North Dakota University System

The Delivery of ConnectND

Post Implementation Review
For Higher Education

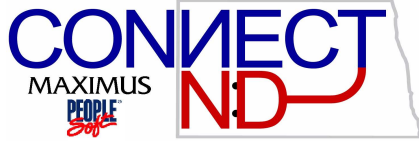**December 2006**

North Dakota University System

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Executive Summary:

Purpose:

This document is a companion document to the State's Post Implementation Review for State Government dated October 2006. A delay in reporting was requested due to problems being experienced by the North Dakota University System (NDUS) especially in the areas of Grants/Contracts and in system performance. With upgrades scheduled for the ConnectND system, it was felt closure to this project was now timely.

In April 2002, the state of North Dakota and the North Dakota University System entered into a partnership to replace the existing legacy administrative computing system with an Enterprise Resource Planning (ERP) system. Implementation included a financial system, a human resource system, and a student administration system. This project became known as ConnectND and was unique in that no other state had attempted to meet the needs of both state government and public higher education with one overall system.

During the course of the project, many lessons were learned. Lessons learned will not only be used in what to avoid or what to consider in future projects but will also be used in the on-going management of ConnectND itself. This report will examine benefits of ConnectND based on the Return on Investment document dated October 1, 2004. It includes an analysis of the product or outcome of the project, survey results on current status of the system by members of the Campus Advisory Committee (CAC), lessons learned during implementation based on views of the Executive Steering Committee, and includes an analysis of the project implementation (Post-Implementation Report, dated December 2005) which includes comments and lessons learned from higher education implementation team members.

While there continue to be problems or challenges to overcome, the state along with public higher education and all those involved in this project should be proud of what has been accomplished. Few, if any, other state along with their public higher education counterpart have a relationship of cooperation and collaboration as North Dakota. The success of this project is due to the efforts of all those who were and are involved in ConnectND. It is the "people" that make ConnectND work. With this product and the cooperation and teamwork of all involved, North Dakota will continue to receive value into the future.

Evaluation of Project Objectives:

The basis used in evaluating the project objectives is the Return on Investment (ROI) documents. An initial ROI was released on January 2, 2003 to document the cost of moving forward with a new system and the reasons for or benefits expected from implementation of a new system. An updated version of the ROI was released in March of 2004 and further refined in October of 2004. Direct and indirect benefits and their savings were included in the ROI analysis and it is the October version that is used in the assessment below.

Eight key benefits were identified in the Return on Investment document. As stated in the State's report, it was never intended that hard dollar costs of these benefits would be tracked. Even trying to measure benefits by other means has been difficult; however, some metrics and

examples have been gathered to demonstrate the value of the project. The eight key benefits identified were; 1) reduce or eliminate "shadow systems," 2) statewide integration on a common system, 3) establish a self-service environment for vendors, 4) establish a self-service environment for employees, 5) improve self-service environment for students and faculty, 6) integrated workflow, industry best practices, and reduced dependence on paper, 7) platform for re-engineering business practices and continued process improvements, and 8) cross trained workforce.

An in-depth assessment of these benefits can be found in this document's section titled "Detailed Analysis."

Key Project Metrics:

Cost
Since this was a cooperative project between the state and public higher education, costs were tracked separately for each entity. Project costs as presented to the Legislative IT Committee on October 11, 2006 were a total of $49,220,456. Of this amount, the state's portion was $17,610,063 and higher education's portion was $31,610,393.

The budget as presented in April 2002 included estimated costs for the project at $35,106,658 with the state's portion being $14,575,010 and higher education's portion being $20,531,648. This April 2002 budget estimate did not include costs for reallocated staff as it was intended to represent the additional new funding needed for the project as opposed to the total cost of the project.

While it would appear that the higher education portion was $11,078,745 more than projected, $6,908,378 of this amount was related to personnel costs for staff who had been reallocated from supporting the legacy system to the new CND system. To reflect total costs of the project, in-house staff who were reallocated to this project were included in the October 2006 costs. The bulk of the remaining $4,170,367 was attributed to amendments made to the Maximus contract for implementation consulting services ($2,888,928), ancillary system software for two systems not part of the PeopleSoft system with one being a room scheduling software and the other software system for credit card payments ($460,934), the remaining amount was attributed to costs for additional staffing/training ($654,685), equipment/hosting ($166,004), etc.

Amendments made to the Maximus contract for consulting services were related to the additional work needed to implement functionality for the Grants/Contracts module in the finance system and additional assistance in implementation of all three systems (finance, human resources, and student administration) during the extension of the go-live date at the final four institutions. Because of problems experienced with the Grants/Contracts module, consultants provided system support to campuses that were live while NDUS staff were working on resolving issues and implementing the system at the final four campuses.

Scope
The original intent of the project--replacement of the existing legacy system to include new functionality and a web interface-- has been met. Originally, the project was expected to be

implemented over a thirty month period; however, implementation extended to a thirty-six month period due to lack of readiness of the grants and contracts module, which was critical to three of the four final four campuses to implement the system. In addition, the project was extended for an additional six months to allow the student administration system to be implemented following the academic calendar.

During the life of the project implementation there were some changes in project scope. An example of this was in the Finance system where the inventory system was not implemented. Since this inventory system was primarily to be used for facilities, the functionality was implemented in the Facilities Management System (FAMIS) instead of in PeopleSoft. Another area where a change in scope took place in the Finance system was in the implementation of Projects and Grants Management module for grants and contracts. Originally, only the Projects and Grants Management module was thought to be needed; however, about one year into the project Maximus (implementation consulting partner) realized that Contracts, AR, and Billing were also required for grants and contracts, adding unexpected implementation time and costs.

After thorough review and evaluation, it was decided during implementation that Time and Labor in the HRMS (Human Resource Management System) not be implemented. The cost of implementing and maintaining the functionality (all employees, including faculty, accounting for their time by submitting timesheets every week) outweighed the benefits.

In the Student Administration system, there were three specific functions which were believed to be included in PeopleSoft that were later determined not to be available. This resulted in the NDUS implementing separate, but integrated solutions. These were: room scheduling (Ad Astra), an undergrad application (in-house development), and a graduate level application (Embark). In addition, the NDUS implemented credit card software with e-check capabilities (TouchNet).

Schedule
The original schedule called for implementation at all institutions by June 2004; however, problems encountered with the Grants/Contracts module caused a delay in implementation at the final four institutions. These were Minot State University, Minot State University – Bottineau (due to their relationship with Minot State University), North Dakota State University, and University of North Dakota.

The revised schedule called for implementation of the finance and human resource systems at the final four institutions on January 1, 2005 and completion of implementation of the student administration system by July 1, 2005. The student administration system was implemented following the academic calendar and related events, thus the need to extend implementation of this system through the end of June. Implementation according to the revised schedule was successfully met.

While there was a delay with implementation at the final four campuses, the remaining seven campuses went live as originally scheduled in July 2004, with the first two pilot campuses (Mayville State University and Valley City State University) going live in October 2002.

Quality

There were some major factors impacting the "quality" of the implementation. A major factor which negatively impacted the quality of the implementation was the original time line for the implementation, it was too short for such a large scale project. The timelines for the project were largely driven by the legislative and budget cycle. Another contributing factor was the cleanliness of legacy data which needed to be migrated to the new system. It was not as "clean" as originally anticipated causing more lengthy data conversion processes. During implementation it was determined that various campuses used fields differently in the legacy system which created the need for multiple data conversions instead of a single conversion, as was originally anticipated.

Yet one more factor was the choice of some of the implementation partner consultants. The consulting partner had state government experience in the finance and human resource modules, but little higher education and student administration module experience. This knowledge "gap" impacted higher education most significantly since some of the most problematic or challenging areas of the software implementation were unique to higher education. In addition, some of the implementation consultants lacked the experience and depth of knowledge one would expect in an implementation partner. In some cases, the consultants were learning the system along side the NDUS staff leading the project. Had more knowledgeable implementation partner staff been available, project time and scope impacts would have been greatly minimized.

The project was brought to fruition largely by the higher education individuals involved in the project. Had more time, and, specifically, more people resources, been provided for, additional "up-front" work could have been done to avoid problems, instead of fixing them during or after implementation. Likewise due to limited resources, the same group of staff were simultaneously supporting the legacy system, implementing the functionality of the new system, and trying to provide training. Dedicated and an adequate number of staff in each area would have provided a significant improvement in use and user satisfaction. While improvements can and are being made, not having the problems resolved prior to go-live detracted from the good things that had been implemented, in other words, the ongoing problems overshadowed the benefits. The reality is that the new system has provided some new functionality and more importantly offers the building blocks for the future. For some, the perception that they did not see an immediate improvement or enhancement in functionality (or worse yet, diminished functionality) in their area at go-live left them feeling the system was not functional.

For more detail on project quality from the eyes of the project team, see Project Quality in the Post Implementation Report dated December 2005 which is included in this document as an appendix.

Lessons Learned:

There were numerous lessons learned throughout the implementation of this project. A few of the key lessons learned included; 1) project management – the importance of having a full-time project manager assigned (preferably on site) during the duration of the project and one that is not affiliated with the primary contractor or vendor, 2) more and earlier awareness and involvement was needed among the campus users, 3) greater emphasis should have been placed on "change management" before and during implementation to prepare and plan for new

processes, 4) realistic timelines based on the staff and financial resources available or increased resources to meet timelines, and 5) the need for communication, communication, communication.

Many times the focus of lessons learned is on the negative aspects of how the project was implemented; however, there is one more positive factor to keep in mind and that is the "growth" experience gained by those individuals involved in the project. Not only the growth experience of the project process and how the product itself functions, but the growth experience gained from working with other individuals, campuses, and the state in a collaborative and collegial manner. This growth experience should not be forgotten and will provide benefit for years to come.

For additional information regarding lessons learned, see the sections titled; Lessons Learned/Observations – Executive Steering Committee, and the Post-Implementation Report dated December 2005 included as an appendix to this document.

Detailed Analysis:

Evaluation of Project Objectives:

An original Return on Investment (ROI) document was created and released on January 3, 2003. Throughout the implementation phase of the project, updates to the document were provided with the first being in March 2004 and the final update October 2004. It is the final October 2004 document that was used in examining the direct and indirect benefits and their cost savings listed below.

The ROI identified eight key areas where estimated costs savings could be realized. These areas were:
- Reduce or Eliminate "Shadow Systems"
- Statewide Integration on a Common System
- Establish a Self-Service Environment for Vendors
- Establish a Self-Service Environment for Employees
- Establish a Self-Service Environment for Students and Faculty
- Integrated Workflow, Industry Best Practices and Reduced Dependence on Paper
- Platform for Re-engineering Business Practices and Continued Process Improvement
- Cross Trained Workforce

In some cases the ROI document separated the estimated cost savings for the state and higher education. In other cases, the estimated savings were combined savings. The key area of "Establish a Self-Service Environment for Students and Faculty" applied to higher education only.

In some cases, the realized savings would not begin until later in the 10 year time frame provided for in the ROI document. There would be an actual cost increase in the early years of implementation as staff continue to support two systems (legacy and new system) and as changes in productivity occur as personnel became accustomed to the new system. Costs

savings would be realized as additional functionality or capabilities are implemented, and/or personnel became familiar with the system and new business practices.

Many of the identified ROI benefits are difficult to calculate in terms of hard dollars; however, included in this report are examples of where these goals are being met.

Return on Investment:

1. **Reduce or Eliminate "Shadow Systems":**
   The 10-year benefit was estimated at $7,832,936 in the ROI document, with higher education's portion being $1,180,584 – the larger share of the savings to be realized during the last half of the ten year period. Although it has been difficult to measure and assign a dollar value to the benefits, we do know that many shadow systems have been eliminated. However, in all honesty, due to implementation challenges and ongoing performance issues, some existing systems have been maintained and some new shadow systems may have been created, until such time the new system can be stabilized and becomes fully functional.

   In the Finance system, reporting and access to data continues to be a challenge for the North Dakota University System. This is mainly due to the fact that CND staff are spending most, if not all, of their time on production support, with little to no time left to develop queries, reports, provide training, and research new functionality and existing capabilities of the system. Campus personnel are helping fill some of this void.

