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Strategies and Tools Used to Collect and Report Strategic Plan Data

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Abstract

Academic institutions are becoming increasingly interested in the collection and presentation of data to support strategic planning, accreditation, and accountability needs. With an increased emphasis on campus-wide involvement and centralized data collection at some institutions, the integrity, accessibility, and interpretation of data become key elements. The role the Office of Institutional Research plays in the preparation and maintenance of this information is critical. This case study comes at the end of the first year of one institution's strategic plan implementation and the preparation of the first progress report. This paper will take you through the process used to establish contacts across the university, the collection and management of data and the formatting of facts and figures for clear and accessible presentation to diverse audiences.

Strategies and Tools Used to Collect and Report Strategic Plan Data

With the increase of data available to colleges and universities from both internal and external sources, and the dramatic increase in the technical tools available to manage and to access data, institutional researchers have the opportunity to become knowledge managers. Organizing data for decision-making in a meaningful and useful way is essential for strategic planning, accreditation, and other accountability needs for institutions of higher education. The case study below describes the process of developing strategies and tools to meet the needs of strategic planning data collection and reporting that may be informative to those charged with similar tasks.

Background

In August 2000, the university in this study hired a new president. The new president's decision-making style is definitively data driven. One of his top priorities was to develop and implement a strategic plan. By November 2001, a strategic plan had been approved by the Board of Trustees and was ready for implementation. The plan included strategies tied to the goals of 1) learning, 2) discovery, and 3) engagement to bring the university to the "Next Level: Preeminence." Specific metrics were provided for each of these strategies to in order to assess measurable progress. In addition to measures that were internal to the university, there were also external metrics, or benchmarks, identified to measure our university's progress compared to a selected group of 11 aspirational peer institutions.

About the same time the plan was approved, an Office of Institutional Research (IR) was created. Historically, the function of institutional research was handled by the Office of Budget and Fiscal Planning. However, with the increased data needs of the new administration and the demands of providing data for strategic plan implementation, it was determined that a separate IR office was needed. The office fits organizationally under the Office of the President. This

placement has proven helpful when garnering cooperation from offices and individuals across the campus.

Fortunately, two critical activities occurred prior to the arrival of the new president setting the stage for moving towards a knowledge management role for the function of institutional research. The first of these was the creation of the Institutional Data Network (IDN). This group was formed in the summer of 1999 to meet several university needs including: 1) providing consistent and accurate data to external sources; 2) responding to information requests about the university in a unified way; 3) serving as a coordinating body to provide accurate institutional research information. More than 45 staff members from across the campus were IDN members representing approximately 20 offices. The IDN met on a monthly basis to discuss data issues. Offices and individuals were identified as "official" sources of data and the culture of reporting with a unified voice was initiated. Corak and Wharton (1993) discuss the importance of strong leadership during times of institutional change. The IDN provided strength by unifying data and creating more knowledgeable administrators.

The second important activity that occurred was the preparation of the *Data Digest.* First published in January 2001, the digest provides historical information about the university in an easy-to-use format on topics including: students, instruction, faculty and staff, research, and facilities. Data for the *Digest* was provided by the IDN members each having responsibility for specific pages in their respective areas. IR staff members coordinated the collection and proofing of data ; the actual document was designed by the marketing communications staff which was also responsible for the web-based version. In addition to now having a single authoritative source of data about the university, the climate for understanding the need for standard definitions, authoritative sources, and data experts had been established.

These two activities were instrumental in knowledge coordination and helped make a relatively smooth transition to the collection of data for strategic planning. With this new mind-

set and buy-in from the university community, moving forward with collecting strategic plan metric data was facilitated. Key data experts were in place, standard definitions recognized, consistent data sources, and timing of reports were established.

Literature Review

In light of burgeoning technology and access to global sources, universities are facing a crisis that many large organizations are also finding themselves in: too much information, a lack of reliable information, improper storage, and an inability to share data or build off past work (Teodorescu and Frost, 2002). With networks allowing for the rapid transfer and processing of data and computers that are capable of an almost infinite amount of storage space, human factors become the limiting reagents in what our offices are capable of accomplishing. Time, attention, and knowledge become key resources that must be rationed and divided among projects. A recent issue of *New Directions for Institutional Research* (2002) focused on the topic of Knowledge Management in Higher Education, an idea that has gained popularity in industrial and executive arenas. More than describing the topic, the editors focused on how the model can be applied to IR offices to facilitate the collection, storage and dissemination of knowledge.

