AY 2017 – 2018 Assessment

Institutional Research

Office of Institutional Effectiveness and Human Resources

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Northwestern Mission. Northwestern State University is a responsive, student-oriented institution that is committed to the creation, dissemination, and acquisition of knowledge through teaching, research, and service. The University maintains as its highest priority excellence in teaching in graduate and undergraduate programs. Northwestern State University prepares its students to become productive members of society and promotes economic development and improvements in the quality of life of the citizens in its region.

The **Office of Institutional Effectiveness and Human Resources** is a responsive administrative service and support unit that provides University leaders with information to be used in strategic planning and evidence-based decision-making and human resource programs and services. The Office assesses, collects, analyzes, reports, and disseminates data on behalf of the University and supports all University units in assessment-based improvement efforts. Reporting of information is in accordance with Southern Association of Colleges and Schools (SACS) and federal and state regulations. The Office develops and delivers innovative human resource programs and services designed to support the mission of the University, including its core services and competencies such as staffing, employee relations, organizational and employee development, risk management, compensation and benefits, human resource information management, and regulatory compliance.

Methodology: The assessment process includes:

(1) Data from assessment tools (direct & indirect and quantitative & qualitative) are collected and returned to the executive director;

(2) The executive director will analyze the data to determine whether the applicable outcomes are met:

(3) Results from the assessment will be discussed with the appropriate staff;

(4) Individual meetings will be held with staff as required (show cause);

(5) The executive director, in consultation with the staff and senior leadership, will determine propose changes to measurable outcomes, assessment tools for the next assessment period and, where needed, service changes.

Institutional Research (OIR)

Service Outcomes:

SO 1. Provide expertise and support for strategic planning, assessment, program design, and continuous improvement.

Measure 1.1

The OIR regularly interprets, validates, and manages student and program assessment data at predetermined intervals to facilitate organizational planning and program design. Data validation ensures compliance with federal and state reports such as Institutional Post-secondary Educational Data System (IPEDS), accreditation report requirements, and various Board of Regents reports to facilitate organizational planning and development.

Target. 100% (a) data validation and (b) dissemination of census data comparison and summary reports at each census date.

Finding. 99.4% of Target Met.

- 100% - 10 of 10 data validation cycles completed with each involving Registrar's, Admissions, Graduate School, Nursing, and Dual Enrollment Offices.
- 100% - 115 of 115 data file extracts (census and final) completed
- 97.5% - 39 of 40 Semester census comparison and summary reports compiled and disseminated for the University overall, four colleges and 15 Academic Departments.

Analysis. In 2016-2017 the target was met. In the analysis of these results, OIR determined that additional fields were needed in several extracts to simplify creation of several of reports. These fields were incorporated into the process in Spring 2018.

As a result, in 2017-18 all state and federal reports and inquiry responses were also completed on time. (Three state reports were submitted on time based on approved extensions.) All census validation processes, departmental and University comparisons and summaries were completed except one (CJHS), which was overlooked in error. (Note: Complete data including CJHS was reflected in College- and University-level reporting.)

This error was discovered during preparation of this assessment document. OIR had already begun to discuss the concept of "self-service" reporting for University academic and service departments. But taking this reporting oversight into account, along with so many technological advances that have come along since these static reports were developed, the OIR staff and ITS have begun several pilot projects to determine

feasibility and benefits of providing user-directed, user-initiated access to departmental data.

This strategy would allow access to data at any time using various user-friendly tools deployed by OIR and ITS, no longer requiring scheduled reporting.

Underpinning this strategy will be the design and implementation of a data mart - a more flexible, "snapshot" type of data structure especially suited to addressing departmental needs. These snapshots could be dynamically queried to:

- Facilitate responses to accreditation surveys
- Research student trends based on any number of factors
- View demographics to allow program and course planning, and much more.

Decision. Based on the analysis of these results from the 2017-18 Academic Year:

- Pre-census data validation will continue until these manual processes can be incorporated into the day-to-day Banner business rules. Development of these rules is a non-trivial task and may require a multi-department project to design a way for internal Banner validations to be performed as records are being saved/modified. (Errors typically encountered during these validations are: StudentTypes that do not match ApplicationTypes, Missing High School info, multiple applications, incorrect StudentTypes).

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- Development of a data mart and identification of three specific departmental initiatives to provide proof of this concept. Outcomes assessed for these pilot implementations will help drive any modifications to design or implementation before introducing these functions to other departments.

