Resource Planning at Universities

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Agenda

• Why RP at Unis?
• The Technology
• Case study
An integrated planning framework

- Assumptions
- Courses
- Student numbers
- Facilities
- Revenue
- Staff
- Costs
- Research
- Cash Flow
- GL

[Diagram showing interconnections between the elements]
The importance of RP at a Uni
Many Unis are implementing Enterprise Resource Planning (ERP) Solutions but very little Resource Planning actually takes place – so this is a total misnomer, in fact few organizations do ANY resource planning. These are mostly transaction processing systems and emanated out of MRP systems.

The developed world is screaming for human resources but what can be done about it?
Everyone is now interested in RP

- Hospitals
- Financial institutions
- Defense forces
- Universities
- Airlines

- It is not only a manufacturing issue any more
Unis can learn a lot from other (private sector) organizations that do RP

- They have lots of experience
- They are forced by economic (and other) realities to do so
- They have been using RP systems for some time
- They got to know their constraints
- Methods can be adapted to Unis
### Example of a Food Company RP

#### Sales Forecast

<table>
<thead>
<tr>
<th>Version</th>
<th>BU</th>
<th>Year</th>
<th>Month</th>
<th>All Cost Centres</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2004</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Sales Mix

<table>
<thead>
<tr>
<th>Sales Mix</th>
<th>Sales Value</th>
<th>Selling Price</th>
<th>Unit Cost</th>
<th>Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>20% - Deli Meat Ball</td>
<td>$12,000</td>
<td>$24</td>
<td>$10</td>
<td>20%</td>
</tr>
<tr>
<td>30% - Deli Fruit Salad</td>
<td>$15,000</td>
<td>$30</td>
<td>$15</td>
<td>30%</td>
</tr>
<tr>
<td>10% - Deli Turkey</td>
<td>$5,000</td>
<td>$10</td>
<td>$5</td>
<td>10%</td>
</tr>
<tr>
<td>5% - Deli Chicken</td>
<td>$2,500</td>
<td>$5</td>
<td>$2.50</td>
<td>5%</td>
</tr>
</tbody>
</table>

#### Capacity Plan

<table>
<thead>
<tr>
<th>Labor</th>
<th>Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available Labor Capacity</td>
<td>Utilized Labor Capacity</td>
</tr>
<tr>
<td>Available Process Capacity</td>
<td>Utilized Process Capacity</td>
</tr>
</tbody>
</table>

#### All Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Available Labor Capacity</th>
<th>Utilized Labor Capacity</th>
<th>% Labor Utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slaughter</td>
<td>70,000</td>
<td>20,000</td>
<td>28%</td>
</tr>
<tr>
<td>VOG</td>
<td>65,000</td>
<td>20,000</td>
<td>30%</td>
</tr>
<tr>
<td>Dressing</td>
<td>20,000</td>
<td>10,000</td>
<td>50%</td>
</tr>
<tr>
<td>Extermination</td>
<td>20,000</td>
<td>10,000</td>
<td>50%</td>
</tr>
</tbody>
</table>

#### Profit & Loss Statement

- **Net Sales**: $20,000
- **Cost of Sales**: $7,500
- **Gross Margin**: $12,500
- **Profit Before Taxes**: $5,000
- **Income Taxes**: $1,000
- **Net Income**: $4,000
RP Consists of:

- Demand planning
- Capacity (availability) plan
  - Staff
  - Equipment
  - Systems
- Matching of demand and supply
- Impact on outcomes
  - Financial
  - Learning
Extended RP for a Uni

- Funding formula
- Fee schedule
- Growth assumptions
- Research grants

Demand for courses & research

- Staff plan
- Facilities plan
- Systems plan
- Other resources

- Staff, student ratios
- Capacities
- Capacities and availabilities
- Tuition material

Financial outcomes
Learning outcomes
Demand planning influenced by:

- Employers
- Government incentives and grants
- Economic situation
- Marketing (domestic and international)
- Demographic growth rates
- Fees
- Foreign exchange rates
Available resources

• Cannot always be switched on or off
• Must know availability (time and volume)
• Takes time to acquire (LT)
• Idle capacity is a huge cost
• Objective with RP is to get ALL resources aligned so that cost of delivery is lowest or outcomes are best met
Pie charts of costs

