

ABSTRACT: 2014 CIRPA Best Practices Award

NAIT purchased and installed enterprise level data visualization software in 2013. Though a desktop version of the software has been in use in the NAIT Department of Institutional Research since 2007, the transition to the enterprise version represented an unprecedented dissemination of and access to institutional data. Early in the transition to the enterprise version, human and technical resource constraints were identified as a key risk to the success of the implementation. However, efforts by a key individual within the IR office and the ease of installation of the software allowed for a 'soft launch' into the institutional community that has a) greatly expanded institutional access to data; b) greatly increased the efficiency of IR in disseminating data to key constituents, and c) has not created significant new demands on the IR team. The experience at NAIT suggests that even a small IR office can support an enterprise installation of data visualization software, greatly increasing the effectiveness, versatility and visibility of key data throughout an institution.

1. Transferability:

The manner in which the software has been rolled out at NAIT could be emulated by virtually any institution. The key elements behind the success of the project are two-fold. First, the ease of installation and management of the software from an IT perspective has reduced the involvement of the IT group considerably. This also allayed human and technical resourcing concerns from IT beyond the installation event itself. The cost of the software was also relatively low in comparison with other enterprise-wide software products. Second, the process of training users is being done on a user-by-user basis, resulting in a very soft launch of the product. Over the course of the last year, one resource in IR has provided one-on-one training to approximately 30 individuals at the institution, but there have been over 170 users that have accessed the published views.

Anecdotally, we know that knowledgeable users are beginning to assist colleagues, further reducing demands on IR.

2. Innovation:

The use of business intelligence tools is expanding rapidly. NAIT's approach, however, has differed from many BI implementations in significant ways. First, the software was first used to improve efficiencies within the IR office, and subsequently rolled out to the institute, rather than having been a 'top down' implementation. By taking this approach, there were minimal additional demands on IR resources as the expertise was already developed in the IR office. Second, the user rollout and training was controlled by IR. By not following a typical 'hard launch' of the tool, IR has had more control over data use, data quality, and user experience. User contact with IR is much more direct and informal, increasing the user experience and the appropriateness of the data use across the institute.

3. Quality impact.

No formal evaluation of the software implementation has been undertaken. However, some key outcomes that have been observed include: a) Resource efficiency within IR. Initially, the software greatly increased the ability to produce static program and school level reporting over similar tools. With the enterprise application, users can access similar reporting views, but with the ability to self-select criteria from the view itself. Self-service by the end user has reduced the amount of time IR staff take producing static reports that may not fully meet the needs of the client; and b) User engagement. The ability of the end user to customize views engages the user to better understand the data, understand better the questions they are asking and helps business units better understand the relationship between the quality of data input and the quality of data outputs.

4. Transformative value

The introduction of the software has been transformative in two respects. First, within the IR office, it has dramatically improved the ability and efficiency of IR staff to access and analyze data. Whether

it is data within the institutional data warehouse or the dataset from a survey, the software allows very efficient summary of the data, freeing resources to focus on other work. In addition, because the effectiveness of the tool depends on the underlying data structure, it has altered the manner in which IR staff work with data, improving data management and data modeling practices. Second, the external user experience with data and reporting at NAIT has begun to change. The dynamic interaction with data that the software encourages has already influenced questions that are asked of IR, reflecting a greater understanding by end users of data that impacts their work. This engagement also ensures that end users are receiving the data they need to work effectively, as opposed to the creation and dissemination of static reporting from IR that may or may not meet user needs.

Project Summary

NAIT Department of Institutional Research first began to use a desktop version of a popular data visualization software in 2007. A key IR department member (who has been the singular force behind the success of the software at NAIT) proposed using the software as a means of creating efficiencies in his own work, primarily as a tool to more efficiently produce the static program and school-level reports for posting to the web. NAIT has in excess of 125 programs including apprentice training, resulting in thousands of reports, representing months of staff time each year. The software, therefore, represented a solution to a resource problem that many IR departments face.

Realizing the potential value of having key data users access reports on their own, NAIT purchased a five license version of the software. This allowed the staff member to publish reports with a variety of selectable dimensions to which allowed the user to customize their view based on the dimensions they chose (for example, enrolments by school, program, gender, new or continuing student, etc). This allowed the staff member to publish single views that could satisfy a wide variety of data needs.

Working with the few key users, the value of having greater access across the institute became clear. NAIT then purchased a full enterprise version of the software. This version provides access to published views by any staff member, provided the permissions set on the views allow access. Because the IR staff member was (and is) the 'power user' in the institute and was the only person publishing views for access, there was considerable concern that demand would overwhelm his ability to train and support users across the institute. The solution was a very soft launch that enabled the staff member to introduce individuals to the software in a very controlled fashion (including resources on the IR website), allowed him to create views for specific users as needed and to slowly widen the range of permissions as understanding of how the data was being presented grew. Currently, approximately 170 users have accessed views published with the software, with one-on-one orientations for about 30 individuals. Those numbers will continue to increase as the use of the software becomes more entrenched into the business processes within the institute.

A corollary to this implementation of the software has been the importance of efforts of our key IR staff member. He was instrumental in first identifying the software as a useful tool to assist the work of the IR office. Later, as he became more proficient, he has advocated for the use and purchase of the software, as well as becoming a vocal advocate for the importance of data modeling in IR and within the institute. He has stressed that to get the most out of any data visualization tool, the data has to be in a form that allows the tool to work effectively. He has shared his knowledge widely across the institute, as well as assisting IR colleagues in other cities and provinces, and has presented on data modeling to groups like the Alberta Institutional Research (ABIR) group. The importance of developing capacity in data modeling is also a key part of the success of this type of implementation, though such expertise may be found in business areas other than institutional research.