Measure 1.2

The University consistently utilizes historical enrollment, retention, and completion data to analyze performance trends and develop forecasts to assist leadership with strategic and operational planning decisions. The OIR contributes data for the University Strategic Plan and University Operating Plan on an annual basis utilizing enrollment, retention, and graduation rate data. The University submits enrollment, finance, facilities, human resource, financial aid, library, graduate and completer data reports each semester and annually to the Louisiana Board of Regents and the Integrated Post-Secondary Education Data System. The information submitted is reviewed at the system level to ensure data accuracy and to monitor compliance with and the attainment of state and system level goals and objectives. Additional reports of significance include the Statewide Student Profile System, the Student Credit Hour System, the Facilities and Utilization Report, Louisiana Performance Accountability reports, and the Operational Plan.

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Target. 100% completion of federal and state reports.

Finding. In 2017-18 the target was met.

Analysis. In 2016-2017 the target was met, and OIR reported that "The state reports have been reviewed for data efficiency and accuracy for use as base reports to provide student and personnel data consistently." The intention was for these files to provide the foundational reporting for IPEDS and other accrediting bodies.

However, OIR now believes the best route is to base ALL reporting on actual Banner data snapshots. First-generation data for these reports will promote accuracy and reliability. As a result, all 38 of 38 major state and federal reports completed timely and accurately for an overall success rate of 100%. Three board reports were submitted after the original due date, but well within the approved extensions granted by BoR. Several times during the year we have encountered issues with relying on non-Banner data.

1. IPEDS HR / EMPSAL: Early in 2018 through internal discussions we discovered that our submission for BoR's EMPSAL report uses different criteria for determining an employee's Primary Function from the criteria used by IPEDS.   For this reason, we have modified our strategy for IPEDS submissions to rely solely on Banner source data. EMPSAL will continue to be prepared and submitted as previously through Business Affairs at NSU.

   OIR, Human Resources, IT, and other affected departments are working together to update processes so that personnel data maintained in Banner will automatically generate IPEDS HR reporting with minimal intervention.

2. BoR Facilities and Utilization report was submitted one day after original deadline but within the approved extension timeframe. Reconciliation of multiple data sources caused unexpected complications.

3. Both BoR SSPS Fall Semester and Spring semester were submitted after the original deadline but within the approved extension timeframe (within one week of original deadline). Serious issues had been encountered related to the availability of certain admissions and placement data required by SSPS. Our processes presuppose that the data will be available by download from the BoR STS system. However, a large percentage was not available and had to be retroactively retrieved from transcripts, and in some cases by contacting high school counselors.

Decision: Based on the analysis of these results from the 2017-18 Academic Year, we will:

- Continue 100% target for report submissions. Target 100% submission by original stated reporting date without request for extension.

- Conduct a mock IPEDS HR report preparation in late summer/early fall to identify any potential issues and allow time for correction before submission deadline in Winter 2019.

- Work with IT, Facilities (and Registrar's if needed) to plan the Facilities reporting cycle. Replacing the Facilities tracking system was discussed by IT last year and should assist with the preparation of this report.

- Work with IT, Admissions, and the BoR to clarify areas of SSPS reporting and BoR Admissions and Placement policy. Adjust procedures in OIR to reflect these clarifications and guidance. As needed, assist with identifying appropriate ways to store data required for SSPS reporting but which is deficient in the STS system.

SO 2. Develop, provide, and maintain timely and accurate institutional data to internal and external audiences.

Measure 2.1

The OIR ensures accuracy, consistency, and timeliness among federal, state, and internal reports (IPEDS, Louisiana Board of Regents, Louisiana Performance and Accountability System, and internal assessment reports) through data validation protocols and audit and balancing of state and federal standardized reports. The Louisiana Legislative Auditors, (the independent audit body for the state of Louisiana), has the authority to audit as they deem appropriate to verify data accuracy.

Target. Document 100% of data source files for federal and state reports to enable responsiveness to all inquiries, requests and audits. Complete any audits with no substantial findings.

Finding. In 2017-18 the target was met.

Analysis. In 2016-2017 the target was met. In the analysis of these results OIR determined that additional documentation of source files for report data would enhance

the ability to respond to inquiries. In conjunction with ITS we researched several methods of documenting these files:

- OneNote
- Native Windows File Explorer capabilities
- Third-party options
- Internal SPSS documentation

Through this research we have determined that none of these methods provides the simplicity we are seeking. While native Windows File Explorer allows for an optional Comments field to be associated with most file structures, this feature is unavailable for SPSS .sav files. Unfortunately, SPSS files are the primary ones requiring documentation.

Therefore, we have begun the process of restructuring the file and folder structure to better accommodate searching. In addition, we have begun creation of dynamic procedures through OneNote. These procedures have links to files of all kinds so that they may be accessed by clicking on the file name(s) within the instruction set.