Resources

- Staff
- Facilities
- Systems
- Other
Most important resources

- People (lecturing and support)
- Facilities (lecture rooms, labs, offices, sports facilities, canteens)
- Systems (internet, e-learning, screens)
- Materials (research, classroom)
Good resource planning

• Must be integrated (not fragmented)
• Must take cognizance of organisational drivers
• Must provide for multiple scenarios
• Must show impacts of different levels of resource utilization
• Should (preferably) interact with a supporting costing system
Utilizing Cognos TM1 as a RP tool
Cognos TM1 Capabilities in a Nutshell

- Read/write at speed of thought for Planning and Budgeting
- What-if scenario modeling for Forecasting
- In-memory multi-dimensional cubes for Analysis and Reporting
- Centrally-managed business hierarchies, rules and calculations
- Built-in data and metadata integration
- Leverages Excel functionality and skills
TM1 Unique Value 1: *Deploy Easier*

**User-Driven Design**
- Maximum leverage of business knowledge
- Minimal coding and IT resources
- Rapid “Time to Value”

**Point-And-Click Development**
- Data Integration Wizards
- Expressive Modeling
- Integrated Workflow
- Graphical Screen/Report Builders

**Simplicity**
- One Technology
- One Database
- One Set of Skills
TM1 Unique Value 2: Deploy Faster

Leverage Excel
- Formulas
- Formatting
- Charting

Leverage the Web
- Reach Every User
- Zero Footprint
- Minimal Training

Empower All Users
- Interactive Analysis
- Advanced Visualization
- Automated Data Entry
TM1 Unique Value 3: React Faster

Connect Immediately
- SAP Connector
- Data orchestration

Work Interactively
- In-memory modeling
- Concurrent write then read

Grow Exponentially
- Extensible solutions
- Mainstream 64-bit hardware
Cognos 8 BI with TM1

- Single Portal with Zero-footprint Web Interface
- Reporting, Dashboarding, Ad-hoc Query, Analysis, Scorecarding, Event Management
  - TM1 Web, Executive Viewer
- Common Metadata, Security, Integration Services, Query Engine, Automation, Process Mgt
- Heterogeneous
- RDBMS DW
  - OLAP Data
    - TM1 OLAP
    - PowerPlay
    - SAP BW
    - ESSBASE
    - MS Analysis
    - Services
- Flat Files

Product Direction is subject to change. All forward-looking statements are subject to the Cognos Safe Harbor Statement.
True multi-cube environment

- Cubes
  - Contribution
  - Fee Income
  - GL
  - Global Assumptions
  - Look-up Allocation
  - Look-up Department Codes
  - Look-up Fees
  - Look-up Funding Groups
  - Look-up Funding Levels
  - Look-up Sector Data
  - Look-up Student Staff Ratios
  - Qualification Registrations
  - Research Output Funding
  - Salaries
  - Subject Registrations
  - Teaching Input Funding
  - Teaching Output Funding
  - Weighting Benchmark

CORTELL
Intelligent Business Solutions
• Let us never forget – it is not about the technology – it is about the solution!
Case study

- Large Uni (65000 students)
- 7 Campuses
- Lots of duplication
- Initial objectives
  - Rationalisation into 3 campuses
  - Phasing out of uneconomic courses
  - Financial impacts
Converted Financial Planning system to Resource Planning

- Course and student structure
- FTEs
- Staff to student ratios
- Created scenarios for planning
- Showed impacts on grants, contribution
RP model

• Fee increases per subject per scenario
• Impact on fees and grants
• Change in student numbers
• Impact on fees
• Change in Staff/student ratios
• Impact on costs and contribution
• Change staff plan
• Impact on costs and contribution
Show model
Other applications

- Facilities (link to timetable)
- Class room materials (BOM)
- System impacts (transactions, screens, etc)
- Library
- Other support services (clinics)
Value of integrated RP

- Flexibility
- Scenario analysis
- Impact analysis
- Speed
- Growth options
Cognos Performance 2008

The direct path to performance management expertise.

Come travel with us