EM?

- Increased Competition/Declining Resource Base
- Turbulent environment
- Extreme uncertainty about means to best achieve certain ends and about what the future holds
- A tremendous (and occasionally unrealistic) expectation for the performance of enrollment staff
- Increasing diversity in academic programs and among students enrolling in them
- Those who control information exert a tremendous influence on organizational leadership. Data is a political tool that allows one to frame the debate
Kalsbeek on Information

“In the higher education environment, it is extremely difficult to get things done, and information becomes a source of considerable political influence precisely because it appears to provide some certainty and remove uncertainty, to provide some ballast amidst the turbulence, and to give reassurance that we are not flying completely blind.”
Data-Driven Decisions

- Have a greater level of objectivity and/or neutrality
- Are generally more credible
- Have concise charts and graphs that help drive points home
- Provide an ability to quantify the benefits and link them to the cost of initiatives

-Indiana University
**Data Progression Model**

- **No Data**
- **Historical Data Captured and Retained but Files Not Merged**
- **Data Files Merged but Strategic Questions Not Asked**
- **Aggregate Data Analysis**
- **Segmented Data Analysis**
- **Regression Analysis**
- **Modeling and Simulation**

*Scannell and Kurz*

*UNIVERSITY OF CENTRAL MISSOURI*
Data Tools

- ACT
  - ACT Class Profile (FREE)
  - ACT Attrition/Retention Analysis (FREE)
  - EIS
  - AIM

- Map Point

- Rapid Insight Analytics

- Skip-(The friendly neighborhood econometrician)

- Smart Draw (Business Graphics Software)
EIS

- Inform discussions with faculty and academic administrators/boards about market realities
- Calculate visibility and yield ratings for various market segments
- Identify market potential and collegiate competition within specific market segments
- Prioritize travel and outreach efforts
- Historical trend data on ACT tested market and institution’s relative position in the market (and sub-markets)
RQ 1: Does UCM need to add a philosophy major?

<table>
<thead>
<tr>
<th># of Students</th>
<th>2008 MO ACT Test Takers Interested in Philosophy</th>
<th>Average ACT Score</th>
</tr>
</thead>
<tbody>
<tr>
<td># of Score Senders</td>
<td>1</td>
<td>20.0</td>
</tr>
<tr>
<td>Yield</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Top 10 Competitors for MO ACT Tested Philosophy Majors (n=41)
Decision: Add a Philosophy Major

Enrollment Manager’s live by the data but die by the anecdote!

– Rationale: All Philosophy Majors in the state are under-enrolled. Why should ours be held to higher standards? In addition, we have 5 students enrolled in an intro to philosophy class that indicate an interest in getting a major in philosophy but have not had the courage to tell their parents of their desire to declare a major in philosophy
AIM

- Access and analyze all of the more than 265 data elements in each ACT student record.
- View data on individual students or aggregate data on targeted groups of students.
- Personalize both recruitment and retention efforts for ACT score-senders.
Moving Down the Data Progression Line-Aggregate Data Analysis, Regression, Modeling and Simulation
**Prospect** Freshman - Fall 2009

### Contact
- Andrea M Miller
- 2146 White Lane Dr
- Chesterfield, MO 63017
- (636) 527-5862
- (636) 751-2220
denisemiller1@sbcglobal.net

### Personal
- 297-92-5749
- Born: 10/29/1990
- Cleveland OH
- Citizenship: USA

### High School
- Parkway West High School
- Ballwin, MO 63011
- Grad: 2009
- Rank: 160/313
- GPA: 3.25
- ACT: 26
- College Choice: 2

### Academic
- Natl. Merit: No
- B/G State: No
- A+ Req: No
- Phi Theta: No
- Parent Grad: Yes
- Parent Alumni: No
- Susp/Dism: None

### General
- Gender: Female
- Ethnic: Caucasian
- Religion:
- Legal Res: Saint Louis MO
- Since: Apr 2004
- Parent MO Res: Apr 2004
- Military: No Service

### Interest-Grade
- Interest: High
- Inquiry Bucket: 1
- Admit Bucket: VIP: N
- Top Academic: N
- Self-Reported HS GPA:  N/A
- Self-Reported ACT: N/A