   Because there was virtually no Human Resource data available in the legacy system, campuses performed their Human Resource work primarily through the use of "shadow" systems (Excel spreadsheets, Access databases, and even pen and pencil). Many of these have been eliminated with the functionality of the HRMS system.

   Campuses continue to use some "shadow" databases until the new system can be stabilized and becomes fully functional.

2. **Statewide Integration on a Common System:**
   The original cost savings of the benefit was estimated at $3,150,471 over the ten year period, with higher education's portion estimated at $1,202,436. There would be an actual cost increase in the early years of implementation as personnel became accustomed to the new system, but by 2008 cost savings would begin to accumulate as employees become more productive. While it is very difficult to measure employee productivity, anecdotal evidence shows we did see some decline in productivity (as expected) in the early years of the implementation due to the steep learning curve.

   That said, there are a number of productivity improvements that demonstrates the value of a common system. For example, the state and higher education share the highest level of the accounting structure. One advantage is that campuses can automatically draw down funds from the State Treasurer through the state's system. OMB then has record of

the draw against the appropriate state appropriation line which facilitates more efficient preparation of OMB's appropriation status reports.

The integrations between and within the systems are significant, and in many cases take place in real time. As an example, human resource data flows to the Benefits and Payroll modules automatically. Once a payroll is run, the data flows to both the Finance system and the Grants and Contracts module. HRMS is integrated with the Student Administration system to keep I.D. numbers unique and to measure the course load of a student and the subsequent effect that has on their possible exemption from Social Security taxes. Faculty entered into HRMS can be linked to a course in the Student Administration system. Payroll data for students is available to Financial Aid offices to coordinate work study awards.

3. **Establish a Self-Service Environment for Vendors:**
   The 10-year cost savings of this benefit was estimated at $3,018,466. The estimated cost savings was projected for the whole state and was not separately identified between the state and higher education. In addition, vendors using the system would save travel expenses, employee costs and other expenses that would be a direct benefit to the businesses' profitability. These direct vendor savings were not included in the estimated cost savings to the state.

   During implementation the state decided to delay implementation of the self-service for vendors environment due to a lack of resources. However, several other areas within the system have been of value to the vendors that do business with the state. Examples include voucher inquiry (vendors have one contact at the state to update information regarding their company and can gain information regarding origin of payments) and 1099 reporting (now issued statewide instead of by each individual state agency).

   While vendors are able to register and be entered into the system through some self-service with the State Vendor Registry, there is much that could still be done using the enterprise portal to expand vendor self-service capabilities. Since the portal has not been implemented, these services are not available yet.

4. **Establish a Self-Service Environment for Employees:**
   The estimated cost savings of this benefit over the 10-year period was $5,343,784. Separate cost savings for the state and higher education were not calculated. Some capabilities have been added at this point, and more are planned for the future.

   The state, in its companion ROI report indicates they have realized the estimated costs savings of the employee self-service benefit. Higher education has not yet implemented the enterprise portal that would provide self-service capabilities to employees so we have not yet fully realized the associated cost savings. While it is highly desirable to pursue implementation of the enterprise portal, it has been put on hold until other core functionality issues have been addressed.

5. **Improve Self-Service Environment for Students and Faculty:**
   A cost savings of $21,809,221 was originally estimated for higher education on this item. Again, measurement of improvement in dollar terms is difficult, but there are many examples that indicate this objective is being met.

   Faculty now have capabilities and access to data important to providing good service to their students. Examples include access to real-time class listings, advisee address and phone numbers, class schedules by term, emergency contact information, transfer credit evaluations and wait listed student lists (if the campus is using this function). In addition, faculty can run advisee transcripts to assist in advisement, and very soon will be able to access degree progress.

   Through the portal, students have a myriad of capabilities that were not available in the legacy system. Examples include the ability to complete an on-line admission application; view course catalogs class schedules, grades, unofficial transcripts, holds and to do lists, addresses, phone numbers, email addresses, financial charges and balances and financial aid information; make changes to personal information on-line, use a link to apply for Federal Student Aid; enroll in a class; see who their advisor is and order transcripts.

6. **Integrated Workflow, Industry Best Practices and Reduced Dependence on Paper:**
   The original cost savings of the benefit was estimated at $48,747,522 over the ten year period, with higher education's portion estimated at $13,525,307. This is another area where there would be an actual cost increase in the early years of implementation as personnel became accustomed to the new system, but by 2009 cost savings would begin to accumulate as employees become more productive. Because the workflow functionality of the system has been implemented only in limited areas, we have been unable to measure the cost savings of the benefits described in the ROI. However, there are some areas that have made strides in integration and best practices through the implementation of PeopleSoft.

   In the Finance system, one campus is using some limited workflow capabilities by having a couple of distributed departments enter vouchers that are then approved centrally.

   One campus is extensively using decentralized data entry for faculty recruiting, payroll, leave management and accounts payable in the HRMS system. A second campus is using this functionality successfully in their larger departments.

   The annual salary budget process has been partially automated with the implementation of PeopleSoft. While campus departments are not yet entering the data directly into PeopleSoft (which will be possible when workflow is enabled), the spreadsheets they key their data onto are now automatically uploaded directly into PeopleSoft, thus eliminating the re-keying by budget staff of data for thousands of employees and the need to re-balance salary funds after re-keying.

The Student Administration system is planning to use the workflow functionality in the future.

7. **Platform for Re-engineering Business Practices and Continued Process Improvement:**
The original cost savings of the benefit was estimated at $23,552,949 over the ten year period, with higher education's portion estimated at $4,523,946. Because of the steep learning curve associated with a new system, the corresponding pressure on those who provide support and the lack of resources, re-engineering business practices and improving processes has been somewhat limited. Additional progress will be made in this area when support staff have the time to discover expanded functionality and find the training opportunities to share those discoveries with end-users.

The following are a few examples of changes that have been made to technical processes:

- In the legacy system, development staff would determine a resolution when an application function wasn't working. In the new system, functional staff can investigate application problems by reviewing solutions identified by Oracle/PeopleSoft on previously reported cases.
- Information Technology Systems and Services (ITSS), database administrators (DBAs) and System Administrators debug more technical issues in the new system. With tools available to view the underlying platforms used in hosting the applications and processes used, staff are now more responsible for overall system performance as well as problem resolution.
- Developers from the state and programmer analysts from higher education now have a common developer toolset that can be used to review customizations and develop solutions. In addition, analysts from higher education have worked with ITD developers and data center staff to tune code and indexes for better system performance for both the state and higher education.
- By using an Enterprise approach, workload can be distributed and common skill sets can be developed, broadening the number of staff capable of problem resolution.

The following are a few examples of changes that have been made to functional processes:

- The HRMS section of the federally-required IPEDS report has recently been automated. As a result, dozens of hours (small campuses) to hundreds of hours (large campuses) each year will be saved in staff time. The change lays the foundation for submitting the report electronically which will save many hours each year of entering data in the federal agency's web page.
- Through the creation of reports using the nVision reporting tool in PeopleSoft, preparation of annual financial statements for the campuses is now automated, saving hundreds of hours of staff time in manual preparation.

- The shared instance of the database between all campus and state government has presented some challenges, but has also produced the benefit of not having to re-enter data for any former employee who is rehired into the system at any campus.

8. **Cross Trained Workforce:**
   Anticipated cost savings for this benefit was estimated at $3,500,000 with higher educations share of savings estimated at $1,000,000. Savings were projected to be realized as employees moved from department to department, institution to institution, or institution/agency to agency/institution.

   Productivity gains have been realized as some NDUS staff have taken other jobs within the system, and within other state agencies. Because of the common system, they've been able to be more productive than would an individual new to the system or state.

   Over 1,000 employees have been trained to use PeopleSoft HRMS. Centralized users on campuses were trained using face-to-face methods, and have access to on-line training manuals Decentralized users received training either through face-to-face training on campus or through Web-Ex enabled training via the internet. Because the configuration is standardized, employees can move from department to department or campus to campus with little additional training.

   The HRMS Users Group was created shortly after the final four campuses went live in 2005. This group consists of centralized users from each campus in the areas of Human Resources, Benefits, Payroll and Budget. The linear nature of the HRMS makes it important to have this group meet as a whole to understand how the work of each of them affects the work of others. This group is user-driven and chaired by a campus representative elected by the members of the group. In addition to an active listserv, this group meets several times a year either in person or over the North Dakota Interactive Video Network (IVN) to share ideas and advise the Application Director on the prioritization of open software development issues. The Finance and the Student Administration system have similar user groups that meet to discuss functionality issues/wants, set priorities, and share information.

   Common toolsets for programmer analysts, database and system administrators has provided opportunities to leverage knowledge and expertise among NDUS and ITD staff. Common technical standards have been shared among NDUS programmer analysts, development teams and ITD staff. Additionally, database and system administrators share information pertaining to upgrades and patches of the PeopleTools toolset thus reducing the risk of reoccurring issues.

Survey Results:

Responses to three different surveys are included in this section of the report. The first survey was conducted recently to gather information on the status of ConnectND from the perspective of each campus. Campuses (through their Campus Advisory Committee member) were asked to respond to the following three questions: 1) provide two examples where the implementation of PeopleSoft/Oracle ConnectND has improved campus business functionality and is considered a success, 2) provide two examples where PeopleSoft/Oracle ConnectND has not met your campuses expectation of the system and is considered not to be a success, and 3) provide 1-3 examples where you feel improvements made in these 1-3 areas would make PeopleSoft/Oracle ConnectND a success and include your recommendation of a solution for each. Additionally, some campuses elected to provide more examples and all have been included in this report.

The second survey section contains observations from the Executive Steering Committee from a meeting held March 4, 2005.

The third survey (included in its entirety as an appendix to this report) is the complete Post-Implementation Report dated December 2005 which includes comments from those individuals heavily involved in the implementation of ConnectND..

Campus Responses to Questions on Current ConnectND Status

Responses are included in aggregate and are not separately identified by campus. However, each response submitted is included below, even if the response was duplicated by several campuses. Some campuses responded to the questions based on individual system modules, instead of responding in terms of overall priority of their campus.

Question One – Provide two examples where the implementation of PeopleSoft/Oracle ConnectND has improved campus business functionality and is considered a success.

- The GL and AP systems are working good and are an improvement to our old system. Once we get reporting figured out with respect to the financial module, there won't be any complaints.
- The Finance module allows Corporate and Continuing Education to enter their department AP and to more readily reconcile financial reports for clients for whom the campus is fiscal agent.
- It has been a plus for off-campus Faculty to enter grades.
- Off-campus students have better access to student information.
- Employees are able to run their own reports and queries and get the data immediately.
- Faculty, staff, and student self service has been a big improvement over Legacy. Being able to work from home, hotels, etc…has added efficiency to our operations.
- Letter Generation – PeopleSoft has allowed us to generate letters with merge fields (ie name, address, term, program). This process allows us to send letters to students with better information and does not require us to continually change Word documents to fit each student situation.
- We can now view all ACT/SAT scores that a student has submitted. In Legacy, we could only review the most recent score the student provided.
- Faculty Grade Entry/Faculty Self Service (There is one improvement that would help and that is for the current roster to show first but at final exam time, the midterm roster shows

and sometimes faculty get mixed up). - no need to visit office, complete anytime of day from any location, simple data entry, historic record.

