

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.
- Research Administration development began Winter 2017.

■ 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:

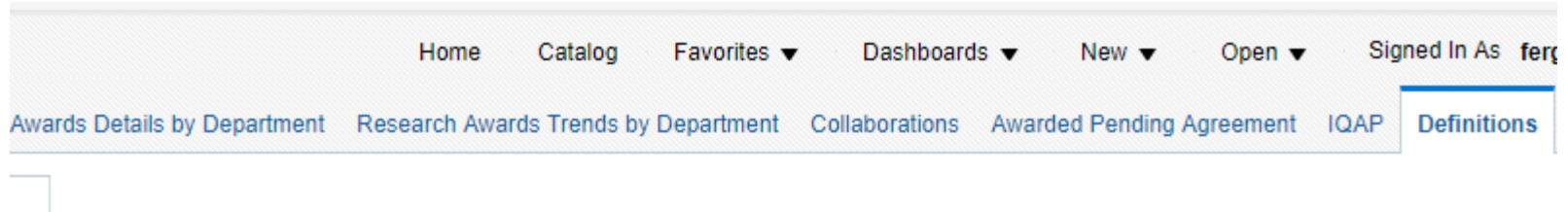
- External Research Funding
- Internal Transfers
- Expenditures
- Commitments
- Overdrafts

Dimensions Available

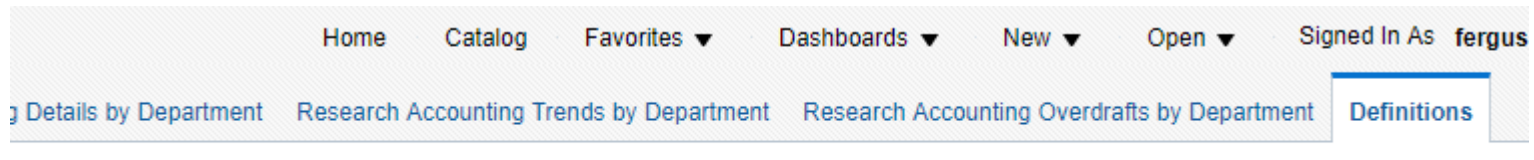
- Faculty
- Department
- Principal Investigator
- Sponsor
- Sponsor Program
- Sponsor Classification
- Sponsor Country
- Sponsor Category (Federal Government, Corporate, Ontario Provincial Government, etc)
- Expenditure Category (Salaries, Equipment, Travel, Materials, etc, Research Accounting only)
- 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:

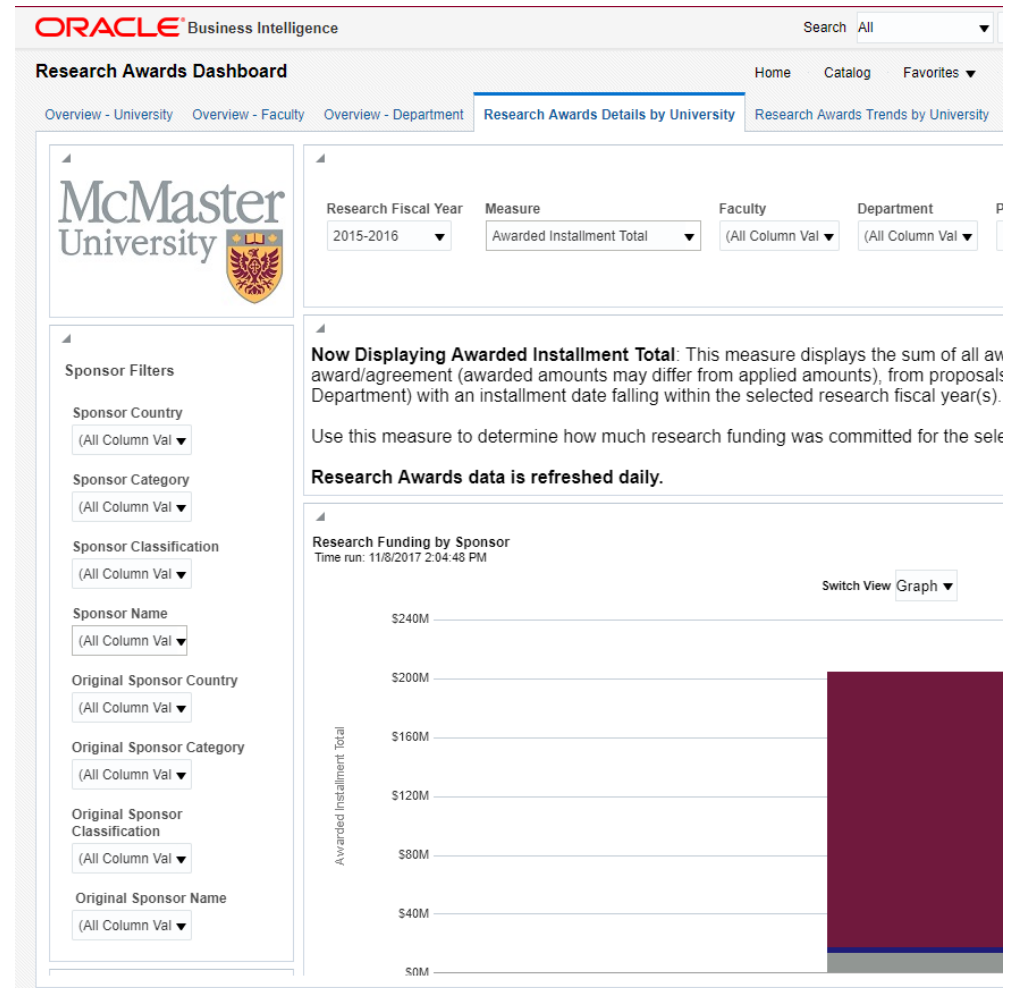


Research Accounting Dashboard:

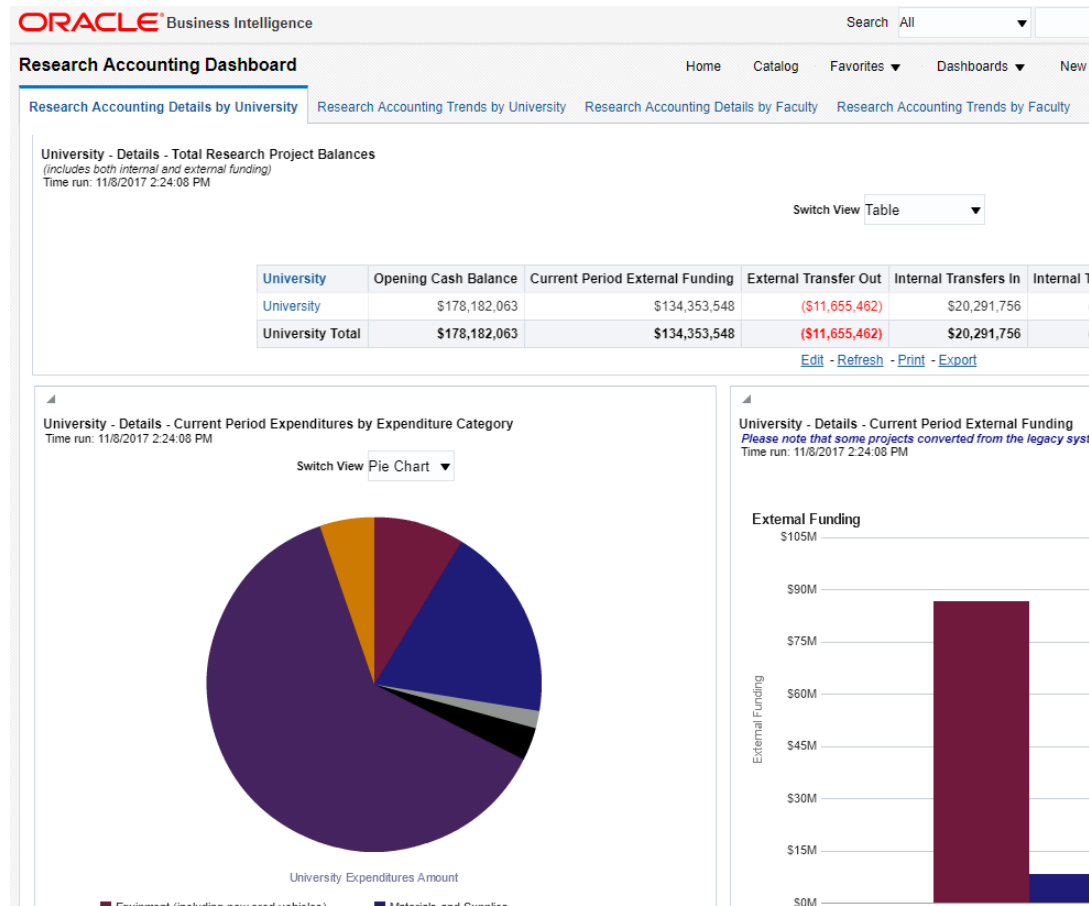


Research Awards

- 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
www.bi.mcmaster.ca



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