In the past, offices of IR have been seen as repositories for management information. Institutional researchers have taken on the roles that resemble those McLaughlin, Howard, Balkan, & Blythe (1998) refer to as data custodian and data broker. In these positions, offices of IR gather, store and format management data for other offices in the university. However, these positions, as effective and necessary they are, create a disjuncture between the collection of data and the use of data in decision-making. If data in our organizations functions to increase intelligence, inform policies and aid planning, the information must be tied to the audience who will use it and the need it will fulfill. Systems of collection, storage and retrieval must be designed with an end-use in mind. Offices of IR need to move towards McLaughlin et al.'s third category of data management: Data Manager. This role is proactive in the processing and use

of data to “increase knowledge and accountability across the institution by using data-based information in decision making” (iii). This position underlines the importance of integrating IR expertise in all stages of the decision making process in order to produce usable and relevant data.

The usability of data is determined by its being accurate, accessible and available in a timely manner. Data that lack any of these qualities has the potential not only to negatively impact decisions, but to undermine the integrity of the IR office. McLaughlin et al. present many strategies for making data usable and valid. One key concept that is integral to effective analysis and reporting is the consistency of data definitions. McLaughlin et al. caution about definitions and provide the following situations to be wary of: “no agreement on definitions; incorrect interpretations; data collected in varying form from across campus; and, lack of adequate comprehensive measures” (p. 1). Definitions are the foundation for gathering quality data and sorting through bulk information. With concrete expectations about what information is needed, the IR staff is better able to determine what is available, which source will provide valid information, and how to interpret and present the data in an effective manner. Establishing definitions are integral in data management and in workload reduction.

Another view of institutional research that outlines the role of IR in acquiring usable data is one of “buyers” and “sellers” of information (Teodorescu & Frost, 2002). A large part of campus-wide data collection is the brokerage and coordination of knowledge. IR has the ability to help those with knowledge connect with those who need information and vice versa. In Teodorescu and Frost’s model of knowledge coordination, they suggest mapping out where on campus information is available and how offices can gain access to it (p. 7). This type of model that focuses on the location of knowledge can also help to reduce data collection efforts, inconsistent reporting (when different units are collecting similar data with different definitions), and to identify data elements that are needed, but currently are not being warehoused on

campus. Teodorescu and Frost suggest that once these maps are completed, IR offices can involve others in a local trade of information. While IR offices participate in information trading everyday on the national/federal levels, offices on campus may be inclined to hold their information near, because of the resources they expend to collect data or perhaps because they view it as relative to only their area. However, IR can help to facilitate the campus-wide trade of information and the development of better data collection methods through sharing. While every office involved might not immediately need or be provided with data, they become aware of a future support service and are given the chance to become involved.

Collaboration, integration, and cooperation combine to place IR offices on the path toward knowledge management. While views of sharing, tolerance, and working together may seem somewhat of a utopia for most universities, growth and knowledge are gained through the process of moving towards this ideal. Knowledge management moves beyond the collection of management data elements and works to identify the organization's collective knowledge, as a whole (Serban & Luan, 2002). Technological developments allow researchers to share information at rapid speed; knowledge management helps to organize who holds what pieces of information. Most importantly, the concept of knowledge mapping, which includes accessibility of usable data and inclusion of multiple offices, effectively handles the limited resources of staffing and time.

Role of Institutional Research in Strategic Planning

The role of IR in the implementation of the strategic plan in this case was to coordinate data collection, authentication, storage and dissemination. To that end, a number of strategies and tools were developed to facilitate this work. Building a climate for cooperation, as described in the introduction, was essential. A next step was to come to agreement on the specific definitions for each metric (internal measure) and benchmark (external measure) so that appropriate data sources could be identified. A working group was created to take on this task

consisting of the Director of Strategic Planning, the Director of the Office of Institutional Research and three individuals representing the major areas reporting to the President: 1) the Provost's Office, 2) the Business Areas and 3) the Development Office. Once the definitions were determined, then sources of data were identified along with individual contacts where appropriate. Figure 1 shows a template tool that was used to keep track of this information. While simple in format, it was extremely useful in organizing the information in a manner that could be used by a variety of individuals. To that end, the regional campuses of the university system used this template for their strategic plan metrics. This made identifying metrics that were common across the system much easier.

As mentioned previously, having an already formed data network (the IDN) was invaluable for identifying appropriate data contacts for the metrics. This worked well for contacts within the University, however there was some information that needed to be collected directly from the peers. As a member of the American Association of Universities Data Exchange (AAUDE), the university in this study was able to rely on membership in an established organization that has a rich history of exchanging data. Yet, some of information needed for this purpose was unique and there were no available data sources. In these instances, individual contact with each of the IR Directors at the peer institutions was made in advance of sending them a peer survey. Having personal contact and good working relationships with internal and external sources is another key strategy. Professional organizations that exchange data for institutions of similar types can provide a rich source of information.