- Student self-service – fewer student office visits, shorter lines, students empowered to complete their business electronically.
- Real time financial aid information available to the students 24/7.
- Ability to more effectively use email communications with students, which is a lot faster/cheaper than the paper communications used in the mainframe world. It also reduces our dependence on having updated mailing addresses.
- Students have access to their account transactions through the Student Portal and the students only have one account. In Legacy, students had multiple drawdown accounts, an AR account, and a STL account.
- E-billing replaced paper billing statements for registered students.
- Electronic transmittal of most financial aid, including Parent PLUS loans.
- The negative service indicator is a big improvement. By designating what impact the negative service indicator has, students are not permitted to register for a semester with a delinquent balance, but once registered they can add/drop classes without the Business Office removing the indicator. The negative service indicator for delinquent accounts is placed and removed automatically when running the Credit History process. There are some bugs in this process, but it is working well for the majority of the students.
- n'Vision reports used by all NDUS schools to complete year-end financial statements.
- Access to run queries.
- It is Web based and can be accessed anywhere you have an internet connection.
- As soon as something is entered into PeopleSoft we have up-to-date information when we run queries and/or reports.
- Detailed information on paychecks for increased employee awareness of their pay, deductions, and taxes.
- All employees are on the same pay schedule and the two week pay lag for all helps distribute the funding appropriately.
- The Principal Investigator (PI) report in Grants/Contracts, which is a customized report, has been a real life-saver. Grants Officers, PIs and administrative staff can run the report at any time instead of receiving a report at month end as in Legacy.
- Use of n'Vision reporting function has eased the preparation of year-end financial statements – much improved and has saved time.
- In general, the self-service functionality has been a terrific improvement to the operation of the university. From student self-service to faculty and staff access to information from anywhere, operational efficiencies have been improved. Greater focus on students who need assistance is realized.
- FISAP preparation and submission is much more efficient with a single report of required data.
- The ability to request unofficial transcripts has assisted continuing education career students, thus reducing the number of phone calls coming into the campus, expense of paper and postage, and labor.
- For distance education students at our institution, the self-service portal is super!
- Student Admin has decreased the amount of time staff devotes to printing information for students and faculty. Class schedules, unofficial transcripts, faculty class rosters, lists of

advisees, account balances and other information is easily, directly, accessible by students and faculty.

- Accounts payable works well and is very easy to use. Processing accounts payable checks is simple – our vendors and employees are very happy with the quick turnaround time.
- The Grants and Contracts module customized a Principal Investigator report which can be ordered by grant project, by date and requested by department personnel or individual PI's if they apply for security. This is a good summary of each grant project and is useful for a quick overview of grant status.
- The Grants module provides for immediate distribution of collected indirect costs, by individual grant project, to whatever local funds are set up to receive these dollars. This allows immediate (daily) collection of these dollars by individual colleges or individual department accounts as established per campus policy or agreement.
- Web-based application has given business portability (access from any computer) – however, more staff are working nights, weekends, and holidays in order to get work done.
- Student tax update process.
- The process of entering waivers is easier.
- From our perspective, the student's access to their account is better (if they look!).
- Easily accessible via Internet.

Question Two – Provide two examples where PeopleSoft/Oracle ConnectND has not met your campuses expectation of the system and is considered not to be a success.

- The Graduation Audit piece was expected to be functional by now. That it is not is a huge disappointment.
- We expected an option for faculty to view their class list, draft a message to the students in their class, and then by the click of their mouse, send and email (hopefully to the campus email address) to everyone in that class.
- We expected that senior administrators would have easier access to information, especially financial and enrollment reports. That doesn't seem to be happening very fast. i.e. the nVision reports.
- We had higher expectations for how the system could assist with the collaborative paperwork shuffle. Collaborative paperwork is just as bad as it was in Legacy.
- The student admin system does not track student applicants through the system very well.
- Satisfactory academic progress (SAP) continues to be an issue that puts the institutions at risk of losing federal student aid dollars.
- User-friendly operational manuals in all systems are a must and disappointing that none are available two years after implementation.
- The entering of applications takes considerable more time than with Legacy (2-3 minutes in Legacy vs 8+ minutes in PeopleSoft). At times, system performance does not allow us to process applications in a timely and efficient manner.
- SAT scores are not loaded on a regular basis and cannot be electronically loaded at the campus level.
- Probation/Dismissal/Suspension – have had to write own program to make sure process operates correctly and find all categories, 3 C's process for letter generation first did not work properly and now basically works but is very cumbersome and labor intensive.

Also, there are GPA issues with the change to institutional GPA and yet a need for cumulative GPA for some of the process (this may need to have a University policy change).

- Lack of ability to have two GPA's as in the past – also different practices for NDUS schools has caused HECN to set up for one group and then a process does not work for other schools.
- Award letter process/self-service is very unreliable/non-implemented and does not meet expectations. The PeopleSoft system processes/reports were not/sufficiently tested before going live (or it was tested for smaller schools with fewer and manageable student population) – this is now requiring the staff to test in real time while finding/running manual workarounds.
- SAP process.
- System performance for all users has been unreliable and despite changes being made, continues to be a problem during high usage times.
- There is a lack of queries/reports. PeopleSoft/Oracle is a powerful tool and we had high expectations of having multiple queries/reports to use for analyzing data.
- Students/parents expected the ability to make payments over the web. This is especially important for aviation students who use credit cards for their pre-flight payments.
- Faculty do not have access to their accounts receivable.
- Reporting for departments (ex. n'Vision).
- Access to queries so a user could modify to obtain needed data.
- Stability and reliability of system (ex. valid budget check but transaction is not deducted from the budget).
- When making changes in tables, PeopleSoft does not update the information in Position or Job Data. All has to be done manually.
- Contract Pay – we can't hire mid year or make changes to salary mid-pay period and get correct salary calculated.
- Recruiting Solutions does not have reports or queries that are useful to us.
- Funding distribution of benefits has not been implemented appropriately into PeopleSoft, so employees are forced to receive 2-3 checks in one pay period to make the system charge benefits correctly.
- Benefits Administration was set up to agree with the State pay schedule (no lag), so we must adjust our deductions to match (double the first deduction, end the deduction before the last paycheck).
- Information for quarterly reports in Grants/Contracts, which are mandated by federal agencies, doesn't exist in PeopleSoft. We have had to rely on two queries to obtain expenditure information and manually verify the award amount.
- Billing is very time consuming in Grants/Contracts and requires a large amount of time to verify that what we are sending the sponsor is correct. There is also no back up to provide to the sponsor if they ask. Reports need to be developed in Project Resource that clearly and concisely provide detailed backup for a billing. At the present time, the grants officer needs to obtain information from HRMS, GL, and KK and then spend hours manually manipulating the data to agree to the billing.
- Deposits in Grants/Contracts are made at the award level instead of the project level. So, if an award has multiple projects, the system not the grants officer, decides which

project(s) should receive the cash. Not only do we have no control over which project receives the cash, the matching of receipts to individual project is extremely difficult in PeopleSoft.

- Training of new staff has always been a challenge. However, the new system has required that we train our grants officers to be data input operators and trouble shooters instead of training them to be facilitators and managers.
- Effort reporting has been nothing but problematic since go live. Because of design flaws and in spite of significant work from the Project Team to resolve issues, we still have problems when people's effort is greater or less than 100%, with proposed effort not being captured for the pay period, and with not being able to input cost share for some individuals. Even if the system were working as designed, it is extremely manual and very costly in man hours to operate.
- While some of the problems with insufficient or incorrect data in the system may be user generated, there are no system edits to let people know if something is incorrect or if necessary information is missing. Forgetting to check a box, or including incomplete data, can mean that a grants officer is tied up for hours trying to clean up the mess. This results in large amounts of time being spent troubleshooting by grants officers and when they can't resolve the problem, additional effort by the HECN staff is necessary.
- While reports such as the year-end financial statements and FISAP are much better, general access to and retrieval of information is very limited for administrators. Unless a campus hires an institutional researcher with IT experience, it's a challenge to obtain good data for planning and analysis of university operations and strategies.
- The management of our constituents is much more limited than what was expected. It takes a lot of human intervention to conduct basic recruitment functions because segmenting of different populations for targeted information is manual.
- Running budget reports are laborious.
- Extraction of needed data is limited. Query model is not functional.
- System performance (response time) is particularly slow in Student Admin. This becomes a point of frustration for users and a waste of precious human resource.
- Financial reports for non-financial manager are confusing and cumbersome. Reports/queries in the finance system were not designed for the occasional user or the division manager/director. Business Office personnel are asked to provide budget and expense reports tailored for the non-financial manager (similar to the executive summary reports available in Legacy). We use Microsoft Access for this purpose.
- The complexity of the system is so great and the majority of the processes are so manual that it takes considerably more time and resources to do the same amount of work than it did in our legacy system. This has resulted in a very significant backlog of old grants and contracts sitting out on the system which we are not able to properly close out, as we are responding to current needs of setting up new awards and getting billings out on current funds.
- Grants and Contracts NEEDS detailed reports of expenditures INCLUDING PAYROLL by grant fund on a project life basis. We also NEED cost share (effort) reports on a project by project basis. The lack of necessary reporting information delivered along with this system is very disappointing and frustrating to users.
- Retroactive payroll activity is impossible to track – at the HR, Finance, or Department level.

- System is very complex – many processes are manual, considerably more time and resources are required to complete work timely. No detail is available on Finance module for payroll or student finance transactions which post to funds, causing confusion for department staff, and making reconciliation and research by finance staff very difficult for posting.
- Online budget transactions are not being captured properly causing incomplete data to display on commitment control reports.
- Strictly a payroll system without a budgeting module. Unable to track a position's budget.
- Self-service for employee applicants: employees apply for positions on line, information downloads into the HRMS module; employees are able to print own W-2, paycheck advice, able to change their W-4, address, etc.; good information in the system but have not had training on how to export it to use for administrating the process -- performance evaluation process, salary administration process problems so continue to utilize an Access database shadow system.
- Difficulty calculating accurate Full Time Equivalency (FTE) data.
- Department services do not have very good processes within PeopleSoft; billings, receipts, reviewing G/L postings from the student module.
- Third party contracts are inefficient.
- Satisfactory Academic Progress (SAP) program does not work. The current program does not produce accurate results, so for Fall 2005, our campus did it manually to avoid being out of Federal compliance.
- PeopleSoft does not interface with the Graduate School Embark application. The Graduate School is receiving an electronic application, but has no way to get the data into PeopleSoft other than manual entry.
- Transcript setup is not being addressed. PeopleSoft transcript font is too small. Transcript uses more paper to print even though font is smaller than legacy transcript.
- Security roles are not well defined and the process to request user access is cumbersome.
- Records office does not have access to correct its own course catalog. If mistakes are made, a Help Ticket must be filed.
- Slow response time during "red days." Staff spends a large amount of time waiting for the system. During these times staff is expected to work during non-working hours to complete reporting and processing.
- Students get frustrated when they accidentally use the "Back" browser button and get logged out of PeopleSoft.

Question Three – Provide 1 – 3 examples where you feel improvements made in these 1 – 3 areas would make PeopleSoft/Oracle ConnectND a success. Include your recommendation of a solution for each.
- Make Graduation Audit function a TOP priority of HECN.
  o Talk to other PeopleSoft users and find out how this can be done in our Student Administration module.
- Reports and information to the decision-makers was supposed to be available when we went live and still isn't.
  o A data warehouse with easy access to information would be very beneficial.

- Security needs improvement.
  - One possibility is each campus determines their security levels right on campus, rather than just passing on the information.
- We thought PeopleSoft was to have the functionality of incorporating workflow along with integration between the modules.
  - This would be a real plus. i.e. Ctrl C means the same in Excel as Word, etc.
- We are not aware if the PeopleSoft/Oracle solution offers a more comprehensive applicant tracking component.
  - If not (in PeopleSoft), another third party vendor that can be integrated into PeopleSoft/Oracle should be investigated.
- If SAP were to be "fixed" to a point of eliminating all the manual effort that takes place "checking" the system generated SAP, we would consider that a success.
- Complete, user-friendly operational manuals (not training manuals) where current and future employees can go to learn a process and have a resource to help find errors that we have created would be a plus.
  - We believe such manuals would also take pressure off system staff by reducing the need to do help tickets.
- Currently, there is a Development Request (DR) in process for a "Quick Entry" page which allows all information to be entered without refreshing after entry in certain fields and reduce the need to move to different pages to enter data (residency, education information). This may speed up the data entry piece but does not address system performance.
- Again there is a DR in process to develop a process to load SATs the same way ACTs are loaded. ** These DRs have been in process for an extended period of time. Communications regarding their progress is necessary but has not occurred in a consistent manner.
- Advisor access – Improvement for ConnectND is advisors for each campus where currently one campus adds a dual enrolled student and that removes the advisor for the other campus. Then the other campus adds their advisor back in and cancels the first.
  - Improvement for our campus – Improve the access process and departments keeping advisors up to date for students.
- Blind Grading – There is no delivered method to notify students of their blind grading number. Also, there is need for a security change to hide the notes and details fields. Currently on a blind grading roster, the students name is revealed in the notes and details fields.
  - This should be an enhancement case. We have written a query in the meantime.
- Better decentralization of access to queries and more granular access to queries. Currently, if you have access to a query in Production, you have access to all approximately 2000 queries. We cannot grant table access to only those a person has permission to run. Therefore, all the role security is eliminated in the query access. Users have all or nothing.
- Run controls and queries could/should be run on an auto-scheduler without manual intervention.
- More campus-specific technical changes should be permitted to address unique functional needs. Every campus has different needs and one size cannot fit all in this instance.
- SAP Issue.

