A Crescendo of Data

Business Intelligence at McMaster University

Institutional Research & Analysis
Business Intelligence (BI) refers to technologies, applications and practices for the collection, integration, analysis, and presentation of business information. The purpose of Business Intelligence is to support better business decision making.
BI Development Context

- **University’s Intent**
  - To begin BI after the ERP systems were installed and had some opportunity to settle and mature
  - BI kickoff event in Fall 2016.

- **Why Research Administration first?**
  - Condition/maturity of the data.
  - Urgency of the need e.g. are alternatives available?
  - Scope and suitability as a first project – small and defined.
  - Readiness & availability of subject matter experts to participate in the project.

- **Research is a key strategic goal of the University.**
  - Two part: Research Awards and Research Accounting.
Business Intelligence Development Timeline
Research Awards

- **Summer 2016**
  - Decision to use Oracle’s OBIA in place of EPM.
  - Research Awards selected as the first subject area for BI development.
  - Business requirements gathering began with input from McMaster Research offices and Faculties.
  - Beginning of data-modelling process: finding where relevant data is stored, and the rules and logic applied to give that data meaning.

- **Fall 2016**
  - Installation & configuration of hardware & software.
  - Dimensional modelling of data for easy reporting.
  - Oracle licensing finalized for ODI and OBIA.

- **Winter 2017**
  - ETL development and data loading begins.
  - Data source changed from EPM to copy of Production.
  - Report design is finalized with the business team.

- **Spring 2017**
  - Report development begins
  - Data and report testing with the implementation team and users.
BI Projects Underway or Completed

- Research Awards, released July 2017
  - Available to University Executives, Deans, Associate Deans of Research, Directors of Finance and Administration, Research Office Staff.
- Research Accounting, releasing November 2017
  - Releasing to same group as Research Awards, plus Department Chairs and Administrators.
- HR Payroll, anticipated release Spring 2018
  - Costing Model for collective bargaining and assessing impacts of proposed changes (e.g. from new legislation like Bill 148)
- Student Analytics, development beginning Summer 2018.
  - Multi-phase release including:
    - International Student Admissions and Performance Analysis
    - Course Planning & Enrolment Management
    - Student Performance and Retention, Faculty Workloads, Graduate Student Funding and much more to come!
Research Administration

Facts Available

Research Awards
• Awarded Installment Total
• Applied Installment Total
• Awarded Total Amount
• Applied Total Amount
• Success Rate by Dollar Amount
• Success Rate by Number of Projects

Research Accounting:
• External Research Funding
• Internal Transfers
• Expenditures
• Commitments
• Overdrafts

Dimensions Available

• Faculty
• Department
• Principal Investigator
• Sponsor
• Sponsor Program
• Sponsor Classification
• Sponsor Country
• Sponsor Category (Federal Government, Corporate, Ontario Provincial Government, etc)
• Expenditure Category (Salaries, Equipment, Travel, Materials, etc, Research Accounting only)
• Award Type (Student/Non-Student, Research Awards only)
• Funding Source (Sponsor/Original Sponsor, Research Awards Only)
• McMaster Research Office (Research Awards only)
Research Administration

Research Awards Dashboard:

Research Accounting Dashboard:
Research Awards

- Detailed breakdowns by Research Fiscal Year of how much funding was applied for and awarded by each sponsor.
- Funding can be broken into installments or viewed as a single total award.
- Includes success rates for key sponsor programs such as NSERC Discovery Grants.
- Aggregation by Sponsor, Faculty, Department, Principal Investigator
Research Accounting

- Based on same data and logic as the Research Project Statement
- For the first time users will be able to answer questions like ‘How much funding was received by my Faculty (not awarded) in a given year?’
- Includes data on funding, transfers, expenses and commitments.
- Includes drill-downs on Sponsors, Departments and Expenditures.
Live Demo

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