Data Collection

In data collection, the validity and integrity of the data are extremely important. Ideally, IR would be involved in the discussion of and agreement on data expectations and needs to ensure the methods used produced data that met the administration's goals. In implementing

the strategic plan, the IR office played a key role in the identification of sources and in shaping productivity indicators so that they can be measured by available data. After the discussions and decisions were made, a data collection process began including: extracting, verifying, organizing, proofing and storing the data. None of these steps alone could have produced solid data. Each has its own place and all are of equal importance.

The hardest part of collecting the data was determining definitions and interpreting those that had been provided by the writers of the strategic plan. There were several ways that the data could be interpreted or manipulated and it was soon discovered definitions we thought were straight forward were open to a variety of different interpretations. For example, when calculating the percentage of American Indian students, was it for graduate or undergraduate students or all students combined? Also the time frame for reporting was an important consideration: was it an academic, fiscal, or calendar year? These issues of definition were solved in various ways: many of our staff had experience so that they knew how data elements had been historically interpreted, and while this helped with some items, the IR office spent a great amount of time going back to the President's office asking for clarification.

To meet the needs of the strategic plan, five years of historical data was collected on each data element for the university and the peer institutions. However, as some data elements are only collected every other year and some institutions have only recently begun contributing to national databases, historical and annual collections were difficult at times. Another problem encountered when collecting historical data was that some definition have changed over time in how national sources collect and report their data, and in how we calculate our numbers. Because of the IDN, mentioned earlier, the university refined definitions to match data collected and needed across campus. At times, the current, more exact methods, were not comparable with previous data. This contributed to historical reports that reflect large drops or increases in numbers from one year to the next. In some of these instances we made notes and in others

we chose to not collect a history, but to begin with the current year. Additional definition difficulties were encountered when collecting data directly from the peers. It was impossible to know their methods or calculations. Without knowing that the data was comparable, and thus valid, measures were dropped all together from the reports.

A third issue we encountered was among sources. Although most sources have different data elements, some contain the same data as others, but may be calculated differently due to a variance in definitions. Our IR office tried to determine best sources by the quality, integrity, and timeliness of the available data and tried to insure that the same kinds of data could be retrieved from the same source in future years. An effort was made to ensure that data collected from one source did not conflict or disagree with data from a different source and that if it did, we made a choice to use one source over the other consistently among reports provided by our office. A difference can create confusion for the data collectors and for those who read the reports generated.

Benchmark data came from a variety of sources including: AAUDE, US News & World Report, Common Data Sets, National Merit Scholarship Corporation, and TheCenter, among others. However most of the benchmark data, and the largest amount of data that are in the Repository (described below), are from IPEDS. One of the nice things about working in IPEDS is that a Peer group <.uid> file can be established and then loaded as a saved list to be used repeatedly when collecting different data items. Institutions can be selected by institution id or name. Using a saved list saves considerable time over entering peers individually each time data need to be generated and institutions can easily be added or deleted to the saved list. After selecting the data that are desired from the IPEDS system, it can be downloaded into Excel spreadsheets, where it can be extracted and stored in the Repository or formatted and manipulated into a version that is useful. For example, when extracting race/ethnicity figures, the American Indian full-time student counts and American Indian part-time student counts from

the IPEDS system are not located near each other in the downloaded formatted. When trying to calculate the total American Indian students, columns had to be moved around on the spreadsheet.

To ensure the validity and integrity of the data, all IPEDS data was extracted twice for verification (to ensure that the results were the same both times) before entering it into a data repository. The extraction was conducted by two separate staff members on two different days. This process ensured not only the consistency of the data being pulled but that the variables being used matched the definitions and expectations of the President's office. When the data was varied between staff members or days it provided the opportunity to reflect on the definition. For example, if faculty numbers are required, does that include both part and full time categories. Beyond our office being able to refine definitions, this double proof allowed for us to ask the executives if they were aware that more than one type of data were available or that the data could be broken down further than they expected when writing the plan. In order to maintain accountability within our office and a record of our progress, all proof sheets were printed as hard copies before proofing, then initialed and dated.

For the number of metrics identified in the strategic plan, it was inevitable that an overwhelming amount of data had to be collected. This information had to be tracked and it was necessary to be able to collect this information in future years. It was imperative that the data be stored and organized so that it could be easily retrieved. The storage capacity had to be flexible enough to ensure that there was room for new data elements or new peers and to be able to add yearly updates. It was necessary to be able to quickly produce summary reports on selected data elements.