- o Hire an outside consultant/expert to assist in a complete re-write of the SAP process.
- The programming to-do list for each area is already so long that it is unlikely that most items will never come off of the list without out-sourcing some of the work.
- Increased training/documentation for campuses and HECN support/technical staff.
- There needs to be more wide-spread training in query writing and the ability to share personal queries with other institutions.
- Implementation of TouchNet will give students/parents the ability to make web payments. Aviation students must have a method of making aviation flight prepayment through the web.
- Provide faculty the same access to their AR that students currently have.
- Campus staff participated in n'Vision training, but have not had the opportunity to use their training.
- Better communication between HECN and campuses.
- Better communication between campuses to share information and solutions on processes.
- Give ability to more departments to run student finance queries and others access to modify existing queries for our needs.

- Tools to do our jobs (ex. reconciling modules, how does information pass from different modules to the GL so we understand how it ties together).
- Access to run queries that are only available to HECN, make the query public.
- FAMIS and not being able to upload their vouchers. Voucher build works well and I'd like to pursue this for other areas as well- Elan airline tickets and voucher build from an Excel spreadsheet.
- Another thing would be team work among the campuses and HECN and utilizing all resources to their fullest. An example would be the GE purchasing card where one campus has done the testing for HECN and utilized a programmer from the state to facilitate the process. This allowed HECN to focus on other pending issues.
- When changes are made to a table it would be more accurate and more time effective if the changes to Position and Job Data did not have to be made manually (ex. moving positions from one department to a new department).
- It would be great if Contract Pay could process and calculate pay correctly for mid pay-period salary increases. Manual adjustments now have to be made. Again, this takes a lot of time and you handle the same paperwork over and over again.
- Leave accrual report is not very user friendly. It should include total hours used each pay period for Annual, Sick, and Dependent Leave, Military Leave, and any User or Lose Annual leave.
- Develop queries/reports that have useful information to be used in gathering information for annual reports, departments, etc.
- Definitely the number one priority would be to make the necessary programming changes so the benefits follow the funding sources, only if the funding sources are benefited. Having to distribute 2-3 checks to an employee just to get the funding correct is not only costly to the University System, but irritating to employees (Payroll System issue).

- The ability to print W-2s on regular paper. Hugh cost savings to the system if the forms could be printed with the data.
- Display EmplID as the first field on HRMS Search screens.
- Review the current configuration and determine if modifications are needed to create efficiencies in all areas of the Grants Module, including pre-award, post-award, and award closeout. This would save large amounts of time for the Grants Officers and reduce errors due to manually inputting the same information multiple times.
- Edits within the system to ensure all required fields have been populated with valid data.
- An effort system that is efficient and accurate. We really need to review what is available by outside vendors as we continue to struggle with what was developed.
- Reports that provide useful and timely information to support the grants area. These need to be developed as soon as possible to support the information we are sending to our sponsors.
- Modify the grants module so that data needs to be input only once and follows a logical pattern. The modifications would minimize human error and simplify training of new grants officers. The hope is that new modifications would enable the professional staff to once again fulfill a management role instead of focusing on being a PeopleSoft technician.
- Acquisition of a data warehouse is key. To conduct longitudinal studies of any data is impossible at this time.
- A CRM solution is paramount to the short and long-term success of student recruitment and retention. Many of the NDUS campuses will not compete with out-of-state colleges and universities when it comes to attracting and retaining students.
- On the surface, our final example doesn't appear to be a ConnectND issue, it affects many of the issues that develop around it. Consistent policies, procedures, and practices as well as the consistent enforcement of them is paramount to the long term viability of the system. The more departures from standard, the greater drain to hardware, staff, and other resources dedicated to the operation of the system. It also provides a disincentive to the campuses who have been working within the parameters to continue in that mode of operation.
- Enlist lead HECN query writers for each student services area. This would facilitate unduplicated labor in querying. This lead person would know what's completed and in a Development Request (DR), which would alleviate each campus attempting to write their own.
- I don't pretend to understand how to improve system performance except to devote additional hardware resources. I believe certain processes have already been converted to run overnight in order to free-up resources for live processing. However, the cost for additional hardware or human resources needed to improve system performance should come from the state – not from additional student fees or other campus resources.
- Most campuses have devoted resources for query writing in order to provide information not available in canned PeopleSoft reports/queries. I, very reluctantly, have decided to send my only full-time IT support technician to training for query training. I've decided having this capability may be the only means available for obtaining needed info. I very naively believe that most if not all the reports I am seeking have been written by a query writer on some other campus. These reports could become public – available for all campuses to run. It would help to have a catalog of these reports with a brief description

and an example of the output. Also, it would be helpful to have a detailed listing of all PeopleSoft reports by module. Again, a brief explanation of each report with example of output would be very beneficial. The title of the report does not always provide enough information. This type of listing was available in Legacy.

- The system is not a good solution for university grant and contract financial administration. The payroll design does not work well with university payroll situations of multiple funding sources. This is very important to grant and contract administration. There is not much that can be done by us to improve this situation. Increased resources for developing needed reports would be helpful.

- A campus meeting was held with representatives from each function (HR, Finance, Budget) to discuss how our parts of the retro puzzle fit together. We hope to further our understanding of the retro's function and purpose with no guidance from the system team.

- More staff is/has been added in many areas in an attempt to complete work timely, at what point do costs (current & future) outweigh the benefits for this complex system?

- One of the bonus features of this system is the ability to see the budget effect of "real-time" transaction processing. The system team is asking us to utilize a "batch budget check" rather than "real-time" in order to avoid "skips" in transactions.

- Clear lines of communication need to be established. Between functional user groups (FUGS) and campus committees, there is no clear idea of what needs to be done. Time is spent prioritizing lists of needs ("Steam Valve Issues," development requests, help tickets) but no updates on how those are being handled is given. Who are the members of the functional user groups, when do they meet?

- Have access to correct history for 2 people for each module – let the campus own their information.

- Completion of development requests i.e. WindStar interface, currently entering each foreign employee into shadow system and HRMS, accuracy of leave balances for employees working for multiple agencies.

- Training on how to utilize the module as an HRMS module and not only a payroll system.

- Develop and implement a standardized NDUS-wide definition and computation of a Full-Time Equivalent (FTE) metric and consistent utilization of the related measures "Appointment and Effort", that will be acceptable to all parties that have a need for these.

- Human Resources measures for uses such as internal and external reporting and allocations.

- With third party contracts, if these contracts could be rolled over each semester, it would simplify the process.

- If non-students could be added with an ID without entering birth date information…this could help significantly.

- Providing a report that departments would have security access to see transactions for their funds.

- Satisfactory Academic Progress (SAP) process needs to be working properly to maintain federal compliance.

- Create an automated interface with the Graduate School Embark application that will load the application data.

- Look into setup and determine if changes can be made to allow for larger font while reducing the number of pages needed to print transcripts.
- Conduct security role review and streamline the access request process.
- Grant individual Records office Correct History capability for the Course Catalog.
- Add additional hardware needed to improve performance. Implement process scheduler to alleviate business hour processing.

Observations from the Executive Steering Committee

At its March 4, 2005 meeting, the Executive Steering Committee made the following observations and identified key learning outcomes of the CND project.

- The Guiding Principles were particularly important during early stages of implementation.
- Users are frustrated and are not seeing an improvement in service, which was a key principle of the project.
- In estimating project "costs," the Return on Investment document falls far short in assessing the human toll and loss of faith in the system.
- The Steering Committee may have assumed the rosiest scenario and at times members weren't able to hear signals to the contrary.
- Problems experienced during implementation weren't unusual, but adequate time to properly address them was not available due to the compressed implementation schedule .
- Each of the major PeopleSoft systems had to be implemented simultaneously due to their interrelation.
- Implementation would likely have failed had it been attempted at all 11 campuses as originally scheduled in July 2004.
- A review of a Microsoft/Great Plains alternative late in the planning process consumed valuable time.
- Valuable time would have been saved if the vendor had provided the data center as originally planned, rather than it being structured internally.
- Users are frustrated that the production systems aren't always available when they turn on their computer.
- Effectively communicating at all levels and managing expectations are both critical.
- Project management has been part-time and the right balance may not have been struck with the managing partner.
- "Ownership" of the systems by the users may have been improved with earlier campus and user group involvement in the project.
- Project staff members were expected to have upfront knowledge of the software, when in fact they were learning as the project proceeded.
- Information and experience of the pilot campuses wasn't fully leveraged.
- Responsibility for all areas of the project needed to be more clearly defined.
- Awareness and involvement was needed earlier of the campus vice presidents and CEOs.
- A clearer understanding was needed of how the project and issues looked different from various perspectives.
- People communicated well in an environment that was not adversarial.

Appendix

The following document was compiled in December 2005 based on a survey of individuals heavily involved with the implementation of ConnectND. It is an analysis of the survey based on their perception of how the project was implemented and includes a copy of the actual survey questions respondents answered.

NORTH DAKOTA UNIVERSITY SYSTEM

ConnectND

Post-Implementation Report

December 2005

Report Prepared by:
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NDUS Project Oversight

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INTRODUCTION

The Post-Implementation Report contains an analysis from the Post-Implementation Survey sent to various project team members. This survey was sent to the individuals who were most heavily involved in or performed a major role in project implementation. They included members of the Executive Steering Committee (the Executive Steering Committee would later be succeeded by an Executive Oversight Committee), Executive Oversight Committee, module leads team, Data Center staff, and developer staff. In an attempt to solicit the most returns, the survey was sent to forty individuals. Eleven (27.5%) surveys were returned.

Survey questions were rated on a scale of 1 to 3 with 1 being low and 3 high. Results were calculated based on all responses that were not listed as N/A. The rating was derived from the responses (1, 2, or 3) to each question answered divided by the total number of respondents. Each section was then scored based on all the questions answered in the section with a 1, 2, or 3 divided by the total number of respondents. The rating gives an indication of satisfaction and defines areas where improvements are needed.

Attached as an appendix (Appendix A) is a sample copy of the survey that was distributed to key project team members. This survey is being used on all projects to determine the effectiveness of project management. While the NDUS will use this survey on current and future IT projects, this ConnectND project was managed in part by Maximus, a private consulting company that was hired to be the implementation partner. Maximus provided the bulk of project management and its responsiveness is also reflected in the rating and comments.

Throughout this document, comments from respondents are included. Not all comments are included separately if a similar theme was expressed by multiple respondents.

A. SYSTEM EFFECTIVENESS

Perceptions of ConnectND project effectiveness range widely. Some individuals rated this section low while some others rated this section much higher. The perception (perception is reality to the individual) appears to be influenced by what involvement individuals (respondents) had in the project and for how long the individuals or their campuses had been live on the system. There is a steep learning curve to this project and it takes time to adjust. For some, the new system takes considerable more effort to use;

whereas, some others have already seen the benefits in the information that can be generated from the data that exists in the system.

The ConnectND project will take time to learn before productivity begins to climb. This was pointed out in earlier reports to the Executive Steering Committee and senior council members. An example of where this was pointed out is the Return on Investment document. There is an understanding among the senior management that this will take time as every individual, whether faculty/staff/student, is impacted. The legacy system took years of development to its level of functionality before the ConnectND project replaced that system. Everyone needs to keep in mind that with the new system there was a need to revise business practices and change functionality in order to make use of the system. While there was a change in hardware and software, the major change was in the way faculty/staff/students use ConnectND. Change management was less a hardware/software issue and more of a human interface issue.

