Creating a Project Management Tool for Institutional Research

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Presentation Overview

• Background Information

• New Project Management Process
  • Data Collection: Qualtrics
  • Data Analysis: Tableau

• Positive Outcomes and Challenges

• Adaptability to Other IR Offices

• Discussion
Background Information

• Tufts University
  • Private, 4-year, research university
  • Undergraduate, graduate, and professional schools
  • Approximately 10,800 students

• Office of Institutional Research & Evaluation (OIR&E)
  • Office of the Provost
  • Eight primary staff members: Director, two Associate Directors, three Research Analysts, a Business Analyst, and a Coordinator
  • Provides data, topical research, and analytical support to University decision makers within every school and division
Types of Projects

• Surveys
  • Students, alumni, parents, faculty, employers, staff, etc.

• Internal data requests
  • Enrollment, faculty and staff data, course information, etc.

• External data requests
  • IPEDS, Common Data Set, US News, etc.

• Other
  • Program evaluations, IRB reviews, data warehouse, fact book, workshops and presentations, etc.
Project Requests

- Project requests come from a variety of sources
  - Emails to staff members
  - Phone calls to staff members
  - OIR&E Website
  - Cyclical

- Project requests are assigned based on:
  - Current workload
  - Skills/experience
  - Volunteering
Previous Project Management

• Projects stored in Excel file on shared network drive

• Problems with this process:
  • File was rarely updated
  • Analysis of project data was not possible
  • Workbook was very large – containing 22 worksheets
  • Not possible to easily determine open projects
  • Data was entered inconsistently
Project Management Needs

• Central location for all project data
• Process that requires minimal effort to maintain
• Method for easily assigning new projects
• Detailed summary of office activity for Annual Report
• Help redistributing projects when staff member leaves
• Improve project billing process
New Project Management Process

- Project data is collected through Qualtrics (survey software)
- Project data is analyzed in Tableau (data-visualization software)
- Process is automated using Qualtrics API (application programming interface), Python programs and Windows Task Scheduler
Data Collection: Qualtrics

- Designed a form using Qualtrics to collect all relevant project details
- A link to this form is automatically emailed to each OIR&E staff member daily
- Staff members complete form as they start new projects
- If project is not complete, staff members can use a unique link to update project at a future time

https://tuftsir.co1.qualtrics.com/SE/?SID=SV_2a7JldqfAQGHzIX
Advanced Qualtrics Features

• Triggers
  • Trigger emails are sent to staff members when cost estimate is completed
  • Trigger emails are sent to Research Coordinator when project is ready for final billing

• Piped Text
  • End of Survey message contains unique email link based on analyst completing form
  • End of Survey message contains unique link that can be used to update form with additional project details
Advanced Qualtrics Features

• Qualtrics REST API
  • REST API allows you to set up an outside program to interface directly with Qualtrics
  • Python program communicates with Qualtrics to email form
  • Python program communicates with Qualtrics to download data
Data Analysis: Tableau

- Tableau is an interactive data visualization software focused on business intelligence
- Tableau dashboards help analyze OIR&E project data
- Using the Tableau server, dashboards are available for OIR&E staff to access via web browser
- Dashboards can be created using real-time data
OIR&E Projects Dashboard

- Graphically represents the number of projects broken down by analyst
- Shows the areas of the university we are working with
- Lists the names and affiliations of all OIR&E projects
- Allows the user to interact with the data
  - Select a time range
  - Filter by OIR&E Staff member
Assign Project Dashboard

- Displays information on all open projects broken down by analyst
- Allows user to view open projects of selected OIR&E staff member
- User can search for staff members with similar project experience
- Emails with OIR&E Project Form link can be sent directly to selected staff member
Positive Outcomes

- Regularly recording office activity
- Quickly summarize office activity for any given time period
- Project billing process operates more efficiently
- Historical data will allow for more advanced analytics
- All staff members have access to detailed project information
Challenges

• OIR&E Projects Form is not always completed when new projects start
• Limitations with Qualtrics make updating open projects somewhat challenging
• If project data is not kept up-to-date, Tableau dashboards will not reflect real-time information and project billing may be delayed
• Inconsistent data entry
Next Steps

• Short-term
  • Improve process for updating open projects
  • Regularly send project summaries to staff members to aid in keeping data up-to-date
  • Create dashboard that allows for advanced searching

• Long-term
  • Improve analytics using advanced Tableau calculations
  • Link project activity with other OIR&E office data (e.g., budget, student workers)
Adaptability

- Qualtrics form can be embedded in website
  - Allows clients to submit data requests
  - All data requests are being saved in central location

- Tableau Public
  - Free service
  - Warning: Data is stored on Tableau Public server and therefore, publicly available on the web

- Automation does not require advanced IT resources
  - Computer Science student
  - Qualtrics documentation
Discussion

• Questions, Comments?
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• A copy of this presentation will be uploaded to our website (and to NEAIR’s)

http://provost.tufts.edu/institutionalresearch/