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The Enrollment Research Team: An Example of Collaborative Strategic Enrollment Management Research

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Abstract
Effective strategic enrollment management (SEM) requires a "data rich environment" (Bontrager 2004)—a significant amount of data, intentional efforts to analyze the data and processes through which the results of the analysis can be implemented. In other words, successful SEM involves research. Although few would disagree that research is a necessary component of SEM, institutions may struggle with finding or aligning their resources (time, money and personnel) to adequately fulfill their research needs.

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The Enrollment Research Team: An Example of Collaborative Strategic Enrollment Management Research

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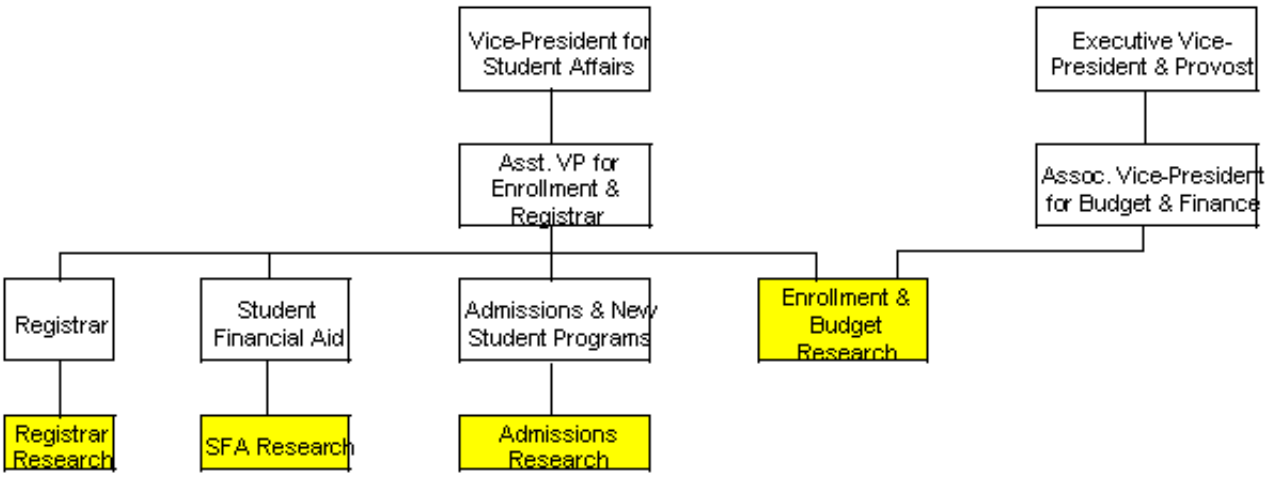
Effective strategic enrollment management (SEM) requires a "data rich environment" (Bontrager 2004) —a significant amount of data, intentional efforts to analyze the data and processes through which the results of the analysis can be implemented. In other words, successful SEM involves research. Although few would disagree that research is a necessary component of SEM, institutions may struggle with finding or aligning their resources (time, money and personnel) to adequately fulfill their research needs.

In 2007, the Enrollment Services Offices at Iowa State University took steps to address this need. Staff in the admissions, registrar's and financial aid offices and the director of enrollment research began to work together as members of the newly created Enrollment Research Team (ERT). Through this collaboration, the ERT has undertaken several significant research projects that have aided Iowa State University's strategic enrollment initiatives. However, as in most other research projects, unforeseen challenges arose that had to be addressed. This article focuses on one university's efforts to develop a research team focused on SEM initiatives and, through practical examples, discusses some of the challenges associated with these efforts. In addition, this article provides tips for institutions seeking to implement a similar model. Differences in organizational structure across institutions may make it difficult to form an ERT; however, we believe that the benefits of collaborative work and the ability to make data-driven decisions outweigh the costs.

Organizational Structure at Iowa State University
Iowa State University's enrollment management operationally falls within the Division of Student Affairs.