To point out the varying perceptions, the following are a few comments from respondents to this portion of the survey: "A work in progress." "As a pilot campus, Mayville had lots of unmet needs, but as the implementation has gone system-wide, things are much better." "Planning was done with diligence and reasonableness." Another respondent commented "Most processes worked well, with the exception of Grants and ancillary interfaces. Reporting continues to challenge us." Also stated was "Staff is tired. We were not prepared/staffed for this level of time consumption. Staff members are beginning to realize the time commitment is not temporary & looking to move on." "Central consolidation and access of information from Web based system meets the cutting edge of business functions for higher education and places the NDUS in an elite standing among many national institutions of higher learning." "Basic functions were well met, many functions, probably considered as enhancements are yet to be tested and implemented. Legacy system was replaced with minimum customization allowing financial and human resource integration at various levels between higher education and government; the vendor database set up in Higher Education and State Agencies is successful." "Fast tracking for a project of this size and scope was a high priority for those not in the trenches; this gave a push to 'get the project' done – no matter what. The job was accomplished, but there could have been so much more done to have a really good system and for end-users, especially in the academic – educational environment, the training was inadequate, particularly when implementation members – accepted and endorsed by the consultants – to take over…without understanding the implications that the final training involved some final system testing as well as educating the people designated as the trainers for the campuses. This has resulted into much more post production work which had hindered

further implementation of other system features. With that said the system is fantastic and meets expectations of processes."

Comments from some of the technical/development staff included: "There is too much technical work that is not yet done. This creates additional stress on tech people who are trying to get this work done, trying to learn the new system, and trying to keep production up and running." "Technical resources were inadequate, and this was known at the beginning of the project." "It is totally amazing what we did with the resources that were available; however, we didn't have enough resources, and continue to struggle because of this." "The project was done in too short a time frame to build missing functionality so much is still missing. New development is still not possible because the majority of the developer's time is spent on Production support. As a result, more shadow systems have been developed by the campuses to cover the missing functionality." "This (ConnectND) is/was not a mature system."

Comments from others included: "The goal for consistency was thrown out the window when the final four campuses came to go-live. They got whatever they wanted." "I would say very few if any of the objectives in the Project Charter were met." "Other than being a new administrative system and web-based, it appears it may have missed the needs of the institutions. We appear to have taken a huge step back concerning integration and efficiency. It is very slow and very manual. Meaning it takes excessively more people input and it is very unforgiving. We will continue to struggle for years due to a lack of understanding of the fit-gap process, the configuration process, the appropriate testing of the integration process and a lack of knowledge concerning PeopleSoft." "The turn around time is unreasonable."

Overall Survey Rating:

1.78

- o Scale of 1 – 3, with 1 being low and 3 high
- o Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

B. COST, SCOPE, SCHEDULE, AND QUALITY MANAGEMENT

Throughout this project, project management processes were used to manage the costs, scope, schedule, and quality. Change control forms were

used for changes and a Changes, Risks, and Issues Log was regularly maintained to track such items.

Project Cost

The project cost for the NDUS as of June 30, 2005, was $31,642,694 with an estimated at completion cost of $32,382,697. While a bond of approximately $20M was approved for implementation of PeopleSoft (ConnectND Project) to be used by the state and NDUS, the bulk of the NDUS repayment burden and the continued operations rest on fees assessed to students.

	Original Budget FY'01 – FY'05	Revised – Last on May 2005	6/30/2005 Actual	Estimated Actual Costs At Completion
Environment Hosting – Data Center	$2,230,475	$2,484,212	$2,255,636	$2,484,212
Implementation Costs – (Maximus)	$6,975,879	$9,795,349	$9,679,822	$9,795,349
PeopleSoft Software	$180,000	$168,515	$168,518	$168,518
Staffing Costs (Direct bill to Project)	$5,606,951	$5,529,909	$5,336,929	$5,529,909
Training/ Travel	$1,166,037	$861,537	$810,046	$861,537
Other Funded Costs (Note 1)	$6,632,132	$6,634,794	$6,483,262	$6,634,794
Total Project Funded Budget	$22,791,474	$25,474,316	$24,734,213	$25,474,319
Staffing Costs (Not Billed to Project)	$6,933,287	$6,908,378	$6,908,378	$6,908,378
TOTAL Project Budget	$29,724,761	$32,382,694	$31,642,591	$32,382,697

Note 1 – Other funded costs includes items such as repayment of note, cost to issue bond, contingency, customization, maintenance costs, implementation site cost.

Comments expressed by respondents to the survey regarding budget included: "The hardest thing for a small campus was for the need to add personnel that we couldn't afford. We are not alone in this process. The backfill money helped for a while, but the permanent costs for people is still

a struggle. Resources are never adequate in a system like ours." "The budget for this project was inadequate for what needed to be done. Campuses are now paying the price by hiring additional staff, etc. to manage the work-arounds." "The costs do not reflect the total project cost. The campuses contributed significant amounts of funding (consultants) and resources. Also, the project team was not paid on an hourly basis."

Project Scope

Numerous change Requests were approved by the Executive Steering Committee during the life of this project. The broad sense of the project's scope of replacing the legacy system while adding other functionality and a web based interface were met. When looking at the project management triangle of scope, schedule, and cost (budget), scope was the one with least change.

Comments from respondents regarding the change control process included: "I don't think it was done well. What was the change control process? Maximus left a lot to be desired in terms of both communications and management of the project." "I was unclear with the Change Control process, it seemed that everyone was doing it differently. While some university project team members tried to follow the guidelines provided by Maximus, the Maximus staff chose to many times ignore those guidelines. As a developer, we are now paying for the lack of enforcement of the technical standards. Upgrades are becoming increasingly expensive because those standards were not followed or development requests were not written at all or poorly written."

Project Schedule

The comparison summary of the baseline schedule against the actual schedule is normally analyzed in this section. Documentation in the repository does not include the completed project schedule for the entire project (completion of go-live for Student Administration at the final four campuses). Requests were made from the Maximus project manager; however, a reconstructed schedule was not provided to date. The original intent for the project was to implement ConnectND at two campuses as pilots along with the state Office of Budget and Management. After these were implemented, the next phase was to add the remaining nine campuses and add other functionality that was not part of the pilot institutions. State would implement ConnectND at all its other agencies. For the NDUS, the

second phase did not roll out as originally planned. Due mostly to a problem with the Grants/Contracts module, the decision was made to delay go-live of MiSU, MiSU-B, NDSU, and UND until the Grants/Contracts module was modified sufficiently for these campuses to implement ("sufficiently" meant could work around and meet Federal requirements). Five campuses went live with the Financials and HRMS modules in July 2004 and the four delayed campuses followed on January 1, 2005. The Student Administration system had to proceed with go-live based on the academic calendar; however, all campuses were live on the new system as of July 2005.

Project Quality

Quality of the project was brought to fruition by the individuals involved in the project. When asked about how effectively the Quality Management Plan was applied during Project Execution and how effective the quality assurance process was, comments included: "Teams were effective and they communicated." "No time to do true quality management testing." "Tech standards were not adhered to by the consultants, and therefore, by us. Due to this fact, we will be cleaning up the mess for YEARS." One respondent indicated that they were unaware of the Quality Management Plan while another stated, "If there was a Quality Management Plan we would not be struggling at the institution level as we are today. It must be flawed due to the struggles going on at the institution level." Once again, this points out the difference in perceptions depending on project involvement, how long a campus has been live on the system, and possibly the "buy-in" (acceptance of change) into the project.

When asked how effective the utilization of best practices was from prior projects in the NDUS and institutions, comments included, "I was disappointed that the consultants did not come equipped with more knowledge on 'best practices' in higher education. Many times I felt we were starting from scratch on processes that had already been implemented at hundreds of other campuses." "Best practices could not be applied in this project (if they could even be identified) with the short timeline. Most IT projects I have worked on in the past had each task identified up front. This was not possible with a project of this scope." "The concept of best practices went quickly out the window as we had more campuses going live. Only the two initial campuses actually had to change their policies and practices to fit into best practices." "If we captured any Best Practices in PS (PeopleSoft) it was purely by chance. When your implementation partner doesn't understand or know your business nor understand PS 8.4 you're left trying to do what you think is best."

Overall Survey Rating:

1.63
- o Scale of 1 – 3, with 1 being low and 3 high
- o Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

C. RISK MANAGEMENT

Risks were managed through identification by the project team and tracked through use of a Risk Log. Risks that had been identified and during the course of the project became a reality were moved to an Issue Log where they were tracked, assigned to someone to resolve, and included the resolution or actions taken. Additional "issues" had been logged that were not identified risks; however, this is normal as the Issue Log allowed for closer tracking of those items.

Comments from respondents to this section of the survey included: "Good communication and planning." "Risks were not communicated very well. We were often not aware there was a risk until there was a problem identified after implementation." "Communication was poor." One respondent indicated being unaware of the Risk Log. Another stated: "Very rarely were the risks brought forward to the Executive Steering Committee, they were minimized and overlooked to make the project look better." A respondent who worked on the Grants module stated: "The whole grants management area was struggling with the five modules due to a lack of consultant (Maximus) knowledge. This situation was not addressed until July or August of 2004 when the Huron Consulting Group was hired."

Overall Survey Rating:

1.61
- o Scale of 1 – 3, with 1 being low and 3 high
- o Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

D. COMMUNICATIONS MANAGEMENT

Several methods of communications were used on this project. A "kick-off" meeting laid out the process early in the project so that team members had an idea of what to expect. Listservs were established for the different Teams and the Executive Steering Committee. Additionally, a website was created so anyone could access information about the project, its status, and other pertinent information related to the project. A monthly ConnectND newsletter communicated project news and highlights and provided links to informational resources. And, the Interactive Video Network (IVN) was used regularly, prior to implementation, to communicate project status to those interested in attending those sessions (many sessions were either taped, web streamed, or both).

The Project Management Team kept the implementation teams informed and status reports were used to keep all stakeholders informed.

Comments regarding the effectiveness of informational materials and their availability for orienting team members included: "Written materials were not available for the majority of what we did. Any written materials were created primarily by the project team." "What materials?"

When asked about satisfaction with the kick-off meetings they participated in, comments included: "A lot of fluff and cheerleading, not much substance." "The kick-off meetings were helpful, but that's about where the communication stopped. That should have been where communications started!" "We all went in thinking we were going to move the institutions forward, we had no idea what it was going to take or what we needed to accomplish that goal." "It was keeping the participation up after the kick-off that was difficult."

There were several questions on the survey regarding communications with different groups that were part of the project team (team Leads, stakeholders, etc.). Comments on this group of questions included: "Excellent communications. Early stages were tougher than later. Much better now (comment regarding frequency and content of information conveyed)." "In the future, do not keep each module in a vacuum. All discussions need to cross over to the other modules, even if you think it does not affect them. We have suffered from the lack of discussion, system-wide." "Universities were always saying that they could not afford to release staff to participate in the project. However, these same Universities were the first ones to complain when something didn't work after implementation. Everyone needs to be involved from the start." "Everyone was so busy, due to inadequate staffing on the project, many times communication was not

adequate, because there just wasn't time." "We should have had more technical meetings, and didn't. Technical standards were requested to be changed, and after repeated attempts to get the issue discussed, I finally quit asking. Other team meetings were useful, but some were too broad, and involved people when they probably shouldn't have been (to save time)." "Communications were very poor throughout the entire project. Team members should have regularly been receiving the project plan and we should have been reviewing the statement of work. It seemed that we were flying by the seat of our pants way too often. I often wondered if we even had a project plan." "While some campuses were quite involved, others balked at every request for help or information." "As the project went on and everyone became more busy with additional duties, the communication decreased." "While we had team meetings, I don't believe we fully understood what we were doing or where we needed to go. A lot of ambiguity was shown to individuals who raised concerns." "They (progress reports) were provided but not necessarily by the functional leads. Some were on time, some were late due to lack of staffing, some were submitted without any input from the institutional functional leads." "Too few stakeholders were involved. Truly the stakeholders were kept on the outside, they were not informed of problems and concerns as the project moved forward. Problems were shared with these stakeholders by informal means (e.g., campus staff sharing thoughts after exposure to the system during training, etc.)." "I felt communications was very poor, and the project status and the project issues were downplayed and overlooked to make the project appear in better shape than it was." "'The best and brightest' were most often chosen, yet the stakeholders didn't always recognize it." "Those representing councils were not always members of the councils. This made communication more difficult." "The issue was that the information (frequency and content of information conveyed) was not always believed."