In order to track the benchmark data being gathered, an Excel spreadsheet tool called the Holes Analysis (Figure 2) was developed. This one sheet contains an identification of each benchmark, its definition, who is responsible for gathering the information, its source, which

year's data has been collected, and various categories that help the document's users identify what data is available and what stage of the proofing process it is in. Gose (1983) examines reasons for the loss of data integrity, pointing out that data may be corrected in the database, but if all of the reports are not updated the information going out of the IR office is problematic. Realizing that there are several reports issued with the strategic plan data, the holes analysis evolved in the second year to include a document control area. Initially, check marks were placed in the last columns for verifying, entering, proofing, and document control. However, it was found that putting the initials of the individual responsible in each of the small boxes provided a better tracking mechanism and provided greater accuracy. When newer figures became available or computation strategies changed, it was helpful to keep the same researchers involved. Since multiple sources and interpretations are possible, being able to return to the collector can be important during the process when figures are inconsistent or just appear to be off.

In order to store and organize this data, a Research and Planning Analyst in our office designed a Data Repository tool in Excel using Visual Basic for internal office use. Excel was appropriate because it provides adequate space for documentation of data elements and does not require special training of those who need access to the raw data. The Repository is designed so that each data item collected is in a separate tab in the spreadsheet. Each tab contains multiple years worth of data for that particular item. The only exception was for diversity information (race/ethnicity by gender). Because there was such a large quantity of data, each year's data is on a separate tab. There are several nice features of the Repository. One is the Main Menu button that acts as an index to the data in the Repository. By clicking on the button, the specific data element is selected and the sheet will automatically bring the relevant data tab up on the computer screen. Another feature that is built into the Repository is the ability to run summary reports on the collected IPEDS data. These reports allow the

generation of specific numbers that are relevant to the strategic plan. When updates and corrections are made to the data, the reports are automatically changed in accordance.

Presenting Usable Data

In the strategic planning process, it was not enough to gather and store data for the management of the university. A key element was being able to report on the data in a manner that enables the administrators to make accurate and timely decisions. For the reporting of data to go smoothly, a few strategies were used. The first strategy was to rhetorically assess the situation and to produce reports from the data that meet the needs of the audience and the purpose of the report. A second strategy that was used and may appear simple, but adds continuity to reports generated by IR on strategic plan data, was to maintain clean graphical designs. Another aspect of design that promotes the readability of reports from the IR office was to maintain consistent graphical design elements among documents and across projects. These common elements help to establish a brand identity for the office. The final strategy was the need to maintain thorough documentation on the various steps in the collection process. These strategies contribute to both the usability and accessibility that is strived for in any large organization as it moves towards data-driven decision making.

Presenting data in a usable manner involves assessing the rhetorical situation by asking a series of questions before producing reports. One commonality among strategic plan documents is that the University President's Office is always among those in the audience and at times is the sole audience. Other possible audiences include the Provost's Office, the Board of Trustees, executive administrators, and the more general policy and decision makers or administrators spread across the campuses. Most of the documents produced with strategic plan data are requested by the President's Office and do not need to be heavily contextualized. Their office has all of the definitions and key indicators available to them and lines of communication are open between their office and IR. These lines of communication are

important because the IR office has the ability to clarify data or provide additional information as needed. However, when reports are requested that will be viewed by audiences who have not made specific requests or who might not have direct access to the data gatherers, a new set of questions must be asked:

What will this data be used for? (is there a chance this data or this document will go public?)

What is being represented in this document (is it just data or the justification for a program or funding)?

What background does the audience have about the strategic plan?

How familiar is the audience with the definition of the benchmarks and metrics?

How specific do the audience and their purpose need the information to be?

At times the President's Office will request data that they are already familiar with to be displayed in a different manner. At these times their office might only have a general idea of what they want the end product to say about the university and the IR office must make decisions about how to make the data meet their needs. In these cases, IR must assess what data has met or not met a similar need in the past and what resources are currently available. All of the above questions and considerations help to define the rhetorical situation of the reports and to shape how the bulk of the data in the repository is extracted and formatted for presentation.

The IR Office stored as much data as possible on each metric and benchmark in the strategic plan. Not all of the data made it into every document. Specifically the IR office created and maintains two types of reports – one is the general Strategic Plan Progress Report, which is widely distributed, and the other is a data book that presents all of the details of the information gathered. In a widely distributed report (Figure 3), summary numbers were extracted and reported. For example, in M4 (Metric 4) the data on Faculty separations is reported as a

percentage of those leaving for a reason other than retirement. The data could have been broken down into categories of leaving for health reasons, not receiving tenure, contract not being renewed, or because they were fired. Returning to the definition, the main idea behind the metric was how many staff members were separating and that is what the report focused on. In reporting the benchmark measurements, the individual data for each peer institution was not provided, but instead it was determined that the Peer Institutions' mean and the university's Index to the mean was most important. However, in the detailed data book, each metric and benchmark has its own sheet to display all available data (Figure 4). Because this data is only distributed to the President, President's cabinet, and Provost's office, the benchmark sheets display the university's data and a detail of the Peer Institution's data. Both widely distributed reports maintain a consistent format, as do all of the data book sheets, whether they are reporting on metric or benchmark data.

