

# JJH Consulting ERP Modernization Assessment Project Report

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University of New Mexico

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## Introduction

This document provides the results of the JJH Consulting Enterprise Resource Planning (ERP) Modernization Assessment of the systems that support the core administrative business processes of the University of New Mexico (UNM).

Founded in 1889 as New Mexico's flagship institution, UNM serves over 26,000 students across five campuses and a Health Sciences Center with a teaching hospital. It is one of only a dozen Hispanic-Serving Institutions in the United States that also maintains a Research 1: Doctoral Universities with Very High Research Activity categorization from the Carnegie Commission on Higher Education. The current ERP environment was initially implemented in 2006 and consists of Ellucian Banner v8 and v9 and a large number of ancillary systems and customizations to support Human Resources, Finance, and Student business processes.

UNM recently issued a Request for Information (RFI) with the goal of gathering knowledge and understanding of the current ERP landscape. This process included receiving RFI responses from the primary Cloud ERP vendors for higher education institutions: Ellucian Banner, Oracle, Workday, SAP, and an SAP implementation partner. Except for Oracle, the vendors also provided 2-hour introductory demos for the UNM team which was helpful for the participants to see what Cloud ERP solutions have to offer.

The purpose of the ERP Modernization Assessment is to evaluate the current business applications used across the enterprise to help determine the strategic direction for these key operational systems with the following goals:

- Develop an understanding of the current state of the business applications used across the enterprise.
- Develop an understanding of the Systems Architecture.
- Assess the utilization of Banner.
- Assess the readiness for change of key stakeholders.
- Identify the impact of moving to the cloud.
- Assess and document key risks to the University.
- Evaluate ERP options.
- Develop a Roadmap and recommendation for next steps.
- Differentiate at a high-level, the costs, efforts and risks between moving to Ellucian SaaS solutions vs. moving to another SaaS ERP.
- Provide insight into the strategies and efforts being put in place at other R1 Banner institutions.

## Executive Summary

This executive summary provides the high-level results of the JJH Consulting Enterprise Resource Planning (ERP) Modernization Assessment Project. The purpose of the assessment is to evaluate the current business applications used across the University of New Mexico (UNM) to help determine the strategic direction for these key operational systems.

A key aspect of the project is the development of the vision and strategic enterprise systems goals. The University's ERP can be an enabler of the UNM 2040 Opportunity Defined Multi-Year Strategic Plan by providing a common platform solution to be used across all administrative functions in support of the Strategic Goals.

Specifically, the vision to meet the university goals identified by the project included:

- A single platform ERP having an integrated, seamless experience across the administrative systems of the University and the Health Sciences Center and with a cohesive support model
- Implementing a modern student system will improve student experience and satisfy the desire for advanced technology with improved data accuracy and user-friendly tools
- Leveraging the benefits of adhering to system and process best practices for consistency and simplicity to improve efficiency, standardization, and scalability and reduce risk of noncompliance
- The aspiration to continuously modernize processes and technology and stay current with the evolving landscape
- Foster better relationships with employees by utilizing an accessible, integrated HCM system to track and understand employee skillsets and career paths
- Improved financial stewardship by leveraging dashboards and analytics across the University to improve insights for better decision making

The current state of ERP was assessed. In summary, Banner works, however, it is not the long-term sustainable solution needed. It has been customized and supplemented by off the shelf 3<sup>rd</sup> party systems across all functional areas to meet UNM requirements. The current systems architecture is made up of a wide range of applications, systems, databases and microservices running mostly on-premise systems. With the number of systems currently in-play there would be opportunities to consolidate applications into a central ERP system to reduce the number of applications. There is not a burning platform to change ERP systems right now, however, there is increased institutional risk with maintaining the status quo and it is inevitable with the movement of the market to cloud technology in the next 5+ years.

The ERP market is rapidly changing. Cloud ERP Systems were introduced more than 15 years ago with Workday being the first to market with a Human Capital Management (HCM) solution in 2006, a Finance solution in 2007 and a Student solution in 2011. The initial release of Oracle

HCM Cloud was in 2011 and Financials Cloud was in 2012. Student Financial Planning is currently available, and Oracle has stated that complex research universities can begin implementation of the full student solution, Student Management, in 2025. Ellucian released its SaaS full suite of HCM, Finance and Student solutions in 2017. SAP's HR solution was initially released in 2001, S/4HANA ERP in 2016 and Student Lifecycle Management is currently being introduced in the US. During the early years of cloud product availability in the market, the large, complex research universities (R1s) stayed away from moving from on-premise legacy systems to the cloud. However, over the past five years, more R1s are either moving to the Cloud or considering the move. **The trend in the R1 community today is to not stay with the status quo but to look at options and consider the cloud for their ERP system.**

Given the vision, the current state with risk of internal control failures and where the industry is going, UNM needs to assess options to develop a path forward to continue to effectively support the end-user community. It is in the best interest of the University to select a solution and/or a path that will provide for improved, state of the art systems across all units and campuses with standardized business processes for the next 20 plus years.

Through the analysis, the following are the options for UNM to consider:

- The preferred option is to move to an integrated cloud platform such as Oracle, Workday, or SAP for HCM, Finance, and Student and identify Best of Breed/3<sup>rd</sup> party systems to fill any gaps (i.e., Taxation, Admissions, CRM, etc.).
- The secondary option is to stay with status quo and move to Ellucian SaaS meaning stay the current course of support, development, and continual upgrades of the Banner On-Premise solution and development of custom applications and integrations with 3<sup>rd</sup> party systems *along with* adopting a series of Ellucian SaaS solutions (ex. Experience, Maestro Workflow, CRM components, expanded use of Ethos, etc.) and eventually moving to Ellucian SaaS.

Each of the options will represent a substantial financial investment by the University. For the preferred option to move to an integrated cloud platform, for all the functional areas (Finance, HCM, and Student) the all-in cost for implementation can reach approximately \$50M to \$60M.

It is important to understand what makes up the components of the all-in cost for the implementation. The components of the cost include the following and overall percent in relation to the cost:

- External implementation partner consulting fees – 50%
- Software licenses – 5% (recurring costs)
- Legacy system costs during the implementation – 5%
- Third-party client-side project resources – 20%
- Internal implementation staffing and backfill costs – 20%

Over the course of the project timeline (approximately 7 years), the burn rate in the first 2 and last 2 years will be 10% per year and approximately 15% per year during the middle 4 years.

Given the current ERP state at the university, the capabilities of the cloud solutions, the ability to eliminate some 3<sup>rd</sup> party systems, a desire to streamline and implement best practices, the desire to leverage as much of the cloud solution as possible, the willingness to look at this project in a comprehensive manner that includes all the entities of the university (including the hospital), **the benefits are substantial**. It would be reasonable to expect a positive ROI when you compare the costs to the benefits within the lifecycle of the new software solution. Essentially, the investment will pay for itself with a portion of the cost savings due to the elimination of some current 3<sup>rd</sup> party systems, integrations and customizations.

UNM should move to a cloud ERP, but currently is in a good position to thoughtfully plan and prepare for the next steps with an effective roadmap. The most value will come from the Preferred Option to Move to a Cloud Platform, but it also comes with a long timeframe and significant impact to operations and support.

The future state roadmap could look like the table below.

| Activities   | YEAR 1 |    |    |    | YEAR 2 |    |    |    | YEAR 3 |    |    |    | YEAR 4 |    |    |    | YEAR 5 |    |    |    | YEAR 6 |    |    |    | YEAR 7 |    |    |    |
|--|--------|----|----|----|--------|----|----|----|--------|----|----|----|--------|----|----|----|--------|----|----|----|--------|----|----|----|--------|----|----|----|
|  | Q1     | Q2 | Q3 | Q4 | Q1     | Q2 | Q3 | Q4 | Q1     | Q2 | Q3 | Q4 | Q1     | Q2 | Q3 | Q4 | Q1     | Q2 | Q3 | Q4 | Q1     | Q2 | Q3 | Q4 | Q1     | Q2 | Q3 | Q4 |
| Business Process Re-engineering Analysis             | █      |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |
| RFP - Platform Solution, Potential 3rd Party Systems | █      |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |
| RFP - Implementation Partner                         |        |    |    | █  |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |
| Finalize the Roadmap/ Contract Negotiations          |        |    |    |    | █      |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |
| HCM/Finance Implementation                           |        |    |    |    |        |    |    |    | █      |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |
| Student Implementation                               |        |    |    |    |        |    |    |    |        |    |    |    | █      |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |

In addition to the implementation of the Cloud Platform and 3<sup>rd</sup> party system ecosystem, it is important to have an effective support, operating and governance model. An effective model has the business units owning the data and the framework for the data that drives reporting (chart of accounts, organization structure, course catalogs, etc.) and running the business processes and Central IT owning the common functions like security, integrations, report development, releases and updates, data conversions, testing, COA model modifications, mapping tools, and change management. The key to success for this model is a strong governance and change management process.

Lastly, there are several key risks for UNM. The primary risks identified for an implementation of a cloud ERP solution:

- Amount of funding required
- Fear of lack of technical and functional staffing/expertise for a project of this scale
- Difficult to get the commitment to changing business processes

- Finding solution that works across all functions, campuses, and units

The primary risks identified for staying with the status quo:

- Too many 3<sup>rd</sup> party systems, integrations, and different solutions across the units
- Diminished support and eventual de-support of Banner on-premise solution
- Loss of technical and functional Banner expertise
- Missing out on technological advancements and potential competitive edge

These risks all lead to the crucial risk of failing internal controls which presents a material compliance risk to the University as noncompliance results in settlements, risk of losing funding from government agencies and impacts the ability to recruit/retain top faculty and students. All of this results in a significantly diminished ability to fulfill our educational and public service missions.