Comments regarding the format/content of the Project Status Report and usefulness of the project repository included: "Even more data than necessary." "Very difficult to navigate and use (repository)." "It (FileNet) is a great document repository, but you can't find anything unless you know exactly what you're looking for and where it was put. To me, that is useless." "The tool chosen to access and edit the project repository was cumbersome and difficult to use. Most people tried to avoid the project repository because of that issue. As a result, the repository was not utilized as it should have been." "There should have been a reporting structure where the functional members had direct access to the Executive Steering Committee on a quarterly basis, etc. This would have provided everyone with more useful information." "I didn't use it (repository). I used the web site."

Overall Survey Rating:

1.77

- o   Scale of 1 – 3, with 1 being low and 3 high
- o   Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

E. ACCEPTANCE MANAGEMENT

The use of a formal process for signing off on deliverables is a must for ensuring that a project deliverable was tested and met the needs of the project members.

Once again, respondent's perceptions influenced comments made. Those who were involved in the sign-off process did perform due diligence on these tasks.

Comments from respondents regarding the effectiveness of the Acceptance Management processes included: "The Board should probably have been more involved with struggles that the campuses were having…they could have eased the project team's work by reiterating that this is the way that things were going to be. Project team members seemed to spend a fair amount of resources doing this."

When asked "How prepared were you to accept project deliverables," comments included: "Due to lack of understanding at the project level, we ended up going live without a fully functional product. We are still experiencing and finding things that should have been decided at the fit-gap stage." "A brief discussion acknowledging the documentation was provided, then if it was ok, sign off was needed."

Comments regarding how well defined the acceptance criteria for project deliverables was included: "No real check list of criteria, a review of deliverables was made and it was hoped nothing was missed." "I would say very poorly defined as the acceptance was based on a political decision instead of a functional or user decision."

When asked if sufficient time was allocated to review project deliverables, comments included, "Technical standards were never a consideration in reviewing the work that was done. It will take years to clean up the stuff that wasn't done right the first time." "Absolutely not, when the possibility of

another go-live delay loomed, project members, consultants, and the Steering Committee were brought together to discuss what items were still missing for implementation." "No, there were times we have only hours to review documents. At one point I did not sign off as I did not agree on some of the points…the consultants were not pleased with that, but it was necessary that our project's expectations were fulfilled." And, one commented, "We relied on the project managers."

Asked how closely deliverables matched what was defined within Project Scope, one respondent commented: "We were led to believe the new system would be as efficient and provide us even more information than legacy. Clearly that has not happened." Another answered, "Quite close."

Regarding the question of how complete/effective were the materials you were provided in order to make a decision to proceed from one project lifecycle phase to the next, respondent's comments included: "The materials to make an informed decision were not available. Someone would need to understand our business and what PeopleSoft can do to evaluate if we were ready to proceed." "At times we just moved from process to process to keep getting things done. There was no formal transition as time did not allow that luxury." "Except for in the beginning, MAXIMUS didn't discuss phases with us."

Overall Survey Rating:

1.86
- o   Scale of 1 – 3, with 1 being low and 3 high
- o   Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

F. ORGANIZATIONAL CHANGE MANAGEMENT

Preparing an organization for the change a project will have on them is one of the more challenging aspects of project management. Respondents rated this section lowest of all sections rated on this project.

When asked how effectively and timely was the organizational change impact identified and planned for, comments include: "While change impact may have been identified, again some campuses refused to change and still haven't really changed." "A bit too fast for pilot campuses." "Time frames were too short to do this effectively on the campuses, which were short-

staffed because their personnel were working on the project. Everyone did the best they could." "This never happened. If it had the project and the institutions would be better staffed to deal with the consequences of PeopleSoft." "Project provided at the onset fit/gap sessions to identify business changes which was referred to during configuration and implementation."

Respondents comments on how pro-active the organizational Change Management Plan was included, "As a tech, team training was sorely out of touch with the timing of needing the training. From that perspective, change management was sorely lacking." "To my knowledge, an organizational change management plan didn't exist." "Project could only provide the goods…the proactive state was set by each campus." "The Plan was intended to be pro-active, but often turned into being reactive, due to lack of time to plan and outline what needed to be done, prior to the implementation."

Was sufficient advance training conducted/information provided to enable those affected by the changes to adjust to and accommodate them? Respondent's comments included: "Training was done too far in advance. Tech staff didn't have time to 'play' with the new tools before we were using them in production. The consultant tech people, in general, were no more knowledgeable on the tools than we were, so they were unable to give much helpful advice. We struggled together." "Training was done as best as it could have been done under the circumstances. With the short project timeline, there was no other way to do it. As a result, the campuses did not get enough training and that made their jobs even more difficult. The best training possible would be to repeat training over a longer period of time. With repetition, 'light bulbs' start to turn on and things become easier." "Training was always last minute and the documentation not detailed enough." "Training varied depending on needs, but overall it was available for most when needed." "No, training was minimal to none. The end users, those most affected by the changes learned on the job under fire." "Training was limited." "This was provided by the project as scheduled with a set agenda. The exception was the last implementation where the schedule and agenda content was campus driven."

When asked, "Overall, how effective were the efforts to prepare you and your organization for the impact of the new system?" respondent's comments included: "Pilot was a bit tougher, but full implementation was good." "Very, very poor." "Some modules were more prepared than others." "Project provided documentation, training, support and continues with post production support to assist in troubleshooting. As time allows additional functions/processes are ongoing and will continue with associated testing, training, and documentation."

Respondent's comments when asked "How effectively were the techniques used to prepare you and your organization for the impact of the new system?" included, "Too little training, too late." "There were no techniques used to prepare us, we were trying to 'go-live' with no training and a non functional system." "Campus implementation teams helped as the campuses became more involved in the process from that point forward."

Overall Survey Rating:

1.49
- o Scale of 1 – 3, with 1 being low and 3 high
- o Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

G. ISSUES MANAGEMENT

Identified issues were tracked through on an Issues Log. This log is a critical project management tool to ensure that someone has been assigned to resolve the issue, report on progress of the issue, and maintain a vigilance that the issue has been acted upon to resolution.

During the lifetime of the project implementation, numerous issues were logged with each having been either resolved or a work around process developed prior to "go-live."

When asked how effectively issues were managed and resolved before escalation was necessary, respondent's comments included: "I think from the issues that I saw, the NDUS project team did a great job. I am not sure that this translates to project management (Maximus) doing the same." "The issues were downplayed to make the project appear in better shape than it was." "I think that some issues were not clearly defined with background information (presented by mostly complaining) and requirements (i.e. Grants/Projects) by the Project Lead, and not fully met with adequate software and training until escalated to others outside the project. This impacted many of us. In general, most issues were identified, explained, accepted and added to the work load and successfully resolved." "With very limited resources, many issues took too long to resolve – we still have numerous unresolved issues."

If escalation was required, how effective were issues resolved without impacting the Project Schedule or Budget? That question drew the following comments: "It depends if you want a political solution or if you want a functional solution. One appears good on paper, the other appears good for the users. The project schedule was pushed through whether issues were resolved or not." "Spent time on issues to get them resolved, other work was put aside. Most issues were a part of work and completed by added hours from the project staff." One respondent stated, "No, the implementation schedule was pushed back." Yet another commented, "This is one of the strengths of the project."

Overall Survey Rating:

1.88
- o Scale of 1 – 3, with 1 being low and 3 high
- o Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

H. PROJECT IMPLEMENTATION AND TRANSITION

The transition from implementation to operational phase of this project had a number of concerns to overcome. This could be attributed to the enormity of the project and the number of individuals that were either involved or impacted by this project. Most involved on this project worked diligently to make the project "go-live" a success.

This section of the project had varying comments, again, based on the respondent's level of involvement.

When asked how effective the documentation they received with the system was, respondent's comments included: "This continues to be a work in progress." "I was campus trained." "We developed our own." "All documentation was created from scratch by the Project Team. Minimal items were brought to the table by the consultants and minimal documentation was written by them. The necessary time was not allotted to do a good job at the documentation." "Project Team had access to PeopleBooks, other site implementations which served as resources to accomplish documentation for ConnectND."

Regarding how effective the training was in preparation for using the system, respondent's comments included, "This was minimal, we needed to

bring in expertise (July or August 2004) to do almost all of the configuration and conversion for the grants module, it didn't leave much time for training." "Training should have been just in time but that never seems to happen so as a result, a lot of time was wasted trying to figure out how a tool/application worked long after training took place." "More training and more people from campuses should have been involved in the training." "Project team provided training: hands-on, testing of requested scenarios, feed-back if needed, training manual, scripts, and WebEx."

How useful was the content of the training you received in preparation for the use of the system? This question generated the following comments: "The content was entry-level. We would have planned for people to go to the training, learn the basics, work with them a while, then go back to training so that they could start asking the right questions and understand the stuff we didn't get the first time through. So often, I heard other tech people say that it sure would be nice to go back to training again – now that we know something else about the toolset than we did the first time through." "Very poor for many times the system was not robust enough for testing."

Concerning "timing of training", respondents commented saying: "Way too early. The project management here was done very poorly. They managed the tech team as a single resource. Everybody got training before the project began, regardless of our roles on the project. Some people never even used the training for a year or more, because they didn't support PeopleSoft right away…they were needed on the mainframe. Other people that were trained got trained for stuff they never used, but didn't get training for the stuff they needed." "Training should have been at a minimum three months and more like six. When utilizing a package that is labor intensive, inefficient and very unforgiving you truly need extensive training to understand what is happening." "Training in many areas was done too early." "Just in time training is not the way to go." "Too much training to accomplish in a small time frame." "Last minute training is never a good idea. Time frame for the project was too short." "Right before go-live so less time was given between training and using the system. Project worked on schedules to accommodate campuses accordingly."

When asked about the support received during implementation, respondent comments included: "Limited resources hurt the support." "It is difficult to determine, when you go live with a non functional product, everything appears to be unsupportive. The institutions (Minot, NDSU, and UND) relied heavily on Huron (consulting company) for this support." "Support? Maximus didn't have any commitment from the majority of their employees to stay with us during the project. People came and left. I am still seeing names of people who worked on the project for Maximus that I didn't even know were

working for us. As tech people were replaced (for Maximus), they didn't always replace them with the same responsibilities (like, for example, helping US learn the system), so we got some support from the first people that were here, and some of it was great, but as they replaced people that left, roles changed, and we didn't get any help, because their 'tech lead' was replaced with somebody who just wrote code, and didn't have the responsibilities to support our staff."

Overall Survey Rating:

1.64

o   Scale of 1 – 3, with 1 being low and 3 high
o   Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

I. PERFORMANCE OF PERFORMING ORGANIZATION

This section of the project survey focused on the performance of the NDUS and the institutions. Fewer comments were expressed in this section; however, those that were expressed are listed below.

When asked how effective and consistent sponsorship for the project was conveyed, respondent's comments included, "Pretty rare." "If you mean were the students given credit for financing the project? I would have to say no." "Sponsorship was consistently conveyed but not sure how effective it was. Some campuses consistently caused problems for the project and the project team was consistently beaten up."

Asked how smooth the transition of support from the project team to the NDUS and institutions was, comments included: "Very poor, when you do not plan appropriately (not knowing what it will take to support the system) and train appropriately you are doomed to major problems." "Go-Live 1 and 2 went well, the last go-live seemed less smooth as the campus implementation teams were allowed involvement which decreased final system testing (to be done at last 2 training sessions)." "As most of the project team was NDUS staff, the transition was fairly smooth. The project staff had been doing production support for some time before the project completed."

Regarding whether the project team adequately planned for and prepared the Institutions for their ongoing responsibilities, respondents commented:

"Attempts were made but again some campuses refused to accept those responsibilities." "Hard to prepare when many in the project didn't know the answers to critical issues." "This absolutely never happened. Truly this should have started at the fit-gap to identify the business process and identify the needs of the institutions. Once these were addressed and it was determined what direction we were going, the configuration should have started. This would have allowed the institutions to start addressing and planning for their needs." "Training sessions were held and the campuses were prepared, but they did not feel prepared due to limited timeframes." "As much as time allowed."

Overall Survey Rating:

1.73

- o   Scale of 1 – 3, with 1 being low and 3 high
- o   Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

J. PERFORMANCE OF PROJECT TEAM

The efforts put forth by some of the project team members, vendor personnel, and the project management team (project director, NDUS project managers, etc.) made this a successful implementation. This project had an aggressive time line and limited budget. It was the efforts from all that made this succeed. While there are remaining hurdles to overcome, the system is operating at all eleven NDUS institutions.