A combination of effective page design and data layout contributes to the readability and understanding of a document. There are four basic principles for effective page design [Williams (1994) provides a detailed explanation]. An easy acronym to remember: Contrast, Resolution, Alignment, and Proximity are simple concepts. These principles work within a document and to unify and add credibility to multiple documents originating from the same source. These principles are best explained through words and illustrations. Contrast is achieved through fonts, shapes or colors. The most basic font division is between serif and san-serif fonts, or those with and without feet:

Arial would be an example of a san-serif font

Times New Roman is the most recognized serif font

Another aspect of contrast can be thin verses thick lines, or black on white juxtaposed to white on black:

Black on White

White on Black

When items within a report are similar, not starkly different, they contribute to clutter and cause readers to have to devote time either rereading information or having to read all of the details instead of being able to easily scan the document to identify what is relevant. Repetition is the key to unification and credibility. Simply repeating shapes, lines, and textures can enhance the cleanliness of a document. Repetition between documents helps readers identify that the same office has created something. In the instance of the Strategic Planning, the key to determining where benchmark data was located in various documents was the repetition of halftone boxes. This element started in the first definitional documents (see Figure 1) to help differentiate between metrics and benchmarks and was carried through the final reports of the data (Figtures 3 and 4). In addition, when the IR office produces monthly reports for the Board of Trustees and the President's Office there is a double line surrounding the data, this double line was carried into reports on strategic planning data. It can also be noted that the majority of data documents issued from our office for public consumption have two column layouts. The next principle is Alignment; this also contributes to a clean and credible page layout. Every element on the page should have a place in relation to other elements.

B2		2001	2000	1999		
	Number of faculty who are members in the National Academy of Sciences	4	5	6		
	Number of faculty who are members in the National Academy of Engineers	11	11	13		
	Number of faculty awards in Arts and Humanities	6	3	5		
M2		FY 2002	FY 2001	FY 2000	FY 1999	FY 1998
	Number of Endowed Professorships and Chairs	37	32	28	25	22
		Fall 2002	Fall 2001	Fall 2000	Fall 1999	Fall 1998
	Number of named and distinguished professors	80	69	68	69	66

In the figure above, a small portion of the *2002-2003 Strategic Plan Report*, a column layout was used to ensure that the numbers identifying the metrics could be easily scanned. The years are also always placed the same, on top of the data, and arranged with the most current year on the left. The key to proximity is that all related elements will be placed together to form one unit. Grouping can be accomplished by breaking blocks of data from one another with lines or by keeping consistent spacing around the outside of the element.

4 4 4 4	5 4 5 4 5 4
4 4 4 4	4 5 4 5 4 5

Even though the numbers above on the left are the same, they are disjointed because of their proximity to each other, while the numbers on the right are unified even though they are not all the same. Beyond proofreading and double-checking numbers, remember to check for C.R.A.P: Contrast, Resolution, Alignment, and Proximity when getting ready to distribute a report.

Documentation

Once the reports were issued and the craze from the first year of collecting strategic plan data calmed down, the IR office began to assess the process, notes, and needs from the first year. One of the tools that was developed as a result of the assessment was the Documentation Sheets (Figure 5). These sheets, one for each measurement, coordinate the knowledge needed to annually reproduce strategic plan data. Some key elements of this document are:

- On what basis the data is collected: Calendar, Fiscal, or Academic Year
- Who in the IR office is responsible for the data?
- Who outside of the IR office can be contacted as an expert on the data?
- Identification of a national source, if a source outside the university was used
- Equations used to calculate the reported figures

- Inconsistencies and notes about the data itself

One of the pitfalls of a small office is that individuals become specialized in their tasks. One or two people can be responsible for the entirety of a project. The goal of the documentation sheet is to maintain consistency between years, whether the same people are involved in the project or not. These sheets enhance the ability to reliably reproduce reports, using the same sources, calculations and definitions. They also serve a dual purpose of coordinating knowledge across the campus, by recording the IR office's knowledge and that of other contributing offices.

Summary

A number of strategies and tools have been presented in this case study to facilitate knowledge management for institutional research professionals. These include:

STRATEGIES

- Do pre-work – Ensure Climate Set for Knowledge Management
- Establish Process for Developing Internal and External Contacts
- Facilitate Role of IR as Data Managers
- Develop Effective Tools and Techniques for Data Storage, Collection and Usage

TOOLS

- Metric Definition Template
- Holes Analysis
- Data Repository
- Report Template
- Documentation Template

Next Steps: While much work has been done, there is still much to do. The first and second annual reports have been finalized, but there are at least three more to go and more data to collect. Additionally, all of the units across the campus will be preparing strategic plans and the Office of Institutional Research needs to provide data support to the greatest extent possible.