As a result, in 2017-2018, all inquiries regarding data submissions to IPEDS and Board of Regents have been satisfactorily addressed including several rather complicated ones involving financial aid and location of 100% online students. Four (4) of four (4) Board of Regents inquiries regarding reported data were addressed successfully. Three (3) of three (3) IPEDS inquiries were addressed successfully. Two (2) of two (2) requests for sample longitudinal data by IPEDS were addressed successfully. Nine (9) of nine (9) inquiries addressed successfully for an overall success rate of 100%. Detailed answers were prepared, enabling the agencies to better understand the matters under consideration.

All responses to the Board were explanatory in nature and required no changes to our reported data or processes.

IPEDS inquiries required us to make two minor corrections, both being related to errors in entering <u>survey</u> data rather than actual data issues. The third inquiry was a complicated financial study in which our Finance and Financial Aid survey responses were being compared. We were able to provide reconciliation of those numbers and explanations that completely answered the inquiry. Our reporting process and data were confirmed and no changes to procedures were required.

Decision. Based on the analysis of these results from the 2017-18 Academic Year, we will improve our ability to locate components and respond to inquiries by creating internal documentation of data files and standard procedures using OneNote. Easier access to active documentation (including links to files and syntaxes, etc.) encourages

use of that documentation, promoting greater consistency and repeatability of procedures.

Measure 2.2

The OIR consistently reviews data collection and reporting processes to identify relationships among reports and across departments to synchronize data reporting and to validate accuracy employing different data extraction and reporting methods in compliance with reporting standards as established by the Louisiana Board of Regents. Report procedures exist for all major state reports that are compiled by the OIR, however, the Board of Regents often issues modifications to specifications for the required reports. The Office of Institutional Research will implement continuous improvement processes to continuously revise reporting methods to comply with Board of Regents reporting specification revisions.

Target. 100% compliance with Board of Regents' modifications to report specifications.

Findings. In 2017-18 the target was met.

Analysis. In 2016-2017 the target was met. In the analysis of these results, OIR indicated that modifications to reporting instructions and syntaxes would enhance the reporting process and promote repeatability. These instructions were annotated by hand but not officially incorporated.

In 2016-2017 the BoR issued no reporting modifications for:
- SCH
- Space Utilization
- Completers
- FADS

However, SSPS reporting specifications were modified slightly to accommodate admissions and placement test changes. These changes were incorporated into the syntaxes for report preparation. These changes were not incorporated into the written instruction set.

As a result, in 2017-2018 modifications to 4 of 4 report SSPS specifications were incorporated into syntaxes. These changes were incorporated into the written instruction set by hand-written notes. All report submissions reflected BoR specification updates.

Not all prior revisions were adequately notated for ease of use by new personnel. Many of the reported variables required manipulation prior to reporting. Revisions have been noted in reporting procedures and syntaxes but still need to be incorporated into procedure documents. In some cases, we simply find better and/or easier ways to derive the information for the reports. These notes also need to be incorporated into the documents and syntaxes.

Also, last year's Decision section mentioned working "with IT to extract data more consistently with less manipulation prior to reporting." This initiative is underway with the design of a data mart which will eliminate the need to merge multiple term files and provide access to data across academic terms. (In the case of one typical report which looked at only 4 years of data for a small population, it was necessary to join 32 separate files, a very time-consuming task.)

Decision. Based on the analysis of these results from the 2017-18 Academic Year, we will incorporate procedural, syntax and instruction modifications for SSPS, Facilities, FADS, Completers, and SCH. File all current procedures, syntaxes and instructions appropriately to ensure the latest versions are being used.

SO 3. Conduct project-based research and analyses.

Measure 3.1

The OIR compiles, analyzes and reports student and program data in a timely and accurate manner to assist departments with new program initiatives, grant applications, compliance/accreditation, recruiting, and other strategic and planning initiatives as appropriate.

Target. 80% overall completion of requests for ad hoc data reports and surveys. 100% completion of all requests for ad hoc and recurring data requests related to accreditation, planning and compliance.

Finding. In 2017-18 the target was met.

Analysis. In 2016-2017 the target was met. In the analysis of these results OIR determined we should engage in more frequent discussions with departmental users to:

- better understand their information needs and plans
- share OIR capabilities and tools
- examine and define cross-departmental needs

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As a result, in 2017-2018 OIR completed 234 of 241 requests – 97.1%. Of the 7 requests "not completed", 6 are not yet due and are still underway, and 1 was referred to Registrar and ITS for completion since the data is not accessible to OIR.

OIR addresses all requests methodically.