While there wasn't a wide range between sections rated by respondents, this performance section received the highest rating.

When asked to rate the overall effectiveness of the project manager's performance, respondents commented: "Was this project managed?" "Again, project managers need to get the teams talking, prior to making decisions that impact everyone. Making decisions in a vacuum, created many difficult situations upon implementation." "Limited resources is a big factor." "There appeared to be a lack of effective leadership. It seemed as if the project was planned, implemented and declared ready by Maximus for Maximus." "Grants and contracts was a sticking point." "With all the responsibilities, Project Manager remained interested and supportive of all aspects of the project; staff, work, accommodations (!), and knowledgeable of our responsibilities."

Asked how well the project team understood the expectations of their specific roles and responsibilities, comments included: "Although, most of us had not worked on such an involved project, the roles/responsibilities were provided, but the expectations were immense due to the volume of work and time involved." "I understood the roles and responsibilities, but you need the appropriate resources to accomplish the objective of having an efficient functioning product." "This left a lot to be desired. Planning was done at a high level, but NOT at any detailed level from what I can tell. Nobody ever seemed to review the time it was taking to do tasks, and adjusting the schedule based on these facts."

Regarding how well respondent's expectations were met regarding the extent of their involvement in the project (effort time, commitment, etc.), they stated: "Once the project was over – the expected time commitment is very confusing. One day we are supposed to work regular 8 hours days and get back to normal and the next we're supposed to work until the job is done. This conflicting communication is causing a great deal of stress in the office." "I expected to be 100% on the project and my involvement exceeded that percentage." "I would have liked to have learned more." "When I agreed to be on the project, I assumed there would be some long days, never did I imagine that all days would be long and that working weekends would be a norm. This project consumed all of my personal life, of which I am still trying to get back. In the future, staffing should definitely be given higher priority." "The effort and time commitment was expected, but I expected a much more successful product after committing so much time." "The (shortsighted) requirement of my original campus that I continue working on site each week took a toll on me personally which lessened the effectiveness I could give to the project…thankfully this was eliminated for the last 6+ months of the project."

When asked how effective each project team member was in fulfilling their role, respondent comments included: "We worked and worked hours and hours to get the job done." "Depends on whose perspective. Too much was asked of too few. In fulfilling one obligation, another wasn't always completed." "You need to be given the tools to succeed. Without a knowledgeable mentor and appropriate staffing you are going to be hard pressed to fulfill a role." "I didn't know what everybody's roles were." "Some team members gave 300+%, some should have been replaced but that was not possible due to lack of campus support."

And, when asked about the effectiveness of training team members received, comments were: "It would have been more effective if just-in-time training was done. A lot of training I received was a waste of dollars as I had

forgotten most of it by the time I got to use it." "My training was PeopleSoft 7.5…not too good, but that was all that was available at that time." "Team member training from a PeopleSoft class perspective was very good. I put a 1 (rating) down because most of the training should come from your consultants. You need knowledgeable partners to provide the knowledge transfer."

Overall Survey Rating:

1.90
- ○ Scale of 1 – 3, with 1 being low and 3 high
- ○ Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

K. KEY PROJECT METRICS

Cost

The original budget, as of July 2003, had a total project funded budget estimate of $22,791,474 and when the in-kind staffing costs were included, the total project budget was $29,724,761.

In May 2005 a revision was made to the project budget which changed the total project funded budget from $22,791,474 to $25,474,316. Adding in the in-kind staffing costs changed the total project budget from $29,724,761 to $32,382,694. The majority of this cost increase ($2,819,470) was due to extending the contract with Maximus for the expected delay with bringing the final four campuses onto the system. Maximus would assist with configurations and modifications of the Grants module to where the final four institutions could use it although the module would still require considerable manual work to input data or required other "work around" processes to allow campuses to manage the Grants area on their campus.

Actual costs of the project on June 30, 2005 included a total project funded cost of $24,734,213 and when in-kind staff costs were included, the figure was $31,642,591. Not all invoices had been submitted for payment by that date and the estimated at completion cost was $25,474,319 with a total cost of $32,382,697

Schedule

The schedule was adjusted with approval of the Executive Steering Committee and the State Board of Higher Education as necessary to ensure that the project would be implemented in a manner that was workable for the majority of departments at all eleven institutions.

The project schedule had been changed as the Executive Steering Committee and the State Board of Higher Education approved holding off go-live at the "final four" (MiSU, MiSU-B, NDSU, and UND) institutions. This delay was approved to give additional time in modifying the Grants/Contracts module.

Scope

The original intent of the project, replacement of the existing legacy system to include new functionality and a web interface, had been met. Originally, the project was expected to be implemented over a thirty month period but this was not met and while it has impact on the scope, its true impact was on the schedule and the budget.

Quality

Quality of the product was not the level that it could have been had there been more time and a more knowledgeable implementation partner assisting with the project. While the product has been implemented and is being used at all of the eleven NDUS campuses, had a more knowledgeable implementation partner and more time been available, additional improvements would have been realized.

While improvements can be made in the future, not having them now detracts from the good things that have been implemented. Reality is that we have replaced the functionality of the legacy system with many areas seeing an improvement, and have replaced legacy with a system that offers the building blocks for the future. For some, the perception that they did not see an improvement in their area leaves them with the feeling the system is not functional.

From an Enterprise perspective, much has been gained. Having a system that has combined the NDUS and state processes, where ever possible, has been a major accomplishment with benefits to be realized for years to come. This project has laid the foundation for future improvements and enhancements.

One additional item to keep in mind is "growth" experience individuals that were involved on the project have gained. Not only the growth experience of how the project process and the product itself functions, but the growth experience gained from working with other individuals, campuses, and the state in a collaborative and collegial manner. This growth experience should not be forgotten and too will benefit the Enterprise for years to come.

L. LESSONS LEARNED – SURVEY RESPONDENTS

Three questions asked of the team members reflected on lessons learned. These questions are listed below and comments are included with each.

What were the most significant issues on this project?
"INADEQUATE KNOWLEDGE of the CONSULTANTS."
"Poor planning, a lack of leadership, an implementation partner that had no higher education background or any experience or training on PeopleSoft 8.4."
"Acceptance that this new software was happening and legacy was really going away…it surprised me that some system staff just didn't get it."
"Too little time. Too few people resources."
"Lack of understanding on the part of the project management about how long and how many people a project of this size takes. This project could have been much more successful given appropriate time table and staffing."
"Inadequate resources. Poor communication. Poor project management. The staff dedication to this project is the only reason it succeeded. Too many people put their lives on hold and sacrificed dearly. That's the only reason why it worked. Staff still cannot use their vacation. Heaven help us if any of us get sick. Vacation and sick leave were not considered in the project planning. People NEED a break, especially when they are so deeply involved in a project as this."
"Lack of Communication. Poor project management. Lack of cooperation from the larger campuses."
"Academic structure, Biodemo issue in campus community, duplicate EMPLID's, processing time issues, IGPA."
"Grants and Contracts issues, training, system performance, student Portal functionality, lack of reports/reporting environment, no plan to move the campuses forward after implementation, lack of basic functionality, control issues, and failure to listen to the expertise at the campus level."
"Queries, institutional GPA, costs to implement."
"The project timeline, quality of the contractors, training of the end users, and the lack of true priorities (everything was #1)."

What were the lessons learned on this project (from things that didn't go well)?

"PROJECT OVERALL: The project was underfunded, understaffed, and had unrealistic deadlines. As a result, the communication that should have taken place between the three modules did not take place. This was also true between the ancillary systems and the three modules. Decisions were made on processes that affected other systems without adequate input. The impact felt by UND was after implementation when we started using the systems and discovered the problems. Many of the consultants were inadequate and did not have the knowledge and expertise necessary to assist with implementation. They were learning at the same time the project team was instead of being able to provide assistance."

"You need to do your work upfront. Identify what other institutions have needed to do when implementing the software, what will the staffing requirement be for implementation and for post production support, identifying implementation partners that understand your business and the software. You also need to manage the project to insure that the functional leads on the consultant side have the appropriate experience."

"Some professional and administrative folks who come from an academic setting where implementation of many sorts and change are a part of their daily lives demonstrated real problems working with a system wide project; was disheartening at times."

"Fastracking is not always the best route to go as it seems we are picking up the pieces a lot through post production work. Some campuses want the good shiny product without the effort of support and staff…yes, they had to work with less staff too, but the big picture and future would dictate the need to get with the program."

"Consultants schooled in higher education needs would have provided more benefit for our Project Team…we had to do some educating of them to steer them in the direction to getting the system to meet our needs…we had some quite adaptive consultants, though."

"As terribly as we want to accomplish something in as little time and for as little cost as possible. The price is still there. In this case, our people: project team and campus paid the price. It's not fair what we asked. We will continue to pay as they begin to leave us."

"In retrospect, did we ask enough of MAXIMUS when we allowed them to change leadership early in the process?"

"Need for more staffing, need for longer timetable, extensive communication between modules, more training - better training manuals – earlier prior to implementation, get a buy-in from campuses that include dedication of key personnel to the project."

"Acquire the resources required to do the project before it starts. If resources are not available, adjust the schedule accordingly! Plan for vacations, sick leave, etc."

"Communicate better. Plan the project at a detailed level, not just the pie in the sky level. Review the tasks being done, and the time it takes to do them. Take the time to follow the tech standards. Take the time to share with each other what everybody learns along the way. In the long run, this would have saved lots of time."

"Make sure the consultants are doing what we need them to do. We are paying for them. If they are not knowledgeable, make sure the staff knows this."

"We put too much faith in the consultants to help us. In more cases than not, they hardly knew any more than we did. We should not pay so much for this 'service'."

"The project timeline is not something you pull from a hat. It should be built based on the number of resources you have and the available budget. In this project's case, the timeline was used to get the budget."

"Once goals are set in place, they should not be abandoned just because the road to those goals is getting rough. Top down support is essential to the success of the project and it must be very visible."

"Lack of proper consulting and project resources will hurt ND in the future."

"Need to assess people needs and related institutional costs."

"You get what you pay for (Maximus), more end user involvement was needed, more training was needed, and the NDUS programmers should have all been located at the NDSB for the entire implementation."

What on this project worked well and was effective in the delivery of the system?

"I started out on this project full of energy, ideas, and ideals. I thought we were going to be doing something to take the University System into the future for 20 – 30 years. After the first few months of the project, I was the biggest critic of PeopleSoft, the software wouldn't work, there was duplicative entry of data, and nothing flowed as a business process. The software was basically duck taped and bale wired together to try and replicate the grant process. I believe this is still true of the software; however, it appears PeopleSoft is attempting to make strides in this area in consultation with its customers (higher education)."

"The defined implementation plan was a good structure for the project, but the time to complete the project did not always go hand in hand with the plan. This may be due to so many unknowns and the need to work higher education and government together."

"NDUS has a great software product and it works! I am honored to be a part of this great undertaking and appreciate the opportunities that were given

me to work with such great people, to learn about project implementation, to gain skills on a software system so vital to NDUS, to gain additional cohesiveness with state agencies, and most of all, to understand the success this project has become."

"We once again proved that our people are great. They worked hard and they worked well. Most of the time they were successful."

"Without the dedicated and hard-working staff that were chosen to be on the Project Implementation Team, this project would have been a disaster. I witnessed many people giving 300% for long periods of time (years), and then be criticized for kinks and problems by institutions whose own employees were 'too busy' to get involved in the planning stages. Those people need far more recognition by the institutions they served and less complaining about what doesn't work in the system. The problems with PeopleSoft will be worked out, like they were in legacy, but no one will ever know all of the personal issues that those individuals on the project had to endure and are still enduring because of their dedication to making PeopleSoft work."

"Staff dedication. The staff was committed to making this happen at nearly any cost within their power (overtime hours beyond belief, sacrificing family time), but this shouldn't have had to happen."

"The only reason the system came up and on time was due to the diligence and hard work of the University project staff. Many staff members worked 100+ hours a week to get the system running. They gave up 3 years of their lives for the project (something no one should have to do)."

"The hard work of everyone involved without the resources and support required for a major ERP system. It's amazing how far we have come."

"Crisis management – the long hours put in by the project teams helped to minimize crises."