To facilitate this, each major unit has been asked to complete the metric definition template. A database has been designed to capture this information with a web interface. The metric definition data at the unit level will be analyzed to identify common metrics across the university so that priorities can be established. Additionally, at the central university level, this information can be summarized for upper level administrators to understand the commonalities across their units. For example, the Provost will be able to clearly see which of her areas are using the same metrics. This will also facilitate the development of any new data definitions that may need to be prepared.

Other technical tools are being developed. A web interface to strategic plan data at all levels (i.e., department) is being developed to ensure easy access and consistency. A resource guide with specific information about data sources, links to data and a list of data contacts will be available on a web site. A number of metrics could not be reported the first year because there was simply no data available, so data collection processes are being developed. And there is a desire to make the actual report preparation more automatic and less labor intensive.

In summary, it is important to set the stage and do the background work. Having a campus climate that is data friendly is essential. Understanding the value of human factors of all kinds simply cannot be underestimated. Being specific about definitions ensures consistency and facilitates accuracy. Finally, it is extremely important to document. Timely, accurate and thorough documentation is a huge benefit for all involved. While the tools described above were developed specifically to meet the needs of our office, it is hoped that they can have wider usage and assist you in your work. The strategies described provide a larger context for doing IR and if successfully implemented, can move professionals closer to becoming effective knowledge managers.

Standard Metric and Benchmark Template

Strategic Plan for: Unit Name
Date for Plan: 2002-03
Date Template Completed: 31-Aug-02

Ref. No.	Metric	Definition	Source	Comments
Unit Goal:	Start new template with each new goal.			
	First Strategy:			
B 1	Benchmark No. 1			
M 1	Metric No. 1			
M 2	Metric No. 2			
M 3	Metric No. 3			
B 2	Benchmark No. 2			
	Second Strategy:			
M 4	Metric No. 4			
M 5	Metric No. 5			
B 3	Benchmark No. 3			
M 6	Metric No. 6			
M 7	Metric No. 6			

Figure 1

Office of Institutional Research
Benchmark Data Tracking for the
Purdue University - West Lafayette
2003-04 Progress Report

OIR Working Copy
As of May 4, 2004

Shaded area indicates data/measurements that are not included in the annual progress report.

Cross-hatching indicates data/measurements are not used in that particular report or stored in that format.

	Benchmark	Definition	Source	Comments	Staff Responsible	Data Collected	Data Checked	Years Collected	Repository: Entered	Repository: Proofed	File Name/ Location	Detailed Data Sheet Entered	Detailed Data Sheet Proofed	Progress Reports Updated	Progress Report Proofed	Source Binder Updated	History File Updated
B1	***Faculty salaries***	For full-time tenure and tenure-track faculty for a given fall semester the average academic year salary by rank	ACADEME for Faculty salaries by rank		CL			Fall 2003			CDS Binder						
B2	***National Academy /other prestigious memberships***	The number of faculty who are members in the National Academy of Sciences for a given year.	TheCenter	Peer data may not be available until late October. Last year, only Purdue data reported.	JF			2003, 2004 if possible									
		The number of faculty who are members in the National Academic of Engineering for a given year.	TheCenter	Peer data may not be available until late October. Last year, only Purdue data reported.	JF			2003, 2004 if possible									
		For disciplines in the Arts & Humanities, the number of grants awarded and participation in fellowship programs.	TheCenter	Peer data may not be available until late October. Last year, only Purdue data reported.	JF			2003, 2004 if possible									
	Entering Student Selectivity																
B3	a. Standardized Test Scores (SAT) of entering students	For first-time, first-year freshman students enrolled for a given fall semester (including those enrolled the prior summer), average SAT verbal and math test scores and average ACT score.	Peer Survey		JF			Fall 2003			Repository						
		For first-time, first-year freshman students enrolled for a given fall semester (including those enrolled the prior summer), SAT verbal and math test scores: 2) 25th percentile	Common Data Set (CDS)	Purdue's combined SAT scores 25%-75% is in Progress Report.	JB			Fall 2003			CDS Binder						
		For first-time, first-year freshman students enrolled for a given fall semester (including those enrolled the prior summer), SAT verbal and math test scores: 3) 75th percentile	CDS	Purdue's combined SAT scores 25%-75% is in Progress Report.	JB			Fall 2003			CDS Binder						
	b. High School Ranking	Number of the total degree-seeking, first-time, first-year (freshman) students.	CDS		JB			Fall 2003			CDS Binder						
		Percent of all degree-seeking, first-time, first-year (freshman) students who had high school class ranks in the: 1) top 10% of their high school graduating class for a given fall semester.	CDS	Purdue's combined SAT scores 25%-75% is in Progress Report.	JB			Fall 2003			CDS Binder						
		Number of all degree-seeking, first-time, first-year (freshman) students who had high school class ranks in the: 1) top 10% of their high school graduating class for a given fall semester.	TO BE CALCULATED		JB			Fall 2003			Repository						
		Percent of all degree-seeking, first-time, first-year (freshman) students who had high school class ranks in the: 2) top 25% of their high school graduating class for a given fall semester.	CDS	Purdue's combined SAT scores 25%-75% is in Progress Report.	JB			Fall 2003			CDS Binder						
		Number of all degree-seeking, first-time, first-year (freshman) students who had high school class ranks in the: 2) top 25% of their high school graduating class for a given fall semester.	TO BE CALCULATED		JB			Fall 2003			Repository						
		Percent of all degree-seeking, first-time, first-year (freshman) students who had high school class ranks in the: 3) top 50% of their high school graduating class for a given fall semester.	CDS	Purdue's combined SAT scores 25%-75% is in Progress Report.	JB			Fall 2003			CDS Binder						
		Number of all degree-seeking, first-time, first-year (freshman) students who had high school class ranks in the: 3) top 50% of their high school graduating class for a given fall semester.	TO BE CALCULATED		JB			Fall 2003			Repository						
		Average high school rank for entering freshmen.	Peer Survey		JF			Fall 2003			Repository						