## Vision

A key aspect of the project is the development of the vision and strategic enterprise systems goals. The University's ERP can be an enabler of the UNM 2040 Opportunity Defined Multi-Year Strategic Plan by providing a common platform solution to be used across all administrative functions in support of the following Strategic Goals:

***Goal #4 Sustainability: Create long-term sustainability and ensure the necessary resources – human, financial, and physical – to achieve our aspirations while protecting the natural environment that supports all people of the state and the world.***

***Goal #5 One University: As a foundation for achieving the other 2040 goals, align and integrate our distinctive academic, research, patient care, and service components, and enhance our administrative functions to strengthen the University and its impact.***

An ERP initiative can directly support achieving the Strategic Objectives of these Goals in the following ways:

- The primary benefit of a single platform ERP is having an integrated, seamless experience across the administrative systems of the University and the Health Sciences Center and with a cohesive support model (*Goal #5 Objective #1 Expand research and educational collaborations across the entire UNM system*).
- Implementing a modern student system will improve student experience and satisfy the desire for advanced technology with improved data accuracy and user-friendly tools (*Goal #5 Objective #2 Ensure the breadth of the University is accessible to all learners through easy cross-campus enrollments, integrated academic programs, and partnerships throughout the University*).
- UNM can leverage the benefits of adhering to system and process best practices for consistency and simplicity to improve efficiency, standardization, and scalability (*Goal #5 Objective #3 Identify gaps and prioritize areas for streamlining, integrating, and improving our administrative systems and processes, in order to provide coordinated, efficient, and high-quality services*).
- The aspiration to continuously modernize processes and technology and stay current with the evolving landscape (*Goal #5 Objective #6 Remain responsive to changes in New Mexico and the world and evolve our vision and goals accordingly*).
- Foster better relationships with employees by utilizing an accessible, integrated HCM system to track and understand employee skillsets and career paths (*Goal #4 Objective #1 Ensure a stable and high-quality workforce for UNM through effective talent and*



*human capital management and promote a healthy and safe campus working, learning, and living environment for faculty, students, and staff).*

- Improve financial stewardship by leveraging dashboards and analytics across the University to improve insights for better decision making (*Goal #4 Objective #5 Build a culture of multi-year budgeting and planning and ensure that all our business and academic processes are effective and efficient*).

## **Strategic Enterprise Systems Goals**

Specific goals that were identified included:

- One ERP system to serve most of the University's needs and the rest being met with 3<sup>rd</sup> party systems integrated via standard APIs
- Cloud solution – modern technology and accessible from anywhere with sign on across all applications and access via mobile devices
- Maintain reasonable ongoing costs
- Intuitive, accessible user interface – easy to use and doesn't require extensive training
- Easy access to real-time, quality data via modern reporting tools, analytics, and dashboards; visibility for departmental reporting
- Streamlined, more efficient business processes – simplification, less touches, less paper across all functions; utilizing transparent workflow solution built into ERP system
- Business units owning their processes and the data
- More responsive software vendor(s)
- Reduction in the complexity of upgrades
- Self-service for end-users
- Customer service-oriented support model
- Finance – auditing mechanisms incorporated into the ERP with clear guidance/policies built into system rules
- HR/Payroll – better integration for onboarding, offboarding with better flow of data between offices
- HR – user friendly self-service functionality to enhance the employee relationship and experience
- Research – Principal Investigator (PI) portfolio management system to give PIs access to real-time current and historical research expenditure data with ability to drilldown to details
- Student – proven system that meets current requirements, provides an intuitive, streamlined interface for students, and automates record keeping
- IT – ideal ERP system should be highly secure, configurable, and interoperable with other 3<sup>rd</sup> party cloud and on-prem systems

## ERP Current State

To assess the current state, the approach included interviewing over 50 stakeholders from Human Resources, Finance, Information Technology, and the Student support areas as well as Health Science Center and representatives from academic units. The full list is included in the *Appendix*.

The approach also included analyzing appropriate process and system documentation to get a full understanding of the current landscape. The following are the general themes:

- Banner was implemented almost 20 years ago for core support of Human Resources, Finance and Student. Over time, shortcomings of Banner have led to customizations and the implementation of off the shelf 3<sup>rd</sup> party systems across all functional areas to meet UNM requirements. The number of 3<sup>rd</sup> party systems is significant.
- Banner user interface and navigation is outdated and not meeting the end-user needs.
- There is a lack of modernization of business processes and new functionality isn't easily adopted by the business owners.
- The current environment is fragmented and fragile with too many manual integrations.
- There is not enough staff to support the current systems.
- Reporting is done mainly out of the ODS with various reporting tools. The data is extracted nightly.
- The end-user community has accepted the functionality provided by the Banner solution along with the various 3<sup>rd</sup> party systems. Many of these systems are best of breed point solutions for specific HR, Finance and Student functionality not available in Banner.
- There are concerns with the growing number of 3<sup>rd</sup> party systems and the need to log in and out of so many systems along with the associated integration requirements.
- Users are aware of the eventual de-support of Banner ODS and the Banner on-premise ERP system and realize the university will have to move to a cloud-based ERP system.
- The current support model is centralized in certain areas (network, core system patching and upgrades, database, student system support) and decentralized in other areas (reporting, 3<sup>rd</sup> party systems, operational - payroll, business analyst support – business processes and functional testing for upgrades). **The current support model does not align with a best practices approach.**
- UNM has staff who were either part of the initial implementation of Banner or have been at UNM since the implementation and are quite familiar with the way it works. There are a number of these staff approaching retirement age and it may be difficult to find future Banner support resources with this full breadth of knowledge.
- There are people dependencies with singular support and operational staff being experts in certain areas.
- There is not a burning platform to change ERP systems right now, but it is inevitable with the movement of the market to cloud technology in the next 5+ years.

Specific current state highlights and challenges that were identified include:

**Finance:**

- The ERP environment is not broken; however, it is fragmented and fragile and there are things to improve on
- Finance has many 3<sup>rd</sup> party systems and interfaces as well as access databases and concerns about data quality
- Across the university, not using best practice business processes; combination of what has always been done and adding on new requirements with new manual processes
- User access is manual and time consuming
- Users like Chrome River ease of use and functionality; implementation reduced paper and really improved process
- Banner works well for Bursar’s Office, forms aren’t pretty, but it works; also, very dependent on TouchNet
- Reporting environment not part of core ERP so there is a lag getting data to ODS
- Single points of failure with systems support
- Extensive Banner testing required of functional users throughout the year due to the extent of customizations

| Critical Processes            | Pain Points  |
|-------------------------------|--|
| Budgeting                     | -Projections system is a stand-alone process that does not feed budget revisions to Banner   |
| Procure to Pay                | <ul style="list-style-type: none"> <li>- Have to touch too many POs too many times</li> <li>- Difficult to track encumbrances and process change orders</li> <li>- Challenges with integrations between procurement systems and Banner</li> <li>- Lack of transparency and notifications in workflow related to contracts</li> </ul> |
| Ledgers & Financial Integrity | <ul style="list-style-type: none"> <li>- No approval queue ID visible on JV approval screen</li> <li>- Front end interface developed to keep users out of core Banner</li> </ul>   |
| Payroll                       | - Too many manual processes  |

| Critical Processes  | Pain Points  |
|---------------------|--|
|                     | <ul style="list-style-type: none"> <li>- Too many checks/balances to ensure payroll processing is accurate and timely</li> <li>- Known Banner bugs cause manual workarounds that have to be addressed for every pay run, lack of support from vendor</li> <li>- End of life approaching for Kronos on-prem system</li> </ul> |
| Financial Reporting | Limited baseline operational and analytical reports; inability to copy and modify existing baseline reports in Banner  |

**Research:**

- Research has a lot of shadow systems and 3<sup>rd</sup> party systems without full integration
- Banner works ‘well’ for people who have been around for a while, but it is hard to train new people because of the number of different systems and manual processes
- Sub-award processing is almost all done outside of Banner and then manually enter encumbrances in Banner to track
- A custom solution for effort reporting is currently being developed
- There is a lack of visibility of data in systems
- Reporting is cumbersome, have to pull data in a lot of different systems and piece it together
- Reporting is all done in an external system with frozen data (24 hours old); knowing how to run reports is a challenge, have to understand complex, custom table structure

| Critical Processes   | Pain Points  |
|----------------------|--|
| Pre-Award Processes  | -Limited integration with ERP (no APIs) for user access/roles sponsor data, person data, and vendor/organization data  |
| Post-Award Processes | <ul style="list-style-type: none"> <li>- Extensive and time-consuming manual data entry required currently to set up new awards in ERP (from pre-award systems)</li> <li>- Lack of one-stop Principal Investigator (PI) portal built into the research admin module</li> </ul> |

| Critical Processes | Pain Points   |
|--------------------|---|
|                    | <ul style="list-style-type: none"> <li>- Effort reporting is lacking transparency and functionality</li> <li>- Invoicing is difficult, must go through My Reports to generate invoices and invoices are only at a certain level of detail so if sponsor wants different categories, have to manually create invoices</li> </ul> |
| Reporting          | <ul style="list-style-type: none"> <li>- Lack of built-in ad hoc reporting</li> <li>- Limited baseline operational and analytical reports</li> <li>- Sponsor financial reporting is manual and requires data manipulation</li> </ul>  |