### History
- Applied: Fall 2009
- Admitted: Fall 2009

### Add Major
- Business (Pre-Business)
- Management & Bus Comm

### Possible Matches
- SSN: 0
- Zip: 0

### Parent/Guardian Contact
- Denise Miller (Parent)
  - (636) 399-0002
  - (636) 399-0002
denisemiller1@sbcglobal.net

- Don Miller (Parent)
  - (636) 399-0002
  - (636) 399-0002
denisemiller1@sbcglobal.net
Rapid Insight Analytics

- Exploratory Analysis
- Automated Modeling
- Automated Profiling
- One Touch Reporting/Presentations
- Variable Creation
- Automated Scoring
- Filtering
- Cross-Tabs

- Means Analysis
- What If Analysis
- Univariate Analysis
- Correlation Analysis
- Variable Statistics
- View/Analyze Your Data
How Utilize RI in Daily Practice

- Funnel Management Efforts
  - Recruitment
    - Targeted and Segmented Communications
    - Personalized approach to recruitment
    - Eliminate/Reduce early and middle funnel staff burn-out
  - Retention

- Table Analysis
  - Yield
  - Financial Aid
  - Retention Management

- Predictive Modeling
  - Inquiry Model
  - Admit Model
  - Retention Model

- Report Generation and Presentation

- Overall business intelligence for EM Program
Exploratory Analysis:
Aggregated and Segmented Data

- Advisor
- College/Dept/Major at entry
- Current College./Dept/Major
- First-Term GPA
- Fall/Spring/Cum Hrs. Att/Hrs Earned and GPA's
- Academic Status (fall and spring)
- HS GPA
- HS Rank
- Date of orientation attendance
- Admit Cycle
- Learning Community
- First Generation
- Index Score
- Hold Information
- Predicted Retention Rate
- FAFSA Filer
- FAFSA Choice
- Enrolled AE 1400/1420
- Admit Status
- Requested Transcript
- Enrollment History
- Persistence Rate
- Gender
- Ethnicity
- Residency
- First Generation
- On-Time Aid Filer
- EFC
- Institutional Aid Award
- Pell Recipient
- Predicted Retention Decile
- On-Line Orientation Survey Responses
Persistence Rate by HRS ATT/HRS Completed Ratio

- 1.0+: 94%
- .75-.99: 85%
- .5-.74: 69%
- 0-.49: 42%
Study Habits Learned in High School Prepared Me For College / Retention Rate

- **Strongly Agree**: 80%
- **Agreement**: 77%
- **Neutral**: 67%
- **Disagree**: 65%
- **Strongly Disagree**: 64%
Planned Hours of Study/Retention Rate

- 1-5: 66%
- 6-10: 71%
- 11-15: 73%
- 16-20: 74%
- 21+: 75%
Preliminary Retention Rate by Index Score
FTFT Domestic Students  N=1499
Preliminary Retention Rate by Academic Mojo

- <2.0 GPA/ <24 HRS Earned: 14%
- <2.0 GPA/ 24+ HRS Earned: 42%
- 2.0+ GPA/ <24 HRS Earned: 40%
- 2.0+ GPA/ +24 HRS Earned: 87%
## Financial Aid Table Analysis:
Slice by residency, ability level, program, ethnicity

<table>
<thead>
<tr>
<th>EFC</th>
<th>0</th>
<th>&lt;999</th>
<th>1K-</th>
<th>2K</th>
<th>3K</th>
<th>4K</th>
<th>5K</th>
<th>6K+</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4041</td>
<td>Admit</td>
<td>Enroll</td>
<td>Yield</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4042-9999</td>
<td>Admit</td>
<td>Enroll</td>
<td>Yield</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10,000+</td>
<td>Admit</td>
<td>Enroll</td>
<td>Yield</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>No FAFSA</td>
<td>Admit</td>
<td>Enroll</td>
<td>Yield</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
### Recruitment/Retention Table Analysis: Yield and Performance Data

<table>
<thead>
<tr>
<th>ACT</th>
<th>HS GPA</th>
<th>&lt;2.0</th>
<th>2.0-2.49</th>
<th>2.5-2.99</th>
<th>3.0-3.49</th>
<th>3.5+</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Missing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;17</td>
<td></td>
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<tr>
<td>18-21</td>
<td></td>
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</tr>
<tr>
<td>22-24</td>
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<tr>
<td>25-27</td>
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<td></td>
</tr>
<tr>
<td>28+</td>
<td></td>
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<tr>
<td>Missing</td>
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<tr>
<td>Totals</td>
<td></td>
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</tr>
</tbody>
</table>
Predictive Modeling-What Is It?