Figure 2

Purdue University - West Lafayette
Strategic Plan Benchmark & Metric Report
November, 2003

(B=Benchmark with peer comparison data; M=metric with Purdue data only.)

Strategic Plan Benchmarks & Metrics						
Measures contributing to Overarching Goals: Learning, Discovery, Engagement						
B1	Overall average faculty salary (in thousands)	AY 2002-03	AY 2001-02	AY 2000-01	AY 1999-00	AY 1998-99
	Purdue	$75.2	$73.3	$70.6	$68.8	$66.1
	Peer institutions' mean	$85.6	$83.1	$79.8	$76.1	$72.3
	Purdue's index to the mean	0.9	0.9	0.9	0.9	0.9
M1	Average staff salaries by job classification (in thousands)	Fall 2002	Fall 2001	Fall 2000	Fall 1999	Fall 1998
	Non-Tenure Track, Lecturers & Post Docs	$33.3	$31.8	$29.6	$28.0	$26.2
	Administrative Staff	$53.2	$51.0	$49.2	$47.4	$45.8
	Professional Staff	$47.9	$47.1	$45.5	$44.3	$42.2
	Clerical Staff	$24.0	$23.6	$22.7	$22.1	$21.3
	Service Staff	$26.7	$25.7	$25.1	$24.5	$23.7
B2	Number of faculty who are members in the National Academy of Sciences	2002	2001	2000	1999	
	Purdue	3	4	5	6	
	Peer Institutions' mean	n/a	32	32	31	
	Purdue's index to the mean	n/a	0.13	0.16	0.19	
	Number of faculty who are members in the National Academy of Engineers					
	Purdue	11	11	11	13	
	Peer Institutions' mean	n/a	23	22	21	
	Purdue's index to the mean	n/a	0.48	0.50	0.61	
	Number of faculty awards in Arts and Humanities					
	Purdue	n/a	6	3	5	
	Peer Institutions' mean	n/a	10	9	9	
	Purdue's index to the mean	n/a	0.59	0.35	0.57	
M2	Number of named and distinguished professors	Fall 2003	Fall 2002	Fall 2001	Fall 2000	Fall 1999
		90	80	69	68	69
M3	Faculty and staff awards based on accomplishments in Discovery, Learning, and Engagement.	AY 2002-03				
	Number of individuals receiving Purdue awards	286				
	Award type:					
	Overarching Initiatives	34%				
	Discovery	14%				
	Learning	44%				
	Engagement	9%				
	Number of individuals receiving external awards	526				
	Award type:					
	Overarching Initiatives	38%				
	Discovery	24%				
	Learning	25%				
	Engagement	13%				

Figure 3

Purdue University - West Lafayette Strategic Plan Benchmarks 2002-03

State Appropriations by Student FTE

For a given fiscal year, state appropriations, and tuition and fees (as reported to IPEDS), divided by FTE students (as reported to IPEDS for a given fall semester corresponding to the fiscal year calculated value).

