Implementation of Academic Analytics for Evidence Collection of Student Learning

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Agenda

• Who Are We?
• Background of the Project
• Implementation of Academic Analytics
• Project Timeline
• Some Technical Issues
• Examples of How Data is transformed to Information
• Challenges Encountered
• Conclusion & Recommendations
• Q & A Session
Who Are We?

Characteristics of Lingnan University

• A Publicly-funded Liberal Arts University in Hong Kong – 2,800 students
• Small Class Teaching – class size keeps at 35-40
• Multi-disciplinary Programmes to embrace liberal arts education
• High priority on Internationalization – 50% exchange-out rate
• Close to Full Residence
• First in Hong Kong to establish a Living & Learning Community
• Heavy emphasis on Experiential Learning through Service-Learning, Integrated Learning Programmes (ILP), Civic Engagement, Community Services, etc.
Background of the Project

- Report of a Quality Audit of Lingnan in July 2010 - Recommendation from Quality Assurance Council
  “To develop an Overarching Evaluation Framework to help focus and define appropriate Educational Indicators and to ensure the flow of empirical information for academic and management decision-making”

- Implementation of the new 4-year curriculum w.e.f. 2012-13

- A BI solution is therefore considered essential!!
Implementation of Academic Analytics

- Step 1 – Preparation Works
- Step 2 – Acquisition of System
- Step 3 – Division of Labour
- Step 4 – Server Installation
- Step 5 – Project Planning & Management
- Step 6 – System Refinement & Deployment
- Step 7 – GO LIVE on Internationalization KPI in October 2011!!

(4 months from acquisition of the system)
Implementation of Academic Analytics

Organization

- **BI Steering Group**: To develop plans & set directions; chaired by AVP(AQA)
- **BI Working Group**: To lead the project, define data models, coordinate with Blackboard Analytics & receive training
- **AVP(AA) & Registrar (Champion)**
- **Registry (functional)**
- **ITSC (technical)**
- **Faculty/Support units**
Project Timeline

2010

- **1.0 Preparation Works**
  - Define 5 KPIs

- **2.0 Sourcing & Acquisition of BI System**
  - Sourcing of suitable BI solution
  - Bench with overseas institutions

- **3.0 Division of Labour**
  - Project Planning & Management
    under BI Steering & Working Groups (ongoing)

- **4.0 Server Installation**
  - Hardware & software installation
  - Technical training on MS SQL Server

- **5.0 Project Planning & Management**
  - Receive training from Blackboard
  - Data cleansing, business rules
    validation & GAP analysis (ongoing)
  - Baseline customisation (ongoing)

- **6.0 System Refinement & Deployment**
  - Data warehouse reconciliation
  - Develop reports on internationalisation
    for initial deployment

2011

- **GO LIVE!!**
Implementation starts from building localized KPIs

• Presume the BbA baseline model is valid as Lingnan has followed very closely to the Banner baseline in inputting student data
• Some essential reports are not covered in the baseline model
• Focus on customization instead of learning the baseline model
Customize Data Warehouse

- Review the Technical Reference Guide provided by Blackboard on the specification on the ETL process
Data Massaging in Banner

Banner SATURN Schema

Academic’s Birth Date
1 Jan 1970

Lingnan BIMGR Schema

Academic’s Birth Date
Change to Null

Display birth date as Null
Capture Non-Banner Data

- Most data are captured in Banner but some essential data are spread over Excel files and paper records
- Convert non-Banner data to Banner System
- Find places in Banner to store those data
- Extensive data cleansing and data validation required
Blackboard Analytics System Specifications

- 2 sets of platforms - 4 Physical servers

Diagram:

- Development Platform
  - Database Server
  - ProClarity Server
  - Developers

- Production Platform
  - Database Server
  - ProClarity Server
  - Users
Examples of How Data is Transformed to Information
Overall Evaluation of Outgoing Exchange Students
Personal Growth for Outgoing Exchange Students

8. Outbound personal growth 2011

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<tr>
<th>2011</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither Agree nor Disagree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
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<tbody>
<tr>
<td>More independent</td>
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<td>More out-reaching and mature</td>
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<td>More self-awareness</td>
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<td>Broadening of general knowledge</td>
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<td>More understanding of global/ regional issues</td>
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<td>More confident</td>
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<td>Improve foreign language skills</td>
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<td>Better learning attitudes</td>
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<td>Increase competitiveness for career development</td>
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Sorted by 2011/Strongly Agree
Impact on Interpersonal Skills & Communication Skills
Impact on the Institution

- Change on workflow – more efficient
- Use evidence to make decision – more effective
- More proactive bringing policy to deal with change
- Streamlining the collection of important information
Challenges Encountered

- Cultural Differences – U.S. vs Hong Kong
- Implementation starts from KPI but not Baseline
- Data spread through everywhere
- Change of mindset
Conclusion & Recommendations

• Management Support
• Leadership
• Technology Partner
• Right Tools
• Develop In-house Expertise
• Start from Small and Expand
• Recruit a Champion
Thank You

Q & A Session