**Human Resources:**

- Banner is core HR system, not bad for basic processing, but it can't handle complex employee setup situations; requires need to customize or more typically, manual workarounds
- There are a lot of 3<sup>rd</sup> party systems in use, some with integrations and others that require manual/dual entry
- Banner HR is not intuitive, users have to understand how employees, orgs, positions, etc. are setup to make any changes or there are impacts to payroll
- Talent management tool doesn't work well with University structure; spend a lot of time troubleshooting and a lot of manual work

| Critical Processes  | Pain Points   |
|---|---|
| Application Management System – Recruiting and onboarding | <ul style="list-style-type: none"> <li>-Lack of integration with 3<sup>rd</sup> party systems; not as efficient and streamlined as promised during implementation</li> </ul>  |
| Benefits Administration                                   | <ul style="list-style-type: none"> <li>- Lack of system flexibility and configurability for benefit plans</li> <li>- Issues with inability to integrate with benefit vendors</li> <li>- no online process for new hire and open enrollment</li> </ul> |
| New Hire Processing                                       | Clunky data entry, prone to errors  |

|                                      |  |
|--------------------------------------|--|
| Employee Self-Service                | Lack of employee self-service end user functionality   |
| Time and Attendance Management       | Time entry is a manual process, prone to errors, time consuming and limited mobile capabilities  |
| Faculty Appointment Management       | -Have to track in Smartsheets  |
| Employee Separations and Retirements | - Lack of automated removal of access to systems<br>- Retiree billing has to go through the Bursar's Office                                    |
| Reporting                            | - No flexibility with business rules, ACA reporting is all custom<br><br>- Too many error reports to try to catch data entry errors/mismatches |

**Student:**

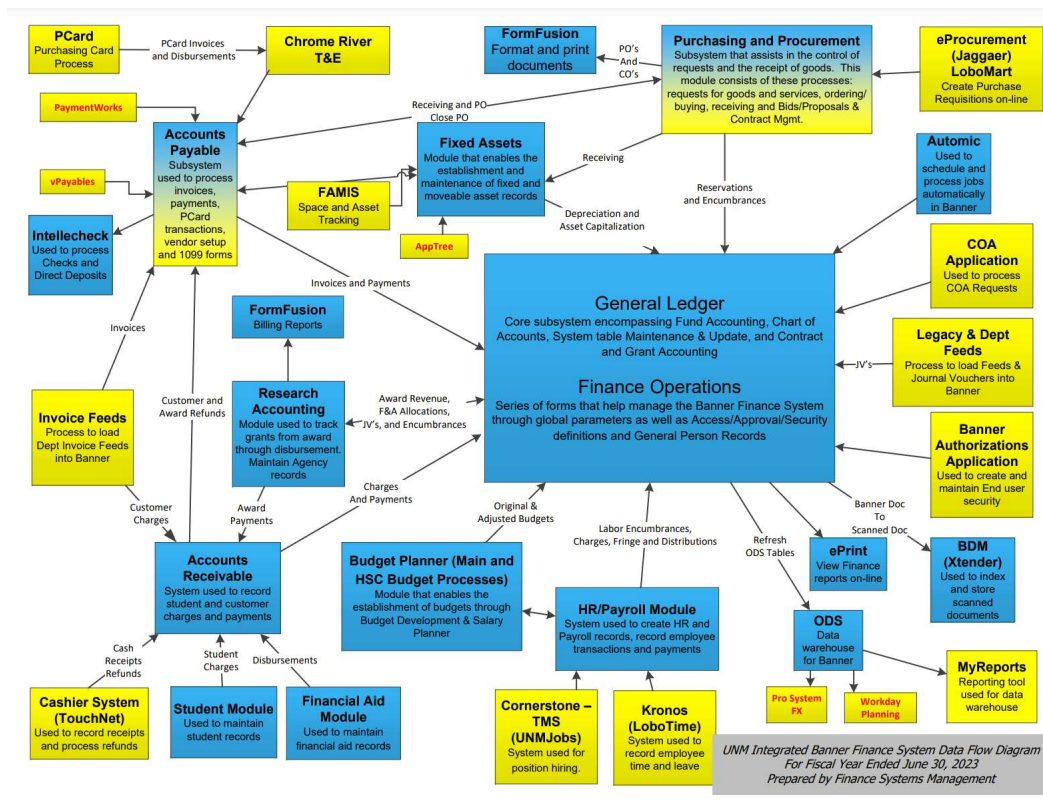
- Banner is core student system and patched with many other 3<sup>rd</sup> party systems (Salesforce, College Source, Kuali, OnBase, Ad Astra, College Scheduler)
- System is antiquated, but it works for most processes and end users know how to use it
- Dependence on IT for support and reporting requests; limited on what can be done for streamlining, automation and integration because IT doesn't have the bandwidth
- User interface is clunky for parents and students
- Upgrades are difficult because some forms still in Banner 8 and others in Banner 9, have to do double upgrades
- Scheduling is cumbersome for students on the front-end and requires too many staff on the backend

| Critical Processes          | Pain Points   |
|-----------------------------|---|
| General Student Information | -Student facing systems are not accessible and compatible with all screen readers, couldn't upgrade to Banner 9 |
| Records and Registration    | - Term setup and schedule roll processes are manual and cumbersome<br><br>- Lack of built-in workflow           |

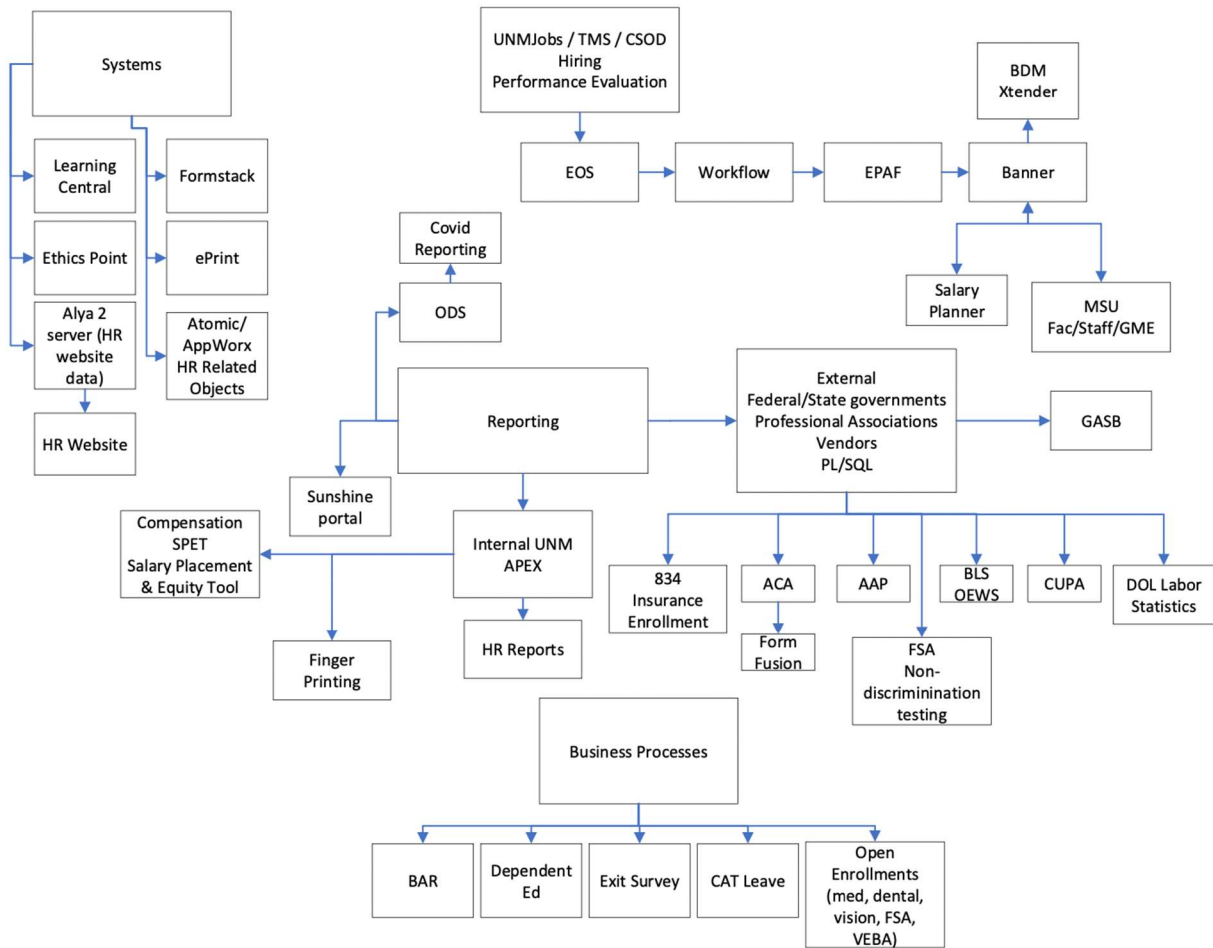
| Critical Processes       | Pain Points  |
|--------------------------|--|
| Financial Aid Management | -Adapted business processes to system when Banner initially implemented; have had to make a lot of improvements since then, mostly for the student facing processes  |
| Admissions               | <ul style="list-style-type: none"> <li>- Gradually increasing 3<sup>rd</sup> party systems over the years because Banner is not evolving</li> <li>- Lack of modern email functionality</li> <li>- Inability to utilize business rules vs programming for process modifications</li> <li>- Inability to create custom user views</li> </ul> |