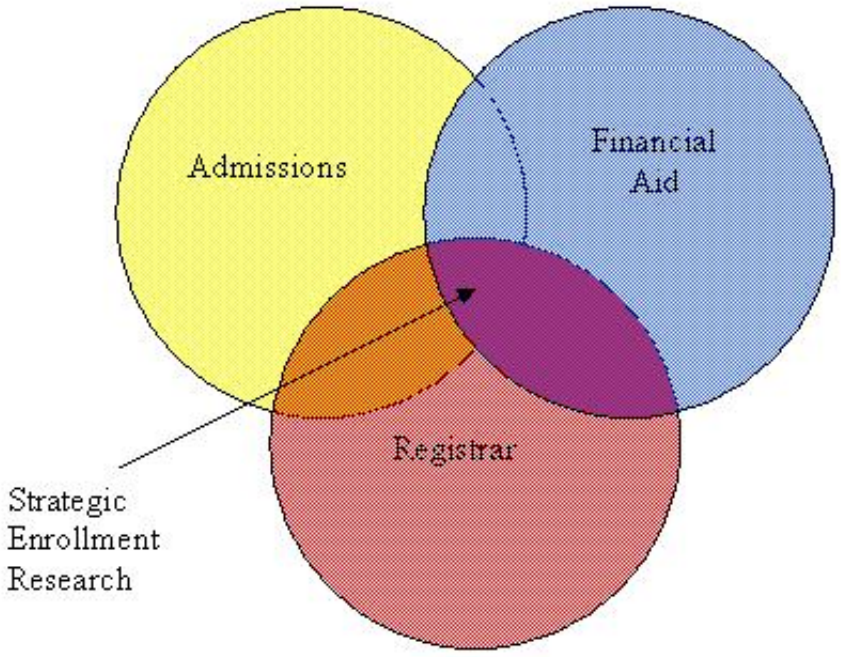
There are four directors that make up the enrollment leaders: the registrar, director of student financial aid, director of admissions and new student programs and director of enrollment research. The registrar is also assistant vice-president for enrollment and is responsible for the coordination of enrollment management. Each of the enrollment leaders has research staff on their teams. The ERT comprises the director of enrollment research and the research staff from the three enrollment services offices.

A few years ago, Iowa State University transitioned to a responsibility-centered management approach

to budgeting, the "Resource Management Model" (RMM). The director of enrollment research shifted to a split appointment between the executive vice-president and provost's office (working on the data and models underlying the RMM) and enrollment management (continuing the enrollment research work).The title is now Director of Budget and Enrollment Research.

Before the transition to the RMM budget, the university used incremental budgeting that allocated an equal percentage increase in base budgets for all colleges regardless of what happened to enrollment in any specific college. The RMM has changed this and now allocates tuition revenue to colleges based on the number of students enrolled and the credit hours taught. Because of this, colleges have a stronger interest in recruitment and retention. With only half of the director's time allocated specifically for this task and the newly increased demand for enrollment data because of the RMM, it became apparent that the demand for SEM research would increase. Using newly hired research staff in the admissions and registrar's offices and existing research staff members from financial aid, the ERT was created.

Figure 2 illustrates the three units involved in this collaboration. The members of the ERT maintain primary responsibility for research within their individual units: federal reporting and quality assurance in student financial aid, federal reporting and institutional retention in the registrar's office and recruitment strategies in the admissions office.



According to Goff and Lane (2008), a successful SEM model requires first a vision that "transcends divisional boundaries and other administrative silos" (p. 25). The second step is to designate responsibility for each of the primary SEM functions (such as enrollment research) within the framework of the organizational structure. By creating a team that integrates all three areas and by relying on this team for SEM analysis, Iowa State has worked to accomplish these two goals.

Components of SEM Research

The primary role of the ERT is to conduct research that intersects two or more units. Partnership between the Office of Admissions and the Office of Student Financial Aid makes it possible to improve recruitment efforts through a better understanding of targeted aid. Data from financial aid and the registrar can be used together to target aid to improve retention efforts. High school data from admissions with data from the registrar makes it possible to better evaluate the academic success of students enrolled at the university.

The intersection of the three units is where SEM research becomes most effective. For example, the development of financial aid strategies that could attract students and increase retention rates could be accomplished only by using data from all three units. Analyzing these types of problems requires that the ERT knows the structure and data elements of each data set, understands which data sets to use to answer each particular problem and applies the appropriate research methods to address the question at hand. (See Kalsbeek & Hossler [2008] for an excellent discussion of this topic.)

To make the ERT work effectively, we started by building a strong data foundation. One of the first steps in getting organized was to set aside time to meet on a regular basis, so we scheduled time twice a month. The initial meetings revolved around developing cross-training on data sets. Each team member discussed key data sets within his or her area, clearly articulating the structure of the data set and how the more common and important variables are defined.