- Predictive modeling is the latest and most sophisticated breakthrough in qualifying a student’s interest and identifying those who are most likely to enroll (or re-enroll).
- Predictive modeling is a statistical analysis of past behavior to simulate future results. For prospective students, the likelihood that a student will enroll is determined by the degree to which the student shares the characteristics of the current student body.
Predictive Modeling-Goals

- Focus marketing resources on individual students who collectively are more likely to enroll
- Focus early intervention efforts and retention management strategies on at-risk students
- Marketing to the individual
- Ultimate level of specificity
- Analyze price sensitivity of students based on how they respond to different price discounts
Modeling-F-F Retention by Risk Level

<table>
<thead>
<tr>
<th>Risk Level</th>
<th>Retention Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL I</td>
<td>90%</td>
</tr>
<tr>
<td>AL II</td>
<td>83%</td>
</tr>
<tr>
<td>AL III</td>
<td>75%</td>
</tr>
<tr>
<td>AL IV</td>
<td>58%</td>
</tr>
<tr>
<td>AL V</td>
<td>46%</td>
</tr>
</tbody>
</table>
Econometric Modeling

- Price sensitivity is a measure of the impact of the published sticker price on students’ application decisions and of financial aid awards on students’ enrollment decisions. It reflects how reactive students are to the full list price and eventual net cost (list price defined as the institution’s published tuition and fees, and net cost as the amount that an individual family is actually asked to pay after both institutional and governmental financial aid awards are taken into account).
Elasticity and Net Revenue

Net Revenue

Elasticity

0.15  1  20

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UCM Enrollments and Predicted Enrollments
UCM Elasticities and Predicted Likelihood

Net Revenue

Elasticity

0%-10%
10%-20%
20%-30%
30%-40%
40%-50%
50%-60%
60%-70%
70%-80%
80%-90%
90%-100%

0.15  1  20
Elasticity
## Modeling and Trade-Off Analysis

<table>
<thead>
<tr>
<th>Metric</th>
<th>Benchmark</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Revenue</td>
<td>N/A</td>
<td>+$837,287</td>
<td>-$1,561,332</td>
</tr>
<tr>
<td>Enrollment</td>
<td>1,355</td>
<td>1,277</td>
<td>1,510</td>
</tr>
<tr>
<td>Aid</td>
<td></td>
<td>$840,820</td>
<td>$4,635,814</td>
</tr>
<tr>
<td>ACT</td>
<td>21.48</td>
<td>21.29</td>
<td>21.53</td>
</tr>
<tr>
<td>Minority</td>
<td>15.8%</td>
<td>16.1%</td>
<td>16.0%</td>
</tr>
</tbody>
</table>
Cost Breakdown of EM Research Tools

EIS: $3,500 (40%)

AIM: $400 (5%)

Rapid Insight: $1,800 (20%)

Map Point: $150 (2%)

Skip: $3,000 (33%)
EM Initiatives Resulting from Data Push

- Establishment of solid PPRC/G Metrics
- Altered admissions standards for consideration into conditional admit program
- Early intervention efforts targeted at student sub-populations that indicate high degree of risk
- Academic Recovery Program for FTFT Placed on ACPRO
- More targeted recruitment efforts and communication plans
- Continuous tweaks to financial aid packaging strategies in an effort to better leverage limited aid dollars
- Academic Success Coaching Program launched focused on at-risk students
Lessons From the Swamp:

- Mine, consolidate and leverage data from multiple sources to increase the power of EM strategies
- Diffuse data across the institution to intentionally disrupt the equilibrium
- Use data as a political tool to enlighten issues, challenge existing mental models, frame policy discussions and define problems
- View organization informatically rather than bureaucratically. Infosclerosis often determines the political capacity to exert influence on the decision process
- Use creative graphic displays of quantitative data to present information persuasively in order to exert influence on the political or decision process
References

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