Office of Institutional Analytics

Data Marts, Business Intelligence, and Analytics

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UNM Technology Days
May 15, 2013
Why are you here?

• To learn about data marts (471245)
• To learn about business intelligence (517546)
• To learn about analytics (517913)
• By mistake (518907)

• Text CODE to 37607 or
• Submit CODE to http://PollEv.com
Why are you here?  Text to 37607 or http://PollEv.com
Plan for Presentation

• Data marts and data warehouses
  – The what, why, and how of data marts

• Business Intelligence Reports
  – Provide support for decision making using data from data marts and other sources

• Analytics
  – Sophisticated analyses of data to provide answers to specific questions
Do you have access to the data you need to do your job?

• Always (380454)
• Sometimes (380455)
• Rarely (380456)
• Never (380457)

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Do you have access to the data you need to do your job? Text to 37607 or http://PollEv.com
UNM Data Flow

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Banner (Transactional Database)
- Finance
- HR/Payroll
- Student Tables

Operational Data Store (ODS)
- Lobo
- Achieve
- Extended University

Data Warehouse
- Student Data Mart
- Financial Planning Data Mart
- Research Administration Data Mart

Reports
- Analysis
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Data Marts

Dimension Tables

- **Instructor**
  - Instructor Name
  - Instructor ID
  - Rank

- **Student**
  - Student Name
  - Student ID
  - Level

- **Course**
  - Course Title
  - CRN
  - Level

- **Semester**
  - Semester
  - Semester Desc
  - Start Date

Fact Tables

- **Student Enrollment**
  - [keys]
  - Credit Hours
  - Grade

- **Course Enrollment**
  - [keys]
  - Total Credit Hours
  - Total Enrollment

Aggregate Data
Data Marts

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- Instructor
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- Semester
  - Semester
  - Semester Desc
  - Start Date

- Calendar - Time
  - Date
  - Day of week
  - Day of Semester

Online Courses
- [keys]
- Time Logged On
- Session Duration

THE UNIVERSITY of NEW MEXICO
## Data Marts

### Dimension Tables

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Student</th>
<th>Course</th>
<th>Semester</th>
<th>Calendar - Time</th>
<th>Advisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructor Name</td>
<td>Student Name</td>
<td>Course Title</td>
<td>Semester</td>
<td>Date</td>
<td>Advisor Name</td>
</tr>
<tr>
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<td>Start Date</td>
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</tr>
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Data Marts

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Fact Tables

- Calendar - Time
  - Date
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- Advisor
  - Advisor Name
  - Advisor ID
  - Program

Advising Contact

- [keys]
- Meet Date
- Academic Issue
Advantages of Data Marts

• Combine and integrate data from multiple sources
• Data structures are defined in the terminology of the user e.g. instructor, course, fund, grant proposal etc.
• Standardize data across the organization: a "single version of the truth"
• Improve turnaround time for creating reports and developing analyses
• Enables access using multiple software tools because a standard data structure is used
WebFOCUS Demonstration
What software do you use most often to analyze data?

- Excel (380319)
- Hyperion (380320)
- MS Office (380321)
- SAS or SPSS (380328)
- Other (380348)

- Text CODE to 37607 or
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What software do you use most often to analyze data? Text to 37607 or http://PollEv.com
Analytics: Pattern Discovery

Clustering

Grp 1

Grp 2

Grp 3

A

B

C

Q1

Q2

Q3

Factor
Analytics: Text Mining
Questions