In addition to the regular meetings, occasional "retreats" or "work days" have been arranged so that team members can meet in a location away from their offices and focus exclusively on larger projects.

During the initial planning phase of projects, we discuss the overall goal of the project and begin to define the methodology, study cohort and required data. Depending on the complexity of the data request, we may define the data needs conceptually and then break to allow each team member time to work on her or his portion of the data. The team reconvenes to combine the data sets and work on the analysis. For smaller projects or projects that use data we've already gathered, we move to analysis and discussion much more quickly.

Second, it was decided early on in our collaboration that using the same data management and statistical analysis tools would simplify our efforts. Our team had various levels of expertise in different software applications (e.g., Excel, Access, SPSS, SAS, and Stata) but decided that it was not practical to use all of them. For instance, running an analysis in SPSS requires different knowledge set than running an analysis in Stata. Merging data in Excel is different than merging data in Access. Focusing on one or two software programs provides a more consistent approach to data management and analysis and also limits the number of programs and program languages staff members need to learn. Undoubtedly, training will be needed for staff members who may not be familiar with the chosen software. This initial training, however, is a wise long-term investment. The best software to use depends on a number of factors: the nature and size of the data sets, the type and complexity of analysis needed, the money that can be devoted to purchasing and maintaining software licenses, the expertise within the staff and the training and technical support needed to assist staff. Having knowledge of and access to a robust statistical analysis software, such as SAS, SPSS or Stata, has allowed the ERT to work with larger multiyear data sets and conduct statistical analysis such as probit and logistic regressions, which are statistical techniques designed to examine yes/no (enroll/don't enroll) decisions.

Third, it was also necessary for all team members to have access to data from every unit. To facilitate the sharing of data and projects, a shared network space was created by the information technology department. This network drive is used to store archived data sets, program files and reports, improving collaboration and project management.

We quickly realized the importance of downloading data on a regular and consistent basis. These scheduled data downloads were necessary to compare data across offices and to examine changes from year to year. For example, comparing the relationship between student financial aid awards and the number of enrolled students will be accurate only if both units have data from a similar time point. Therefore, each unit is responsible for taking snapshots of its data files at regular intervals (e.g., monthly or at the university census enrollment date) and these files can then be used to inform decisions regarding new student enrollment or financial aid expenditures.

Finally, the success of the ERT relies on the support from the directors in each area. The director of the research unit oversees the team, but each team member reports to his or her own director. Working on ERT projects means less time for departmental projects. Therefore, the director of each unit must value the ERT and support and encourage the staff member's commitment to the team.

SEM Collaboration in Action

One of the results of our collaboration has been the creation of what we refer to as a "super data set." Four members of the ERT attended the 2007 American Association of Collegiate Registrars and Admissions Officers SEM Conference and several listened to Dr. Tom Green's session titled "Financial Aid Leveraging: Tools for Analysis and Basic Designs." This session described the benefits of having a single data set that contained one record per student and provided information on the aid offered to each student. The ERT's data set included many elements that Dr. Green described and added the retention for each student. Although the data set remained one record per student, it moved from a one-year snapshot to a multiyear view of each student (a panel data set). This allows us to examine the influence of financial aid from several years on retention and graduation rates and also on enrollment the following year. This super data set combines data from the admissions office on applicants, offers and enrolled students; data from the registrar's office on student retention and academic performance over several years; and data from the financial aid office on student financial aid and income over time. This data set has been an invaluable resource for the team. Having multiple years of data has allowed us to understand trends in recruitment, retention and financial aid and allows the analysis and effectiveness of future strategies.

Other Challenges

Establishing the ERT has resulted in a number of challenges. Some of the challenges (e.g., understanding and sharing of data, agreeing on a software package) have been addressed previously. A few more challenges are worth noting.

What's in a Name?

The ERT quickly realized that "what's in a name" does matter. One of the benefits of the ERT was its ability to combine various data sets. However, for these data sets to be combined, common variables need to exist in each data set. For instance, if we wanted to examine the characteristics of the fall 2008

freshman class, all data sets needed to have ways to identify students who entered in 2008. Although the "2008" variable was included in each data set, none of the data sets identified "2008" in the same way. The name of the variable in admissions data is "Entry Term," whereas the registrar's office calls it "Admission Term" and financial aid calls it "Aid Year."