## Systems Architecture Assessment

### Finance Application Systems Landscape

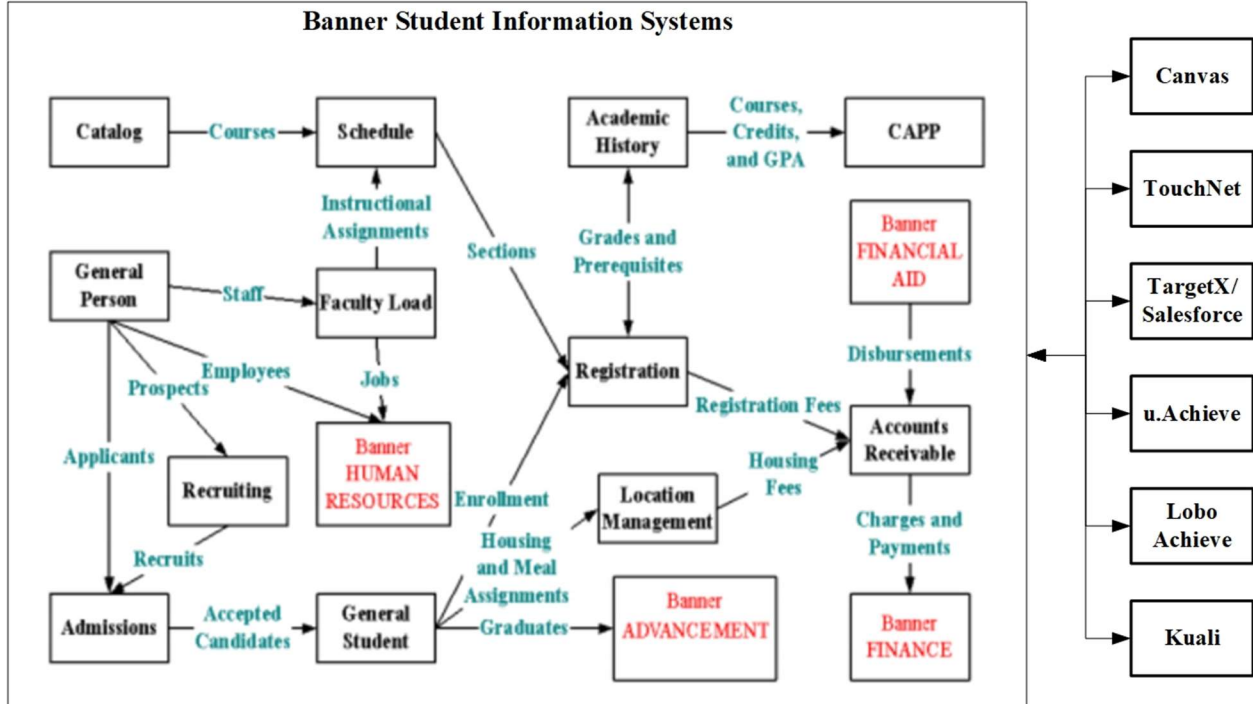


# HR Application Systems Landscape





## Student/Financial Aid Systems Landscape



### Current State highlights:

- The current state IT ecosystem is made up of a wide range of applications, systems, databases and microservices running mostly on-premise systems. With the number of systems currently in-play there could be opportunities to consolidate a few of the applications into a central ERP system to reduce the number of applications. Currently the ERP environment has one mature core system, Banner, for HR, Student, Finance and Reporting, but it has limitations. Over the years customizations have been limited and some have been removed with the Banner 9 upgrade.
- Data feeding across multiple systems could lead to multiple footprints of the data. With a robust ETL tool and reconciliation steps in place, some of the risks are certainly mitigated. In addition, there could be opportunities to tweak and improve operational efficiencies with more real-time data feeds for the business community.
- Managing multiple systems creates costs in not only time, but money. Keeping each system running can be a 24/7 job, sometimes requiring additional employee cost.
- Managing diverse systems requires a diverse personnel skillset and leads to people dependencies and silos. Training staff on multiple systems is cumbersome. Onboarding new employees and getting them fully up-to-speed takes time.
- Compiling reports from disparate systems can be challenging. Data can be pulled from multiple systems into a data warehouse where reports can be run. Webfocus reporting

tool has limited market share and might also not be around for long. Overall, users want easier access to data.

- Upgrade costs to multiple systems is complex, time consuming and expensive. Testing efforts are significant across multiple systems. Upgrades to Banner take many person hours to perform the upgrade, assess new functionality and test, in part due to the complexity of customizations, 3<sup>rd</sup> party systems, and resistance to change business processes. Testing takes resources from across the University.
- Information security becomes harder to manage. The more locations that data is held in, the harder it is to manage, oversee and control.
- Overall, there seems to be single points of failure with the current systems on both the IT and business sides. Attrition over the years has resulted in losing depth of system knowledge.
- There has been a mindset on the functional side to change systems to meet processes which has led to the customizations, including adding new tables, rows and columns, triggers and building new schemas/views and some screen changes as well as custom integrations for all of the 3<sup>rd</sup> party systems.
- There are technical gaps with the Ellucian products. Have done some proof of concept with Banner Cloud, but there are barriers, including resource requirements.
- Banner ODS on-prem has reached end of life, Ellucian is still supporting it, but no longer upgrading because they want clients to move to the cloud. This is an overall risk that will eventually need to be mitigated.

## Peer Analysis Landscape

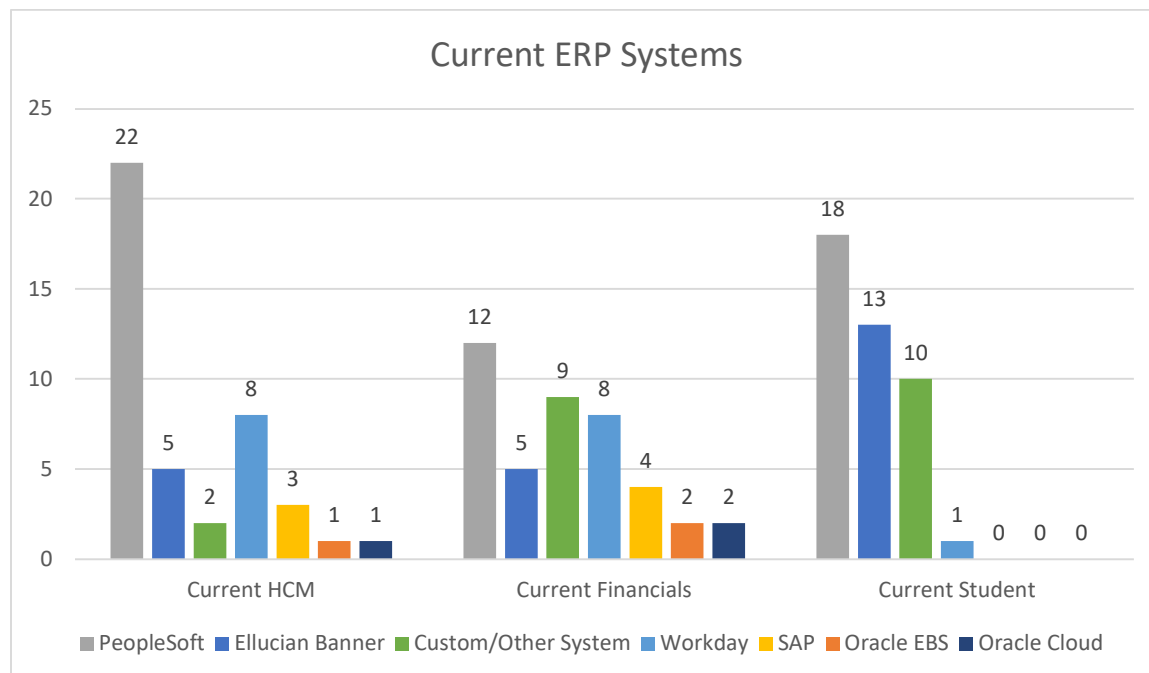
The following section describes the state of the ERP market for higher education. Cloud ERP Systems were introduced more than 15 years ago with Workday being the first to market with a Human Capital Management (HCM) solution in 2006, a Finance solution in 2007 and a Student solution in 2011. The initial release of Oracle HCM Cloud was in 2011 and Financials Cloud was in 2012. Student Financial Planning is currently available, and Oracle has stated that complex research universities can begin implementation of the full student solution, Student Management, in 2025. Ellucian released its SaaS full suite of HCM, Finance and Student solutions in 2017. SAP's HR solution was initially released in 2001, S/4HANA ERP in 2016 and Student Lifecycle Management is currently being introduced in the US. During the early years of cloud product availability in the market, the large, complex research universities (R1s) stayed away from moving from on-premise legacy systems to the cloud. However, over the past five years, more R1s are either moving to the Cloud or considering the move. The trend in the R1 community today is to not stay with the status quo but to look at options and consider the cloud for their ERP system.

A market analysis was performed on a cross section of 42 schools, including R1 and large public universities. The analysis included gathering their current Human Resources, Finance, Student, Research, and BI/Analytics systems, with current being defined as the system of record that they are actively using whether it is a legacy system or recently implemented solution. The full set of raw data is included in the *Appendix*. The institutions who participated in the survey include:

| Schools                       |                                    |
|-------------------------------|------------------------------------|
| Arizona State University      | University of California System    |
| Auburn University             | University of Cincinnati           |
| California Berkeley           | University of Florida              |
| Clemson University            | University of Georgia              |
| Georgia Tech                  | University of Illinois System      |
| Indiana University            | University of Iowa                 |
| LSU System                    | University of Maryland             |
| Michigan State University     | University of Massachusetts System |
| Northwestern University       | University of Michigan             |
| Oklahoma State                | University of Minnesota System     |
| Penn State University         | University of Nebraska             |
| Purdue University             | University of North Carolina       |
| Rutgers University            | University of Pittsburgh           |
| SUNY                          | University of Rochester            |
| Syracuse University           | University of Southern California  |
| The Ohio State University     | University of Texas at Austin      |
| UCLA                          | University of Virginia             |
| University at Buffalo         | University of Washington           |
| University of Alabama         | University of Wisconsin-Madison    |
| University of Arizona         | University System of Georgia       |
| University of Arkansas System | Virginia Tech                      |