1. Determine whether OIR is equipped to provide the requested data or report
2. If not, we inform the requester immediately and forward the request to the department best able to respond. If the department is IT, we create an IS request on behalf of the requester.
3. Otherwise we confirm deadlines, filter criteria, starting/ending academic terms, and any other info needed to fulfill the request.
4. We track request status in a departmental spreadsheet. However, there is currently no attribute showing whether a request is "related to accreditation, planning, and compliance", so we cannot accurately report the number of requests submitted vs. the number fulfilled.

Last year's report recommended additional personnel to increase OIR's ability to reach out to NSU's academic areas regarding their data, their reporting needs, and OIR's ability to assist. No additional personnel were hired.

Instead, we are designing and implementing more efficient (and accurate) methods of isolating and analyzing data, more user-friendly and flexible ways of presenting the analysis, and more real-time availability of data to departmental users.

Decision. Based on the analysis of these results from the 2017-18 Academic Year, we will:

- Design and implement data marts using phased approach in conjunction with IT leadership and technologists. Existing Oracle structure will house the relational database snapshot. These initiatives will be underway over the coming year but will continue to be extended to various departments. We anticipate that these projects will evolve as technology and needs evolve.

- Implement at least three departmental dashboards using Tableau business intelligence software and data marts. Work with key stakeholders to ensure data and analysis requirements are understood and met.

- Investigate the potential costs and benefits from implementing a data governance function at NSU to promote common use and understanding of data across business units. Consistency and awareness introduced by this function can lay the foundation for more robust cross-functional systems, more accurate data entry, and potential automation of current manual reporting.

- Determine the best way to assign an attribute to each request indicating whether is it related to "accreditation, planning or compliance" so that we can track fulfillment of these types of requests as a population.

Comprehensive summary of key evidence of improvement based on analysis of results.

- OIR incorporated new fields into census data extracts

- OIR redefined file storage structures and moved data to more secure and failsafe shared drive maintained by IT.

- OIR initiated a project to generate the IPEDS HR reporting response directly from Banner. 2017-18 filing was prepared using BoR EMPSAL data in parallel with Banner-generated data.

- OIR participated substantially with HR representatives and management in an initiative to improve collection of accurate HR data into Banner. Professional assistance was provided by Ellucian.

- OIR developed several active-link instruction sets in OneNote. (IR Drive Structure, Nursing Summary, Nursing Cohort Tracking, Validations, Census Date).

- OIR developed syntaxes to partially automate creation of weekly Applicant Report and weekly Comparison Report.

- OIR met with various departments throughout the year to learn more about their information needs and to share OIR capabilities. These areas included:
  - School of Education
  - School of Business
  - College of Nursing
  - Admissions / Recruiting /Registrar / Financial Aid
  - Department of English, Foreign Language and Cultural Studies
  - Creative and Performing Arts
  - Department of Biological and Physical Sciences

- o ECE (Carl Perkins, Dual Enrollment)

- OIR participated in testing data visualization software (Tableau) and worked with IT to identify pilot projects. This led to the discussions about development of data marts for departmental needs.

- OIR and IT jointly established "Tableau Friday" – a biweekly meeting of IR and IT representatives aimed at identifying dashboard projects and ensuring progress of those projects.

Plan of Action Moving Forward.

While the measures above reflect important OIR functions and responsibilities, more can be done.

The University has embarked on a Strategic Plan which requires the assistance of an office such as OIR to regularly track progress against stated goals. How do you know which way to turn the wheel or when to push the accelerator if you don't know where you are on the road? For instance, the five strategic focus areas:

Student Experience　　Academic Excellence　　　Market Responsiveness
Athletic Prominence　　　Community Enrichment

Each has key metrics which those areas have determined will provide gauges of progress toward goals. Some of these metrics appear to be based on data which is currently not available for study because it is not collected.

Many of these metrics are based on surveys of populations. Objective data collected objectively through operational processes could be considered as an alternative to some of these surveys. OIR can assist in the process (along with skilled systems analysts from IT) to ensure that our enterprise and departmental systems capture the data needed. We can also facilitate making this data available as a gauge throughout the year rather than just at specific survey points.

Decisions/Recommendations.

- Stimulate interest within certain departments in studying their own data by giving tools and reliable data.

  - o Give reliable data by:
    - Reducing manual intervention in data file creation
    - Implementing targeted data marts for specific initiatives

- Designing, capturing and scheduling updates to relational database snapshots

  o Promote data analysis interest and curiosity by creating dashboards that allow stakeholders to:
    - visualize data
    - spot trends
    - identify patterns
    - drill down on sets of data
    - compare sets of data.

- Review all Strategic Plan metrics to determine what data is feasible to collect in current systems