Communication

Even when data are integrated, communication among members is still essential to produce accurate results. Challenges arose when discussing the identification of first generation students. The super data set contained three variables—all coded differently—that could indicate first generation status: mother's education, father's education and first generation status. The first two variables came from the Free Application for Federal Student Aid, whereas the third came from the Office of Admissions. The staff member from the Office of the Registrar had to consult with the other members of the ERT to understand the nature and source of these variables. Investing time and having an environment to question definitions improves the accuracy and quality of the research.

Without proper communication, understanding the nature of different data sets can lead to confusion. Some data sets are updated daily or weekly, whereas others represent a snapshot at a specific point in the semester (such as the 10th day of classes or the end of the term). Whendata are collected is important. For example, enrollment data are collected on the 10th day of classes for the registrar's and admissions offices, but for the financial aid office, the file containing actual aid that has been given to enrolled students cannot be obtained until a few weeks after the 10th day of classes, when nondispersed aid has been removed from their system.

A Balancing Act

As mentioned earlier, each member of the ERT has a "home" department and department-specific responsibilities that require attention. At times it may be difficult to determine which tasks should take priority. This challenge can be minimized by proper planning, but there are times when an unexpected but quickly needed research request is made. These situations can make it difficult to effectively manage workload and priorities. In these instances, it is especially important that the unit director is kept informed and is supportive of the ERT activities.

Ironically, the ERT also has found itself in a balancing act between the priorities of its home units and other units across campus. While the benefits of the implementation of the ERT have received broader university recognition, requests from other units—either for our assistance or for use of our data—have also increased. When time allows we have tried to assist our college partners, but in some instances we have had to delay our help or decline altogether. We have also taken steps to ensure that any research data we may share is done within the Family Educational Rights and Privacy Act guidelines and with the approval of the Human Subject Review board.

Benefits of the ERT

More Comprehensive Research

As originally intended, the ERT is a collaborative group that focuses on SEM research. The SEM research that we are conducting has been used to make decisions that work toward improving recruitment and retention, increasing tuition revenue and improving student learning and access. It is possible to conduct this type of research without the development of an ERT. However, its development has enabled us to look at issues more thoroughly, have access to a broader scope of data, have more confidence in the validity of our data and results and be more efficient.

Check, Check and Recheck

In addition to the research that has been produced, other benefits are worth mentioning. The old adage applies that "two heads are better than one" or, as is the case with the ERT, "five heads are better than one." Anyone who does research knows the importance of checking and rechecking data, screening for mistakes and verifying results. Even the most diligent researcher can overlook simple mistakes. Having five people review data and analysis decreases the chance for error. This is not to say that we haven't made any mistakes, but reviewing the data as a group has prevented some otherwise significant errors.

Diversity of Experience

Each team member brings his or her own set of experiences, education and expertise. We have people with backgrounds in psychology, economics, higher education, public administration and business. We possess experience in quantitative and qualitative research methods, data warehousing and data management. Although each of our units has a different focus (e.g., recruiting students, financial aid), these various perspectives lead to a more comprehensive understanding of the research task. For example, if we found that one group of students was less likely to persist than another group, it is important to understand the recruitment strategies that may have led to their enrollment at Iowa State and to be aware of the financial aid that may or may not be available to certain groups of students. Although this information may be uncovered from the raw data, a much more comprehensive understanding can be achieved through conversations among ERT members.

Broader University Recognition

Our combined strength is being noticed throughout the university. The ERT has worked on research that has had implications beyond the three units of enrollment management. Our research in retention, for instance, has been used by staff in the Academic Success Center, Dean of Students Office and Department of Residence to develop strategies for improving retention. Through these collaborations, we have been able to build credibility within the university as a source of reliable information for senior administrators. We have also been able to partner with other offices that have data sets and research that add value to our enrollment and retention research. In these times of tight budgets, it has also served to underscore the importance and value of dedicating resources for research.

Conclusion

The creation of the ERT has assisted our enrollment services unit in making data-driven SEM decisions. We have presented one model for how this can be done but recognize that other models exist. Some institutions may wish to involve personnel from institutional research; staff from the dean of students office, the provost's office or residence life; or faculty, to name a few. As Hossler and Kalsbeek (2008) point out, the organizational structure of the enrollment management unit is not as important as its capabilities, including the ability to conduct ongoing research and to reach beyond administrative silos to share information and decision making. Regardless of how it is structured, we have found that a group of people working collaboratively on SEM projects can produce valuable results.

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