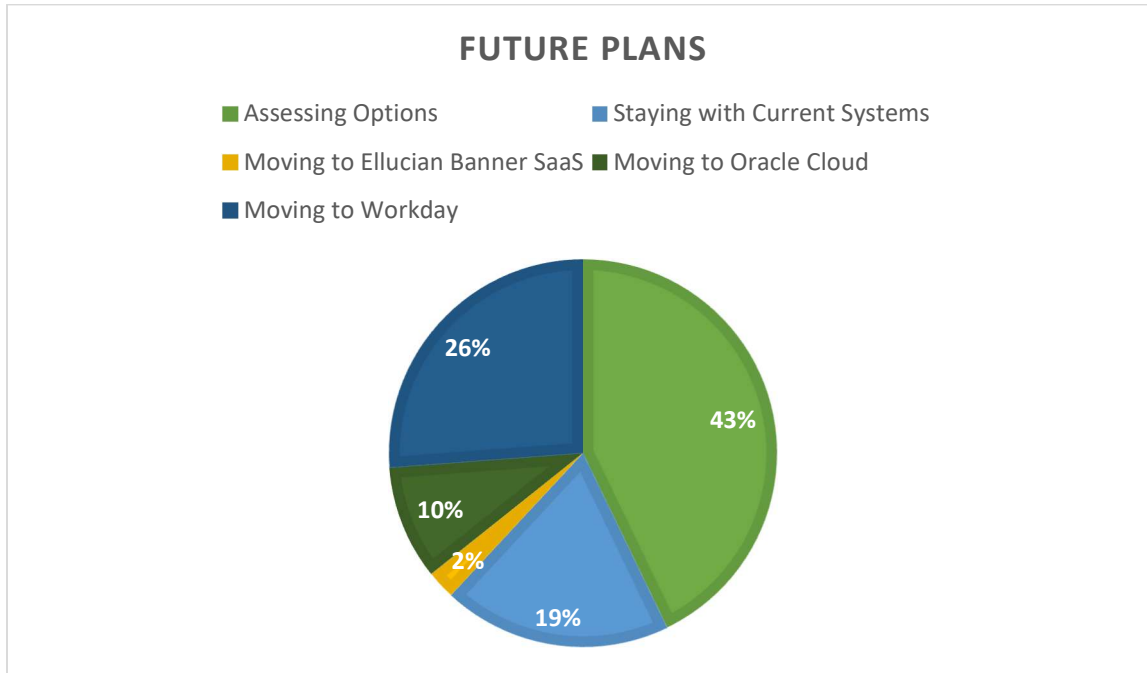
The summary of the current ERP systems for the 42 institutions shows the following:

- **Current Human Capital Management:** Oracle PeopleSoft (former PeopleSoft product which Oracle bought in 2005 and currently supports) is the dominant current system for HCM with 22 institutions, Ellucian Banner is the current system for 5 institutions, and SAP is used at 3 of the institutions. Workday has been implemented at 8 institutions and Oracle Cloud has been implemented at 1 institution.
- **Current Financials:** Oracle PeopleSoft is the dominant current system for Finance with 12 institutions, Ellucian Banner is the current system for 5 institutions, and SAP is used at 4 of the institutions. Workday has been implemented at 8 institutions and Oracle Cloud has been implemented at 2 institutions.
- **Current Student:** Oracle PeopleSoft is the dominant current system for Student with 19 institutions. Workday has been implemented at 1 school. Oracle Student Cloud is not ready for deployment. SAP has been implemented at 0 institutions in the 42-school analysis.
- **Workday** is starting to make a presence in HCM and Finance for the current environment with 8 institutions currently using Workday HCM and Workday Finance.
- **SAP** has a large presence internationally and has had some movement with US Universities, but not with the institutions in this analysis.
- **Oracle Cloud** is emerging in the Education industry.
- **Research:** There is no dominant current system for Research. 18 of the institutions are using multiple solutions for Research activities.

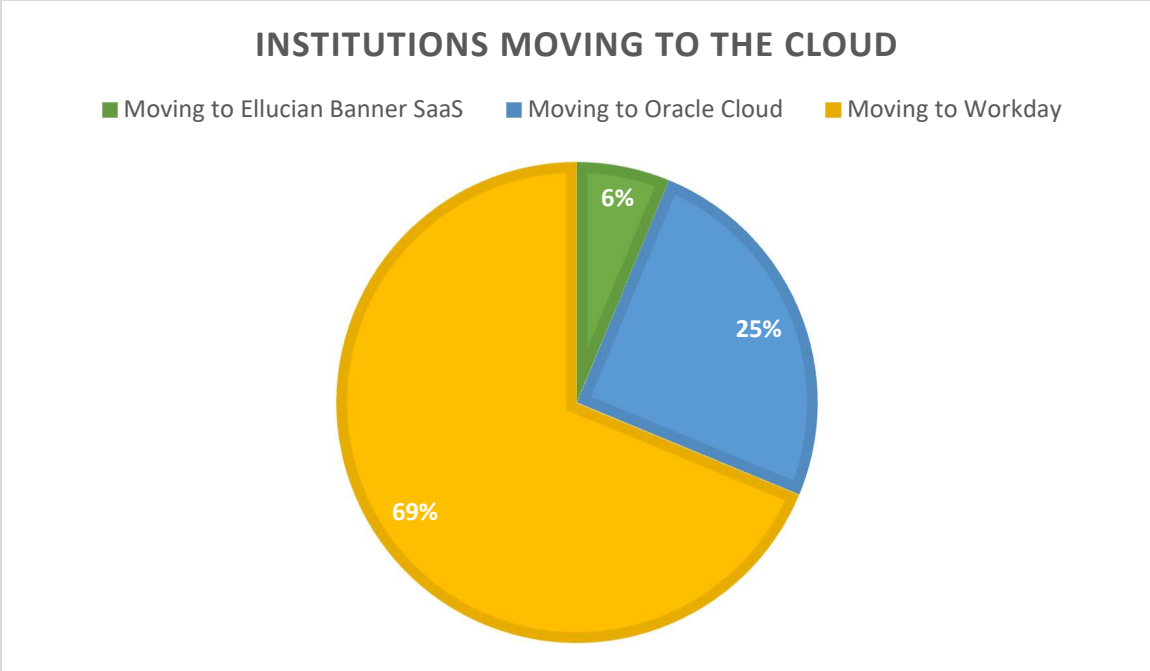


The summary of the future plans for ERP systems for the 42 institutions shows the following:

- Less than 20% of the 42 institutions are staying with their current systems for the foreseeable future and the primary reason is that they don't have a compelling need at this time to invest in new systems.
- 81% of the 42 institutions are either assessing options, have moved or are in the process of moving to the cloud with the driving reason being to move away from on-premise systems.



There are 16 institutions on the list actively moving to the cloud for some aspect of their ERP system. Of these, 11 or 69%, are moving to Workday. None of the 16 institutions are moving to SAP cloud products.



Of the 13 R1 Peer schools in the analysis, Ellucian Banner and PeopleSoft make up most of the current solutions for HCM, Finance and Student. Over 60% are currently assessing options for the future.

**Benefits of Single Platform Cloud ERP**

The primary benefit of a single platform Cloud ERP is having one integrated administrative system and support model across the Finance, HCM and Student landscape to leverage system and process best practices. This leads to consistency and simplicity of the ERP business processes to improve efficiency, standardization, and scalability. One platform also provides a seamless user experience with structured data and increased visibility of data across systems. There will still be the need for highly specific 3<sup>rd</sup> party software to perform some functionality more effectively, such as student recruitment, pre-award grant management, government regulatory tracking, and tax services. Per independent third-party and Gartner research, there is evidence to support the premise that a single platform ERP strategy is consistent with where the industry is going. Per a 2022 study by Gartner, 62% of organizations that plan to replace or upgrade their ERP will adopt cloud ERP.

**Advantages of Cloud ERP**

- Out of the Box functionality that supports the core requirements of the ERP processes by utilizing a lean process/ best practice business implementation approach.

- Logical and intuitive user interface consistent across the platform with access on mobile devices for students, faculty, and staff.
- Configuration options built into the software 'front-end' vs. customizations that must be developed within the 'back-end' code or in a separate middleware layer; the ability to reduce technical debt and significant technical maintenance because configuration is typically performed by business analysts rather than technical developers.
- Business units having ownership of processes and data.
- Real cost savings in the years after the initial implementation. The cost to upgrade a cloud product is dramatically less than with on-premise products since new functionality is released more frequently within the software's quarterly or semiannual releases versus on-premise applications with customizations that require long upgrade and testing processes to consume new technology.
- Allows for faster access to emerging technology, such as advanced analytics, artificial intelligence, machine learning, and other technical innovations that offer the ability to harness immense amounts of data to make more accurate forecasts, discover hidden insights, and enhance operations.
- The main cloud vendors are financially stable and provide significant investment in their cloud platform.
- Per Gartner research, organizations moving to the cloud is on the rise, signifying business gains from cloud ERP.

#### **Additional Key Advantages of a Single Platform Cloud ERP**

- One solution for modern reporting, BI and analytics capabilities.
- Superior technical platform with consistent, effective data and application security.
- Cleaner, simpler integration architecture with reduced number of integrations.
- Strong internal controls built into the system along with consistent auditing capabilities.
- Ability to have effective Service Level Agreement's (SLA's) and influence over functionality as the cloud vendors continue to enhance their products.
- One approach for new release strategy.
- More accessible system support ecosystem and community networks for common issue resolution.
- Potential cost savings and reduction of risk by replacing a significant number of 3<sup>rd</sup> party solutions and/or shadow systems.

## **RFI Results**

Recently, UNM Leadership convened a team of cross-functional stakeholders to conduct an RFI to review the available cloud ERP vendor products that could meet the future needs of the

University. The following findings and recommendations are from the ERP RFI Committee Recommendations (see *Appendix* for full Presentation).