"The people who were located at NDSB worked well together (technical, functional, and project management)."

M. LESSONS LEARNED/OBSERVATIONS - EXECUTIVE STEERING COMMITTEE

Here's a summary of selected Executive Steering Committee comments made during the discussion at a meeting on March 4, 2005:
-- The Guiding Principles were particularly important during early stages of implementation.
-- While the first principle is improving service, user may not at this time think that's being achieved.
– In estimating project "costs," the Return on Investment document falls far short in assessing the human toll and loss of faith in the system.

-- The Steering Committee may have assumed the rosiest scenario and at times members weren't able to hear signals to the contrary.

-- Problems experienced weren't unusual but the compressed implementation schedule didn't provide adequate time to properly address them.

-- The systems had to be implemented as a "big bang" because they are so interrelated.

-- Implementation would likely have failed had it all been attempted as scheduled last July, rather than delayed on four campuses.

-- A review of a Microsoft/Great Plains alternative late in the planning process consumed valuable time and originally a vendor was to provide a data center rather than that being structured internally.

-- To many users the greatest frustration is that the production systems aren't always available when they turn their computer on.

-- Communication at all levels and managing expectations are both critically important.

-- Project management has been part-time and the right balance may not have been struck with the managing partner.

-- Early campus and user group ownership and involvement would have produced more "ownership" of the systems.

-- Project staff members were expected to know the software right away but they were absorbed in learning it.

-- Information and experience of the pilot campuses wasn't fully leveraged.

-- Responsibility needed to be better defined.

-- More and earlier awareness and involvement was needed among the campus vice presidents and CEOs.

-- A clearer understanding was needed of multiple realities reflecting how the project and issues look different from various perspectives.

-- People communicated well in an environment that was not adversarial.

N. CONNECTND ADDED STAFFING

The ConnectND project has impacted staffing needs across the North Dakota University System. In some cases, support for additional staffing came through new budget allocation while others were added using reallocation of existing funds. The table below indicates the staffing that was known to be added, or in the process of being added, due to the implementation of the ConnectND project. Keep in mind that the table does not reflect all the hours put in by exempt staff, nor the overtime by non-exempt staff. Additionally, there are many instances where decisions are being made at the department/college/division levels to reallocate and/or reassign funding or existing staff to address pressures resulting from ConnectND.

CAMPUS	CAMPUS AREA	NUMBER OF STAFF - NEW ALLOCATION	NUMBER OF STAFF - INTERNAL REALLOCATION
Campus Added Staffing Due to ConnectND Project			
BSC	Associate Registrar	1	
	Payroll Account Technician	1	
	Student Records Office Assistant	1	
	Query Writer	1	
	Assistant Business Manager	1	
DSU	Financial Aid		1.5
	Business Office		1
	HR Payroll		1.5
	Records Office		1
LRSC	Administrative Services Office		1
	Student Serivces Office		1
	IT Department		1
MaSU	Business Office - Account Tech	1	
	Financial Aid Office - Admin Assistant	0.5	
	Office of Adminssions and Records	0.9	
MiSU	Business Office - Grants Accounting Clerk		1
	Financial Aid Office - Financial Aid Clerk	1	
	HR Office - Human Resources Clerk	1	
	Records Office - Records Clerk, Degree Audit	Not filled yet at 1	
MiSU-B	Business Office		0.5
NDSCS	Business Office	1	
	HR/Payroll Office	0.5	0.75
NDSU	SEE NOTE		
NDUS	Financial Systems	2	
	HR Management System	4	
	Student Administation System	4	
	Data Center - 1/2 DBA, 1/2 Server Admin	1	
	Development/Security - 2 Develop, 2 Security	4	
	Help Desk - 1 at NDSU, 1 at UND	2	
	Production Control	1	
UND	Registrars Office	2	
	Grants and Contracts	3	
	Student Financial Aid	2 - 2.5?	
	Graduate School	1.8	
VCSU	Registrars Office	1?	
	Business Office	1?	
WSC	Student Finance		0.4
	HR		0.5

Notes and/or comments from campuses:

Bismarck State College – When adding staffing, the funding source is not identified. In the budget process, expenditures are balanced against funding sources (state support and tuition collections).

Lake Region State College – Based on the workload problems that have still not been adequately addressed, it is possible that we may need to add other staff as well.

Mayville State University – The Business Office had recruited for an additional .5 FTE Account Technician but budget constraints prevented filling the position. MaSU added a temporary 1.0 FTE Administrative Assistant in the Office of Admissions and Records.

Minot State University – The position in the Records Office for a records office clerk to handle degree audit has not been filled as of yet due to degree audit not being implemented.

Minot State University – Bottineau – In addition to adding a part-time position, we continue to pay overtime (or have exempt employees working additional hours) which is directly attributed to ConnectND. Adding staff is not he only cost associated with ConnectND.

North Dakota State College of Science – Concerns with the number of hours that are being put in by staff that are exempt status and the overtime put in my non-exempt employees who spent many hours of extra work with the ConnectND implementation.

North Dakota State University – North Dakota State University had not been able to provide their staffing data prior to submittal of this report.

University of North Dakota – The chart shows 2 – 2.5 FTE in the Student Financial Aid Office. The office had funding approved for staffing and it will be up to the office to determine whether they wanted to hire two professional staff or one professional staff and use the remaining approved funds to hire temporary, part-time or other staff.

UND wanted to make sure it was understood that the reallocation and/or reassignment of funding or existing staff was an important point to be made.

Valley City State University – Note that the Business Office here includes payroll, accounts receivable, accounts payable, and accounting functions, so it is hard to sort out what percentage is due to which process.

APPENDIX A

Purpose
The purpose of the Post-Implementation Survey is to collect feedback from project team members (the Steering Committee, core team, and technical team) about the success of the implementation. Survey responses will be summarized into a Post-Implementation Report, which will be available at a later date.

Instructions
1. Answer each question by entering a rating and comments. Please be honest and sincere. Your feedback will create valuable information for future NDUS projects and your individual responses will be kept confidential.
2. If you do not understand the question or it is not applicable to your role, enter N/A for a rating and N/A under comments.
3. There is a "General Questions" section on page 8 that is appropriate for general issues and lessons learned. This area should help you share information not covered in a specific question.
4. Contact Rich Lehn with any questions at 777-3756 or richlehn@mail.und.nodak.edu
5. Return the survey by **(DATE OF RETURN)** via email to Rich Lehn at richlehn@mail.und.nodak.edu
6. THANK YOU for your participation!!

Date:
Name:
Institution:
Department:
Role on Project:

Questions	Rating (1 – 3) 1 is low and 3 is high	Comments (What worked well? What could have been done better? What recommendations do you have for future projects?)
SYSTEM EFFECTIVENESS		
1. How well does the system meet the stated needs of the NDUS?		
2. How well does the system meet your needs?		

Questions	Rating (1 – 3) 1 is low and 3 is high	Comments (What worked well? What could have been done better? What recommendations do you have for future projects?)
3. When initially implemented, how well did the system meet the stated needs of the NDUS?		
4. To what extent were the objectives and goals outlined in the Business Case and Project Charter met?		
5. What is your overall assessment of the outcome of this project?		
6. How well did the scope of the project match what was defined in the Project Proposal?		
7. How satisfied are you with your involvement in the development and/or review of the Project Scope during Project Initiation and Planning?		
COST, SCOPE, SCHEDULE, AND QUALITY MANAGEMENT		
8. Was the Change Control process properly invoked to manage changes to Cost, Scope, Schedule, or Quality?		
9. Were changes to Cost, Scope, Schedule, or Quality, effectively managed?		
10. Was the established change budget adequate?		
11. As project performance validated or challenged estimates, was the change control process used when appropriate and were challenges effectively managed?		

Questions	Rating (1 – 3) 1 is low and 3 is high	Comments (What worked well? What could have been done better? What recommendations do you have for future projects?)
12. How effectively was the Quality Management Plan applied during Project Execution?		
13. How effective was the quality assurance process?		
14. How effective were project audits?		
15. How effective was the utilization of Best Practices from prior projects in the NDUS and Institutions?		
RISK MANAGEMENT		
16. How well were team members involved in the risk identification and mitigation planning process?		
17. To what extent was the evolution of risks communicated?		
18. How effectively was the Risk Management Log updated or reviewed?		
19. How comprehensive was the Risk Management Log? (i.e. did many events occur that were never identified?)		
COMMUNICATIONS MANAGEMENT		
20. How effective were the informational materials available to orient team members?		
21. How satisfied were you with the kick-off meetings you participated in?		

Questions	Rating (1 – 3) 1 is low and 3 is high	Comments (What worked well? What could have been done better? What recommendations do you have for future projects?)
22. How effectively were the project team meetings conducted?		
23. How effectively and timely were Progress Reports provided by Team Members to the Project Manager?		
24. How effectively were stakeholders involved in the project?		
25. Was communication with stakeholders (president, vice presidents, other directors, end users) adequate?		
26. How well were your expectations met regarding the frequency and content of information conveyed to you by the Project Manager?		
27. How well was project status communicated throughout your involvement in the project?		
28. How well were project issues communicated throughout your involvement in the project?		
29. How well did the Project Manager respond to your questions or comments related to the project?		
30. How useful was the format and content of the Project Status Report to you?		
31. How useful and complete was the project repository?		

Questions	Rating (1 – 3) 1 is low and 3 is high	Comments (What worked well? What could have been done better? What recommendations do you have for future projects?)
ACCEPTANCE MANAGEMENT		
32. How effective was the acceptance management process?		
33. How well prepared were you to accept project deliverables?		
34. How well defined was the acceptance criteria for project deliverables?		
35. Was sufficient time allocated to review project deliverables?		
36. How closely did deliverables match what was defined within Project Scope?		
37. How complete/effective were the materials you were provided in order to make a decision to proceed from one project lifecycle phase to the next?		
ORGANIZATIONAL CHANGE MANAGEMENT		
38. How effectively and timely was the organizational change impact identified and planned for?		
39. How pro-active was the Organizational Change Management Plan?		
40. Was sufficient advance training conducted/information provided to enable those affected by the changes to adjust to and accommodate them?		

Questions	Rating (1 – 3) 1 is low and 3 is high	Comments (What worked well? What could have been done better? What recommendations do you have for future projects?)
41. Overall, how effective were the efforts to prepare you and your organization for the impact of the new system?		
42. How effective were the techniques used to prepare you and your organization for the impact of the changes brought about by the new system?		
ISSUES MANAGEMENT		
43. How effectively were issues managed on the project?		
44. How effectively were issues resolved before escalation was necessary?		
45. If issue escalation was required, how effectively were issues resolved?		
46. How effectively were issues able to be resolved without impacting the Project Schedule or Budget?		
PROJECT IMPLEMENTATION & TRANSITION		
47. How effective was the documentation that you received with the system?		
48. How effective was the training you received in preparation for the use of the system?		
49. How useful was the content of the training you received in preparation for the use of the system?		

Questions	Rating (1 – 3) 1 is low and 3 is high	Comments (What worked well? What could have been done better? What recommendations do you have for future projects?)
50. How timely was the training you received in preparation for the use of the system?		
51. How effective was the support you received during implementation of the system?		
PERFORMANCE OF THE PERFORMING ORGANIZATION (NDUS AND THE INSTITUTIONS)		
52. How effectively and consistently was sponsorship for the project conveyed?		
53. How smooth was the transition of support from the Project Team to the NDUS and Institutions?		
54. Did the Project Team adequately plan for and prepare the Institutions for their ongoing responsibilities for the product or service of the project?		
PERFORMANCE OF THE PROJECT TEAM		
55. Overall, how effective was the performance of the Project Manager?		
56. How well did the Project Team understand the expectations of their specific roles and responsibilities?		
57. How well were your expectations met regarding the extent of your involvement in the project (effort time commitments etc.)?		
58. How effective was each Project Team member in fulfilling his/her role?		

Questions	Rating (1 – 3) 1 is low and 3 is high	Comments (What worked well? What could have been done better? What recommendations do you have for future projects?)
59. How effective was team member training?		
GENERAL QUESTIONS		
60. What were the most significant issues on this project?		
61. What were the lessons learned on this project (from things that didn't go well)?		
62. What on the project worked well and was effective in the delivery of the system?		