B9) Appropriations/FTE Student

	State Appropriations per Student FTE						
	FY 1996	**FY 1997**	**FY 1998**	**FY 1999**	**FY 2000**	**FY 2001**	**FY 2002**
Arizona	$9,202	$9,536	$10,329	$10,781	$10,912	$11,158	$10,573
Cal Berkeley	$10,692	$11,454	$11,955	$13,496	$14,357	$16,910	$17,736
Cal Davis	$12,162	$12,641	$13,386	$14,989	$15,835	$18,196	$18,874
Cornell (Public)	$16,640	$17,001	$18,279	$24,333	$25,761	$28,113	$32,857
Georgia Tech	$12,300	$13,947	$14,144	$14,401	$15,532	$18,889	$15,930
Illinois	$7,835	$8,251	$8,246	$8,452	$8,926	$9,989	$9,962
Michigan	$8,643	$8,824	$9,044	$9,471	$9,738	$9,740	$10,082
Penn State	$5,509	$5,480	$5,563	$5,674	$6,093	$6,479	$5,726
Purdue	**$6,750**	**$6,986**	**$7,134**	**$7,168**	**$7,537**	**$7,814**	**$7,486**
Texas - Austin	$5,573	$5,349	$5,659	$5,678	$6,133	$6,057	$6,214
Texas A&M	$8,925	$8,723	$9,837	$9,290	$9,265	$9,416	$10,005
Wisconsin	$9,884	$9,892	$9,942	$10,069	$10,677	$11,394	$9,878
Peer n=	11	11	11	11	11	11	11
Peer Mean	$9,760	$10,100	$10,580	$11,512	$12,112	$13,304	$13,440
Purdue's Index to the mean	0.69	0.69	0.67	0.62	0.62	0.59	0.56

Source: IPEDS Finance and Enrollment Surveys.

Figure 4

Purdue University - West Lafayette
Strategic Plan Benchmarks 2004
Documentation Sheet - B1

Benchmark 1

a. Faculty salaries by discipline and rank.

Definition

a. For full-time tenure track faculty for a given fall semester the average academic year salary by rank.

Date Type

Academic Year

Source

a. AAUDE and Oklahoma Faculty Salary Survey by Discipline.
b. ACADEME for Faculty Rank Averages

Data Availability

a. AAUDE Faculty and Oklahoma Surveys available July 15
b. Issue of Academe is labeled March/April, but comes out at the end of April. Purdue data is available about December 1st

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Comments

Chairs and department heads included, assistant deans or higher excluded. Visiting faculty included, non-academic departments excluded. Georgia Tech does not belong to AAUDE, so source will be Oklahoma Faculty Salary Survey by Discipline.

The overall faculty salary average is computed from the values reported in Academe for Full, Assistant, and Associate Professors. The following equation is used:
Salary for full professors multiplied by number of full professors. Repeat this for all ranks. Add resulting values together. Divide by total faculty count.

Full:	103.9 x 667 =	69,301.3
Associate:	72.0 x 480 =	34,560.0
Assistant:	58.9 x 417 =	24,561.3
	1,564	128,422.6

128,422.6/1,564 = 82.1

Figure 5

References

Corak, K.A and D. P. Wharton. (1993, Summer) “Strategic planning and organizational change: Implications for institutional researchers.” *AIR Professional File*.

Gose, F. J. (1989, Fall). “Data integrity: Why aren’t the data accurate?” *AIR Professional File.*

Hansen, M.J. & V.M.H.Borden (2002, March). *An Action Research Paradigm for Institutional Research*. Paper presented at the 16th Annual Meeting of the Indiana Association for Institutional Research, Nashville, IN.

McLaughlin, G.W., Howard, R.D., Balkan, L.A., & Blythe, E.W. (1998). *People, Processes, and Managing Data*. Tallahassee: Association for Institutional Research.

Serban, A.M & J. Luan (2002). Overview of knowledge management. *New directions for Institutional Research*, Number 113, 5-16.

Serban, A.M (2002). Knowledge management: The ‘Fifth Face’ of Institutional Research. *New Directions for Institutional Research*, Number 113, 105-111.

---. (2001). *Purdue University Strategic Plan (2001-06) – The Next Level: Preeminence*. http://www.purdue.edu/oop/strategic_plan.

----. (2002). Purdue University Strategic Plan First Year Progress Report. http://www.purdue.edu/oop/strategic_plan.

Teodorescu, D. & S. Frost (2002, May). *IR professionals in the market of institutional knowledge: Envisioning new roles for our work*. Paper presented at the 42nd Association for Institutional Research Forum, Toronto, Canada.

Williams, R. (1994). *The non-designer’s design book: design and typographic principles for the visual novice*. Berkeley: Peachpit Press.