- UNM Leadership asked that a team be formed to conduct an RFI for UNM's ERP which would allow us to:
  - Gather knowledge and understanding of the current ERP landscape
  - Assessment of where we are: Gaps and Concerns
  - Data driven decision on a strategy and future moving forward
  - Work together across the various areas on the ERP Assessment
- The team put out an RFI based on pain points and gaps, identified by the team, asking vendors to demonstrate how their solution could fix those gaps. It was high level with no detailed requirements and no formal quotes.
- The Vendors who responded:
  - Oracle
  - Labyrinth Technologies (SAP)
  - SAP HANA
  - Workday
  - Ellucian Banner
- 4 Vendors were selected for demos, questions, and scoring
  - Labyrinth Technologies (SAP)
  - SAP HANA
  - Workday
  - Ellucian Banner
- Criteria to demo included:
  - Looking for database agnostic solutions with transactional reporting options
  - More open, not as proprietary
- The High-Level Scoring Results were as follows:
  - SAP HANA – 80 (Selected Vendor)
  - Workday Enterprise Management Cloud – 74
  - Labyrinth Technologies – 74
  - Ellucian Banner – 64
- The team was asked: What recommendation would you make to UNM Leadership regarding next steps on UNM's ERP system?
  - Go to RFP for the entire system – 57%
  - Wait and do more research – 28%
  - Go to RFP for Finance and HR, hold on SIS – 0%
  - Other – 14%



## ERP Future Options

UNM needs to assess options to develop a path forward to continue to effectively support the end-user community. It is in the best interest of the University to select a solution and/or a path that will provide for improved, state of the art systems across all units and campuses with standardized business processes for the next 20 plus years.

The following are the options to consider.

### **Preferred Option: Move to Integrated Cloud Platform**

- Implement a Cloud ERP platform (Oracle Cloud, Workday, or SAP) solution for HCM, Finance, and Student and identify Best of Breed/3<sup>rd</sup> party systems to fill any gaps (i.e., Taxation, Admissions, CRM, etc.).
- Serious consideration of implementing Oracle Cloud, Workday, or SAP for the Finance and HCM suite and integrating to current student platform if cloud Student systems are not mature enough/ or do not meet the requirements.
- This solution would require adoption of standardized business processes.
- Needs strong executive backing and approval.
- This solution would require a strong integration platform if multiple 3<sup>rd</sup> party systems were included.
- Many R1 institutions are on or going to Workday and/or Oracle Cloud solutions.
- Benefits
  - Improved user experience
  - Simplified, standardized business processes
  - Built-in analytics and reporting available to all end users
  - Reduces need for some 3<sup>rd</sup> party systems and the associated costs, but will require an assessment for true gaps
  - Simplified security rules
  - Reduces complexity of upgrades with a prescribed methodology from the vendor, release notes, ability to defer functionality, standard integration partners, etc.
- Risks
  - Would need to gain executive leadership support and funding
  - Assess whether cloud systems offer the functionality and flexibility UNM customers are accustomed to
  - Student Systems may not be fully developed yet and unclear when they will be mature and flexible enough to meet the requirements
  - Large change management initiative, end-users accustomed to custom applications and separate 3<sup>rd</sup> party systems

- All aspects of business may not be able to fully standardize and will eventually find a way to customize or choose 3rd party solutions

Based on feedback from the RFI process, Ellucian Banner SaaS is not a preferred platform cloud option for UNM. This leaves Oracle, Workday, and SAP as potential options. If the decision is made to move to a cloud platform, UNM would want to engage stakeholders from across the units and campuses to define the requirements and understand the opportunities for process standardization as well as the unique campus-specific requirements. This would include assessing and identifying the business process transformation prospects and the magnitude of the change management efforts for a cloud ERP implementation, especially considering the current environment of custom applications and 3<sup>rd</sup> party systems, especially for the Health Science Center. The primary driving factors for moving to the cloud, tied to system strategic initiatives, would be defined along with the key functional business requirements and differentiators. It should be noted that an ERP system will not satisfy all unique business requirements and some level of continued 3rd party system support will be part of the future landscape, but with a “ERP First Strategy” and a standardized integration approach from the vendor.

A formal Request for Proposal (RFP) process would be initiated to identify which software vendor could best meet the needs of UNM as the future cloud partner. This would then be followed by an implementation partner RFP selection process and definition of the implementation plan.

The implementation plan needs to take into consideration the following:

- Student System functionality currently available in Cloud Software Solutions and the roadmap for future development.
- The timing and sequencing of an ERP Implementation involving multiple administrative functions across multiple universities/campuses with a very high volume of students.
- Identifying the need for process work and policy changes in advance of implementation, including understanding the extent of process change needed for transformative changes and simplification of processes to be ready for ‘vanilla’ implementation of software solution.
- Extended implementation time to ensure participation from schools/units.

For the implementation of the cloud ERP functions, it is recommended to go with a platform implementation of HCM and Finance, followed by Student. Phasing the Student implementation after the HCM/Finance implementation will allow for further development of the student cloud product functionality.

## Secondary Option: Stay with Status Quo and Move to Ellucian SaaS

- Stay the current course of support, development, and continual upgrades of the Banner On-Premise solution and development of custom applications and integrations with 3<sup>rd</sup> party systems *along with* adopting a series of Ellucian SaaS solutions (ex. Experience, Maestro Workflow, CRM components, expanded use of Ethos, etc.). Continued and expanded use of the Ellucian Ethos integration platform to use SaaS compatible, modern integration practices that would make the transition to a future SaaS much easier.
- UNM would then explore the functionality of Ellucian Banner SaaS to determine if a transition to the cloud product is an option. The overwhelming response from the RFI demos was that it is not a desirable user interface and does not have expanded functionality, however, it is a lower cost option than moving to a new cloud ERP platform.
- Some Ellucian customers are adopting this model as initial steps to the cloud.
- Benefits
  - Low cost, low risk for disruption and UNM could then be making decisions for the long term
  - Familiarity of the solution for the end-users and support personnel
- Risks
  - Increasing complexity of the landscape with all the required integrations and customizations
  - Lack of vendor focus on enhancement of on-premise solutions and eventual end of life for the on-premise software
  - Personnel dependencies
  - Extended upgrade cycles
  - Limited improvement in user experience
  - Does not meet all current and future business needs
  - Lose out in the long run if not taking advantage of access to emerging technologies available in cloud solutions

While staying with the status quo technology is an option for the short term, the current system will not be a viable solution in 3 to 5 years and a decision needs to be made to begin planning for an ERP replacement. There is risk of the landscape becoming even more complex as the functional areas and units choose to implement additional point solutions and shadow systems, increasing the number of integrations and the lack of ability to retain a single source of the truth of the data and requiring more data transformation into a complex reporting environment. There is also the risk of losing existing support resources and not being able to recruit new resources to maintain aging systems. If the University waits too long to move to the cloud, it will be in a reactionary mode and will be required to

'lift and shift' to quickly replace obsolete systems rather than taking the time to focus on improving processes while making a thoughtful transition to cloud solutions.

UNM should continue to work through Ellucian's discovery tool to understand how it fits with UNM's needs. There are few barriers to beginning to review and potentially implement components not currently in use.

For the top critical processes and pain points identified in the Current State, the Preferred Option to Move to an ERP Cloud Platform can address the pain points, along with business process changes.

| Critical Processes            | Pain Points in Current State  | Cloud ERP Platform Advantages  |
|-------------------------------|---|--|
| <b>FINANCE</b>                |   |  |
| Budgeting                     | -Projections system is a stand-alone process that does not feed budget revisions to Banner  | - Adaptive Planning integrated w/ Workday  |
| Procure to Pay                | <ul style="list-style-type: none"> <li>- Have to touch too many POs too many times</li> <li>- Difficult to track encumbrances and process change orders</li> <li>- Challenges with integrations between procurement systems and Banner</li> <li>- Lack of transparency and notifications in workflow</li> </ul>   | <ul style="list-style-type: none"> <li>- Streamline and integrate procure to pay processes in one system</li> <li>- Dashboards in ERP to analyze spend</li> <li>- Potentially eliminate Jaggaer, Chrome River and PaymentWorks</li> </ul>                            |
| Ledgers & Financial Integrity | <ul style="list-style-type: none"> <li>- No approval queue ID visible on JV approval screen</li> <li>- Front end interface developed to keep users out of core Banner</li> </ul>  | - User-friendly data entry   |
| Payroll                       | <ul style="list-style-type: none"> <li>- Too many manual processes</li> <li>- Too many checks/balances to ensure payroll processing is accurate and timely</li> <li>- Known Banner bugs cause manual workarounds that have to be addressed for every pay run, lack of support from vendor</li> <li>- End of life approaching for Kronos on-prem system</li> </ul> | <ul style="list-style-type: none"> <li>- Payroll dashboards to track activity</li> <li>- Utilize one timekeeping system across all areas, within ERP or integration with a 3<sup>rd</sup> party system, potentially streamline labor distribution process</li> </ul> |
| Financial Reporting           | Limited baseline operational and analytical reports; inability to copy and modify existing baseline reports in Banner   | - Built-in reporting, analytics and dashboards   |

| Critical Processes  | Pain Points in Current State  | Cloud ERP Platform Advantages   |
|---|---|---|
|   |   | <ul style="list-style-type: none"> <li>- Eliminate TIBCO Webfocus Reporting Tools</li> </ul>  |
| <b>RESEARCH</b>   |   |   |
| Pre-Award Processes                                       | <ul style="list-style-type: none"> <li>- Limited integration with ERP (no APIs) for user access/roles sponsor data, person data, and vendor/organization data</li> </ul>  | <ul style="list-style-type: none"> <li>- Would still need a separate pre-award system</li> </ul>  |
| Post-Award Processes                                      | <ul style="list-style-type: none"> <li>- Extensive and time-consuming manual data entry required currently to set up new awards in ERP (from pre-award systems)</li> <li>- Lack of one-stop Principal Investigator (PI) portal built into the research admin module</li> <li>- Effort reporting is lacking transparency and functionality</li> <li>- Invoicing is difficult, must go through My Reports to generate invoices and invoices are only at a certain level of detail so if sponsor wants different categories, have to manually create invoices</li> </ul> | <ul style="list-style-type: none"> <li>- Allows for integration with pre-award system</li> <li>- Visibility into grants data for PIs</li> <li>- Integrated billing</li> <li>- Effort reporting solutions</li> </ul> |
| Reporting   | <ul style="list-style-type: none"> <li>- Lack of built-in ad hoc reporting</li> <li>- Limited baseline operational and analytical reports</li> <li>- Sponsor financial reporting is manual and requires data manipulation</li> </ul>  | <ul style="list-style-type: none"> <li>- Built-in reporting, analytics and dashboards</li> <li>- Eliminate TIBCO Webfocus Reporting Tools</li> </ul>  |
| <b>HUMAN RESOURCES</b>                                    |   |   |
| Application Management System – Recruiting and onboarding | <ul style="list-style-type: none"> <li>- Lack of integration with 3<sup>rd</sup> party systems; not as efficient and streamlined as promised during implementation</li> </ul>   | <ul style="list-style-type: none"> <li>- Eliminate Cornerstone</li> </ul>   |
| Benefits Administration                                   | <ul style="list-style-type: none"> <li>- Lack of system flexibility and configurability for benefit plans</li> <li>- Issues with inability to integrate with benefit vendors</li> <li>- no online process for new hire and open enrollment</li> </ul>   | <ul style="list-style-type: none"> <li>- Benefit plan configurability</li> <li>- User friendly new hire and open enrollment processing</li> <li>- integrate seamlessly with benefit vendors</li> </ul>              |
| New Hire Processing                                       | Clunky data entry, prone to errors  | <ul style="list-style-type: none"> <li>- User friendly new hire onboarding</li> </ul>   |

