

Developing and using a Performance Measures Dashboard

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Executive Summary

Northern Michigan University has developed a comprehensive performance measures dashboard that provides actionable data to decision makers on a timely basis in a user-friendly format.

At NMU, the need for useable, actionable data was apparent. Competition from other universities, performance measure requirements from state government, the necessity to analyze finances, staffing and operations – all of these require data. Although the university had vast amounts of data, prior to dashboard implementation, access to data was cumbersome and inconsistent. Standard key performance indicators didn't exist.

The performance dashboard provides an easy-to-understand, succinct way of presenting data. It offers a quick 'at a glance' overview of how the university is doing in four areas:

- program sustainability and vitality
- student success and outcomes
- financial effectiveness
- state and university priorities

Key Performance Indicators (KPIs) in each area show how the university is meeting its goals by means of red, yellow and green indicators. Right away, a determination can be made as to whether or not further investigation is necessary.

The project began with the creation of a cross-departmental team who knew and understood the need for data and how it was going to be used, as well as the IT folks who were going to build the dashboard. A series of meetings were held to identify the KPIs and targets and layout the dashboard framework. The team identified the target audience, and decided how often the data was going to be updated and what level of detail the dashboard was going to present. Information Technology staff then identified, evaluated and selected software and created a dashboard prototype and populated it with data. Once staff from Institutional Research vetted and validated the dashboard data, the dashboard was shown to the provost, vice presidents and deans for review. Final tweaks were made and the dashboard was presented to the Board of Trustees in May, 2013.

Today the dashboard serves as a consistent measurement system that allows the university's executive management team to measure, monitor and manage university business activity and to evaluate how the university is meeting its goals and objectives.

Introduction of the Organization

Northern Michigan University, located on the shores of Lake Superior in Michigan's Upper Peninsula, is a dynamic four-year, public university with a reputation for award-winning leadership programs, cutting-edge technology initiatives and nationally recognized academic programs. NMU is one of three Michigan public universities to also serve a community college role for its region, offering programs that range from one-year diplomas through doctoral degrees.

NMU serves about 8,500 students with more than 180 degree programs, including 18 that are at the graduate level and one at the doctoral level. NMU is one of only two Michigan universities to have an entrepreneurship major and has one of the few programs in the country for both ski management and wildland firefighting.

Northern's 360 acre campus is located in Marquette, a city of 21,000 residents. Designated one of America's Top Mountain Bike Towns by *USA Today* (Oct. 2013) and One of the Ten Best Small Cities to Raise a Family, *Forbes* (Oct. 2010) Marquette provides excellent quality of life. And, Michigan's Upper Peninsula is known for its safe, friendly and natural environment. The Marquette community and Northern Michigan University are intricately intertwined, which adds to the vitality of the area and to the opportunities available to NMU students. The diversity of the Upper Peninsula's geographical terrain serves the NMU community as an extensive outdoor classroom.

Statement of the Problem/Initiative

The university had a critical need for a process that would provide the means to monitor, analyze, and communicate university performance with respect to strategic, operational and resource management.

Prior to 2013, university administrators, including the President and the Board of Trustees, the Provost, the Vice Presidents, and the Deans and Department Heads relied on paper reports supplied by central IT for data. Attempts had been made to provide online access to information but because it was not easily accessible and not user friendly, it was not readily embraced by university leaders.

A standard and consistent set of key performance indicators did not exist. Where measures did exist, multiple definitions for the same measure could be found. Graduation and retention rates, for example, were sometimes reported in terms of the cohort group and sometimes in terms of the class level.

The need for consistent, easily accessible, actionable data was recognized.

Design

Although the university had been working with and using data since the mid-1990's, the need for identifying a consistent set of key performance indicators and presenting them in an easy use format reached a critical point in 2012. University leadership issued the charge and the following steps were followed to implement a performance dashboard:

- A cross departmental 'knowledge management' team was established
- Key performance categories were identified
 - Alignment with UP and Michigan priorities
 - Program sustainability and vitality
 - Student success and outcomes
 - Financial effectiveness
- Key performance indicators for each category were identified
- KPIs were aligned with the university strategic plan
- Target measures were established
- Decisions were made:
 - Audience (public or internal)
 - Timeframe
 - Update process
 - Look and feel refined
 - Added the paw print, tested with various browsers
 - Level of drill-down (college, department, major)
- Software was evaluated but proved to be cost prohibitive
- Data sources were identified

- Prototype dashboard created
- Academic data validated and vetted by Institutional Research
- Financial data validated and vetted by the Assistant V. P., Finance and Planning
- Dashboard presented to Deans and Department Heads for feedback
- Presentation made to Board of Trustees
- Additional features and functionality were added
 - Trend data
 - Sort capability
 - Averages of past years' data
- Dashboard moved under campus portal
- Success of the dashboard measured by:
 - Number of users with access to the dashboard
 - Ability to make decisions based on the data presented
 - Ability to analyze whether or not targets are being met
 - Relevance of key performance indicators

Implementation

Once the knowledge management team identified the key performance indicators other questions were answered: who was the audience, where was the data going to come from, what timeframe should the dashboard cover and how often would it be refreshed and what level of detail should it provide. The decision initially was to make the dashboard public. Since the university had been using the IBM Cognos software for reporting since the mid 1990's the logical choice was to use it for creating the dashboard. However, the cost of the public facing license proved to be cost prohibitive so other software was investigated. In the end, IT decided to use data generated by Cognos but to create the dashboard using PHP. The dashboard was presented to the Board of Trustees in May of 2013 and went live in October, 2013. It was removed from the university's public website and brought to an internal website in December.

The following factors significantly contributed to the timeliness and success of this project:

- High degree of technical skills
- Familiarity with the university's reporting tool
- Knowledge of the university's data
- Establishing a cross-departmental knowledge management team
- Project endorsement from the highest level
- Board of Trustees request
- Availability and ease of use

Benefits

The performance measures dashboard has greatly increased visibility into university operations and has empowered users make informed decisions about their areas. One of the most important benefits, because of its ease of use, is the access to data that it provides. Other benefits that have resulted from the performance dashboard are:

- Presents an at-a-glance view of university KPIs
- Identifies areas where further investigation is required
- Standardizes measures
- Facilitates discussion among university leaders
- Facilitates data driven decision making
- Displays trend, variance and target information
- Allows each college to focus on their data
- Gives university leaders sortable, varied views of data

Retrospect

In retrospect, the Knowledge Management Team would have preferred to create a pilot dashboard and present it to university executives so that input could be gathered and project details could be flushed out. Determining that the dashboard was going to be internal and not public right at the beginning would have reduced the timeline and stress level of this project. Preference would have been to use the university's software reporting tool for creating the dashboard rather than using PHP.