| Critical Processes                   | Pain Points in Current State   | Cloud ERP Platform Advantages  |
|--------------------------------------|--|--|
| Employee Self-Service                | Lack of employee self-service end user functionality   | - User friendly employee self-service  |
| Time and Attendance Management       | Time entry is a manual process, prone to errors, time consuming and limited mobile capabilities  | - User friendly time entry and absence tracking  |
| Faculty Appointment Management       | -Have to track in Smartsheets  | - Faculty appointment tracking in HR system<br>- Eliminate Smartsheets   |
| Employee Separations and Retirements | - Lack of automated removal of access to systems<br>- Retiree billing has to go through the Bursar's Office  | - Integration with identify management systems   |
| Reporting                            | - No flexibility with business rules, ACA reporting is all custom<br>- Too many error reports to try to catch data entry errors/mismatches   | - Built-in reporting, analytics and dashboards   |
| <b>STUDENT</b>                       |  |  |
| General Student Information          | -Student facing systems are not accessible and compatible with all screen readers, couldn't upgrade to Banner 9  | - User friendly, built for student engagement<br>- ADA compliant<br>- Access on mobile devices   |
| Records and Registration             | - Term setup and schedule roll processes are manual and cumbersome<br>- Lack of built-in workflow  | - Streamline registration processes<br>- Reduce the need for 3 <sup>rd</sup> party systems such as U.Achieve and TouchNet              |
| Financial Aid Management             | -Adapted business processes to system when Banner initially implemented; have had to make a lot of improvements since then, mostly for the student facing processes  | - Define institution-specific aid requirements and automate manual processes   |
| Admissions                           | - Gradually increasing 3 <sup>rd</sup> party systems over the years because Banner is not evolving<br>- Lack of modern email functionality<br>- Inability to utilize business rules vs programming for process modifications | - Reduce the need for 3 <sup>rd</sup> party systems such as Canvas, Target X<br>- User friendly<br>- Prospect and applicant management |

| Critical Processes     | Pain Points in Current State   | Cloud ERP Platform Advantages                                  |
|------------------------|--|--|
|                        | - Inability to create custom user views  |  |
| <b>OTHER</b>           |  |  |
| Auxiliaries/Facilities | - Lack of advanced integration with existing ERP system for several applications | - SAP offers integrated modules for Facilities and Auxiliaries |

Each of the options will represent a substantial financial investment by the University. For the preferred option to move to an integrated cloud platform, for all the functional areas (Finance, HCM, and Student) the all-in cost for implementation can reach approximately \$50M to \$60M.

It is important to understand what makes up the components of the all-in cost for the implementation. The components of the cost include the following and overall percent in relation to the cost:

- External implementation partner consulting fees – 50%
- Software licenses – 5%
- Legacy system costs during the implementation – 5%
- Third-party client-side project resources – 20%
- Internal implementation staffing and backfill costs – 20%

Over the course of the project timeline (approximately 7 years), the burn rate in the first 2 and last 2 years will be 10% per year and approximately 15% per year during the middle 4 years.

Given the current ERP state at the university, the capabilities of the cloud solutions, the ability to eliminate some 3<sup>rd</sup> party systems, a desire to streamline and implement best practices, the desire to leverage as much of the cloud solution as possible, the willingness to look at this project in a comprehensive manner that includes all the entities of the university (including the hospital), **the benefits are substantial**. It would be reasonable to expect a positive ROI when you compare the costs to the benefits within the lifecycle of the new software solution. Essentially, the investment will pay for itself with a portion of the cost savings due to the elimination of some current 3<sup>rd</sup> party systems, integrations and customizations.

For the secondary option to stay with Status Quo and move to Ellucian SaaS, it is not as clear. The assumption is that the cost will be less, however, there are not enough actual examples to review that can provide confidence in a cost for a university of the size and scale as New Mexico. Related to the benefits, there will be some, but it is not as clear due to the unknown of how much can be streamlined and how many third-party applications can be removed.

## Future State Roadmap and Recommendation

UNM eventually needs to move to a cloud ERP, but currently is in a good position to thoughtfully plan and prepare for the next steps with a strong roadmap. The most value will come from the Preferred Option to Move to a Cloud Platform, but it also comes at high costs with long timeframes and significant impact to operations and support. UNM needs to understand the costs, assess how much change the institution is capable and willing to accept as well as take steps to prepare for the implementation efforts and the sustainment model.

The future state roadmap could look like the table below.

| Activities   | YEAR 1 |    |    |    | YEAR 2 |    |    |    | YEAR 3 |    |    |    | YEAR 4 |    |    |    | YEAR 5 |    |    |    | YEAR 6 |    |    |    | YEAR 7 |    |    |    |    |    |    |    |
|--|--------|----|----|----|--------|----|----|----|--------|----|----|----|--------|----|----|----|--------|----|----|----|--------|----|----|----|--------|----|----|----|----|----|----|----|
|  | Q1     | Q2 | Q3 | Q4 | Q1     | Q2 | Q3 | Q4 | Q1     | Q2 | Q3 | Q4 | Q1     | Q2 | Q3 | Q4 | Q1     | Q2 | Q3 | Q4 | Q1     | Q2 | Q3 | Q4 | Q1     | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Business Process Re-engineering Analysis             | █      |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |    |    |    |    |
| RFP - Platform Solution, Potential 3rd Party Systems | █      |    |    | █  |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |    |    |    |    |
| RFP - Implementation Partner                         |        |    | █  |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |    |    |    |    |
| Finalize the Roadmap/ Contract Negotiations          |        |    |    | █  |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |    |    |    |    |
| HCM/Finance Implementation                           |        |    |    |    | █      |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |    |    |    |    |
| Student Implementation                               |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    | █      |    |    |    |        |    |    |    |        |    |    |    |    |    |    |    |

### RFP Activities

- The Business Process Re-engineering Analysis activities that are currently in process should continue during the RFP Activities to help prepare for the implementation.
- The RFP process will be approximately a 9-month effort. It will build on the work already done for the RFI.
- Specific tasks to aid in the RFP process include:
  - Inventory and assess all modifications to document purpose, requirements, etc. and to determine if any can be replaced with new Ellucian functionality, cloud system functionality, or potentially retired with standardization of processes.
  - Inventory and assess all 3<sup>rd</sup> party best of breed/ bolt-on systems to understand the use and functional and technical requirements that are met by the systems to determine which can potentially be retired and/or retained with a cloud ERP solution.
  - Functionality Assessment – define the requirements and identify the opportunities for process standardization as well as the unique campus-specific requirements. This should include assessments of the following:
    - Policy analysis review to determine if there are policies impacting the ability to standardize processes.
    - Potential changes to system configurations such as COA, HR org structures, course catalogs, etc.



- Technical Assessment – define the technical requirements and assess the current landscape. This should include the following:
  - Identify data conversion requirements, data clean-up efforts and alternative methods for storing historical data.
  - Inventory the current integrations and methods used for integrations.
  - Develop an integration architecture strategy and perform a middleware selection. The integration middleware to be selected should work well with cloud platforms and the API's that are exposed by cloud vendors like Workday, Oracle, and SAP.
  - A hub and spoke strategy for integrations can also be planned, to expose certain data for consumptions through API's or standard formats and consumptions by downstream systems based on requirements of data and security. This will minimize the number of integrations and point-to-point integrations that will be needed.
  - While deciding on a cloud vendor a fair emphasis should also be placed on delivered integration connectors the cloud vendor has to 3<sup>rd</sup> party providers like standard Benefit vendors, Suppliers etc. Having these standard out-of-the-box delivered connectors significantly reduces the development effort for the integrations workstream.
- Reporting/Analytics Assessment – perform a review of the current reporting environments across all functional areas to see how the reporting requirements fit into an ERP selection/ implementation with the intent to leverage the built-in reporting/analytics capabilities of the chosen ERP to allow for real-time reporting and the flexibility of ingesting 3<sup>rd</sup> party data for consolidated reporting.
- Identify a small, core dedicated RFP team that is representative of all the functional areas as well as different campuses and units, such as the Health Science Center.
- Document the differentiating functional and technical key business processes defined in the assessment projects. It is best to not have an exhaustive list of requirements for the vendors to check off, but rather to highlight the key functionality that is needed and to develop detailed demo scenarios for the vendors to respond to with thoughtful UNM specific demonstrations.
- Identify Cloud Software vendor alternatives for the ERP Platform (Oracle, Workday, SAP) and for any area that might need a 3<sup>rd</sup> party system (Taxation, Admissions, etc.)
- RFP should represent the full scope of functionality (HCM, Finance, Student, Research, Auxiliaries, etc.) and let the vendors bid on whatever functionality/alternatives they feel offers the best solution.
- Develop strong, clear scoring criteria by function for the RFP and for the demo participants. It is important to have quantitative data as well as qualitative results to make a final software decision.

- As part of the RFP process, perform a Perform a Total Cost of Ownership (TCO) and Return on Investment (ROI) Analysis for the ERP Project.
- Also, assess the ERP Readiness to identify strengths and weaknesses from a readiness aspect and develop a change management approach.

Organization activities that can be in process at the same time as all the above activities include:

- Succession planning for Banner support staff with extensive historical, technical and business process knowledge who are approaching retirement age. The transition of this expertise is needed to support the existing environment as well as to implement a new solution.
- Identify professional development plans for staff to retool for the move to a cloud support infrastructure.
- Change Management – implement a strong change management effort to focus on managing the organization change across the campuses.

### **Implementation Activities**

- Once the Software platform solution and implementation partner have been selected, a detailed roadmap should be developed in coordination with both vendors to define the efforts and optimal go-live timeframes.
- Initiate the HCM/Finance Platform Implementation. This implementation will be approximately 2 years.
- Initiate the Student Implementation after the HCM/Finance Platform Implementation. This implementation will be approximately 3 years.
- Implement Integration Platform and 3<sup>rd</sup> Party Systems as part of both of the implementations.

### **Sustainment Model Recommendation**

The Sustainment model encompasses the entirety of the Cloud Platform and 3<sup>rd</sup> party system ecosystem and is comprised of several entities that describe the relationships, processes, workflows, and decision-making structures necessary to conduct business efficiently and effectively.

The key considerations while putting together the sustainment model are defining the roles and responsibilities, resource needs, and processes associated with the support and operating models, including workflows. Define and enable a staffing plan that includes the retention of select project resources and the recruitment of new staff. Finally, a governance model, to

define, design and propose the controls and decision-making structures necessary to govern the cloud solution.

**Support Model:** The Support model is how and where constituents go for help. A lot of the business support will be managed by the “business unit” responsible for certain policies, compliance and transactions in Human Resources, Finance, Student, Research or Medicine.

**Operating Model:** The Operating model is primarily functional work performed by the business. This work is directed towards the functional operation of the Cloud platform. The operating model tells us where and how work gets done.

**Governance Model:** The Governance model describes which kind of decisions need to be made through a shared process, who needs to work together to make those decisions, and the processes and relationships that lead to reasoned decision-making.

What we have seen work effectively is fundamentally, the business units own and run the business process. For example, HR should own the policy and run the business processes for the HR business processes, benefit plans, absence plans, etc. Payroll should own the Payroll configuration, tax updates, earnings, deductions, and posting rules and Finance should own the finance related processes and financial reporting. Finally, Student should own the admissions, registration, and financial aid processes and student facing workflows. Business units also own the data and the framework for the data that drives reporting (chart of accounts, organization structure, course catalogs, etc.). This includes the design and testing of reports using the data. Ultimately, the business units are held responsible for the integrity of their data through various audits and federal/state regulations. Therefore, governance of the data and tasks that impact data integrity should reside with the business units.

Central IT owns the common functions like security, integrations, report development, releases and updates, data conversions, testing, COA model modifications, mapping tools. Change management, which is a critical function, also typically rolls up to central IT.

The key to success for this model is a strong governance and change management process.

## Impact of Moving to the Cloud

**Upgrades and maintenance:** Since the vendor hosts and maintains all the system infrastructure, businesses don't have to worry about upgrades or staying current with their ERP software. The provider maintains the database, servers and other infrastructure and automatically pushes out new updates or patches to all customers, ensuring the software is

secure and in compliance with all applicable rules and regulations. In addition, after migrating to the cloud, there will no longer be any concerns around hardware, space considerations. However, UNM would still be responsible for building, maintaining, testing, modifying all integrations.

**Disaster recovery:** Cloud ERP services are designed with disaster recovery in mind and offer built-in disaster prevention and recovery solutions such as having copies of data stored in multiple geographic locations to avoid single points-of-failure and automatically shifting to backup data when a failure is detected.

**Security:** While security is often a concern of moving critical PII and financial data to the cloud and often seen as a disadvantage of cloud-based ERP systems, the security of cloud-based software is exceeding state of the art. Today's cloud technology is highly secure with cutting-edge encryption, multi-factor authentication and other critical security measures built into every piece of the system. Thanks to economies of scale, cloud ERP providers can generally devote more resources to application and database security.

**Access to emerging technology:** Today's technology evolves at a fast pace. Advanced analytics, artificial intelligence, machine learning, and other technical innovations offer the ability to harness immense amounts of data to make more accurate forecasts, discover hidden insights, and enhance operations. Cloud ERP provides a faster, more economical way to take advantage of these preeminent technologies and eliminates many of the cost- and resource-related obstacles with AI, ML, sophisticated analytics, and other business intelligence tools already integrated into the service.

**Scalability:** The flexible design of cloud solutions makes it possible to increase or decrease resource usage as needed, allowing the ERP to grow with the business. This provides rapid and near-limitless scalability.

**Broader accessibility:** Cloud ERP systems are natively built to be accessible from any device — laptops, smartphones, tablets — with an internet connection and a browser, making it possible to input, compile and collaborate on data from anywhere. This allows different departments or business units to work across campuses or countries accessing a single instance of the software.

**Shifting costs:** After the deployment of a cloud ERP software, there tends to be a shift in costs from IT capital expenditures (for large software and hardware upgrade projects) to operating expenses for subscription costs, integration resources, and business analyst support resources and change management resources for the business units.

**Lack of customizations:** One of the cons of moving to the cloud is the lack of ability to customize the software. Although the software is highly configurable, customizations to very specific business use cases can be challenging.

**Change management:** Cloud implementations require strong change management teams working with the business to support new ways of working and performing business processes through the implementation and post implementation.

## Readiness

This section of the deliverable encompasses findings identified during the interviews conducted with the various units. The key discoveries included varied staff member observations on UNM readiness to evaluate and potentially move to a new ERP System:

- Universally, everyone felt that the implementation will be a lot of work and stabilization will be long and hard for such a large and decentralized institution
- The culture does not do well with mandates, so the change has to be because there is something better for users as well as the University.
- Many individuals shared that they are nowhere near ready and questioned if the institution as a whole is ready for a change of this magnitude and if the funding is available.
- It was shared that staff are currently overburdened from years of hiring freezes and are doing multiple jobs; departments don't have the number of resources they would need to staff an implementation and continue with day-to-day operations
- With the initial Banner implementation, there were a lot of retirements and people felt that, given the timing, we could see the same happening in certain areas
- Some felt that the depth of knowledge required for a new system implementation is lacking in functional and technical areas; backfill resources would be needed and in many areas, they just aren't available in the market
- There was skepticism about the adoption rate as people have had challenges with recent implementations
- There is a need to first make a concerted effort to improve and simplify processes which would facilitate a transition
- Everyone would like fewer systems to log into, navigation to be easy, and real improvement in processes
- Staff felt that there is a lot of work to be done before the start of an implementation (process improvement work, requirements definition, support roles re-evaluated, data governance, change management) in an effort to get functions and processes in a good state to transition.

- Most felt that as long as there is a strong change management effort, people will adjust.
- Some units are ready and willing to change, but some units would be reticent because they really know the current systems and don't want to lose functionality or efficiency
- In areas where there are a lot of 3<sup>rd</sup> party systems and use of shadow databases, staff are eager to see what else is out there and ready to make a change
- Overall, if it is a big win on efficiency or ease of use, it WILL be successful

Based on the mixed feedback regarding readiness, UNM should initiate an effort to prepare the campus for the change. This would include the following:

- Executive leadership interviews to understand the goals of the organization and the alignment on support for standardization of processes,
- Operations focus group sessions to assess the level of difficulty to change processes, and
- Stakeholder wide survey to evaluate the overall readiness of the key users of the system to undertake an ERP implementation.

The assessment can help build an understanding of the culture of change at the institution by assessing responses to the following: need for change, impact of past change, perception of resources and funding, centralization vs decentralization, and the shared vision. The findings are typically broken down into subsections, such as Demographics, Question Response Summary, Type/Level of Respondent (Executive, Management, Staff, Faculty, Student) Summary, and General Comments. The results of the assessment would help UNM measure the desire for standardization of processes, the magnitude of the change management efforts, and the potential size of a dedicated change management team that would be required for a cloud ERP implementation. This initiative can be done in conjunction with work already underway with the process improvement team and can be started in advance of a selection and implementation as it will take time and effort to shift the culture and potentially retool skillsets within administration and the academic units to facilitate the change.

There is also the Technology Readiness for Change. One of the foundational elements for this is harmonization of business processes to the extent possible across the campuses. This will help with the implementation and make it less complex and more maintainable in the future. A primary focus for UNM IT will be re-tooling and training technical staff to get them well versed in cloud technologies. This will set up the project team in good stead so the UNM staff can assist and complement the implementation partner team. A good data conversion strategy is also important for successful implementation. This includes coming up with a strategy and identifying the amount of data to convert into the new system as well as a solution for how to store and access historical data not converted into the new system. The change management efforts will also need to assist the technical team with the transition to a new support model.

## Key Risks

This section provides a high-level summary of the key risks for UNM identified during the interviews as well as typical higher education risks of moving forward with an implementation of a cloud ERP solution versus the inherent risk of doing nothing (status quo). The *Appendix* includes a chart with additional risks along with potential mitigation strategies to consider. The risk assessment is categorized from a strategic, operational, technology, financial, implementation, and status quo perspective.

The primary risks identified for an implementation of a cloud ERP solution:

- Amount of funding required
- Fear of lack of technical and functional staffing/expertise for a project of this scale
- Difficult to get the commitment to changing business processes
- Finding solution that works across all functions, campuses, and units

The primary risks identified for staying with the status quo:

- Too many 3<sup>rd</sup> party systems, integrations, and different solutions across the units
- Diminished support and eventual de-support of Banner on-premise solution
- Loss of technical and functional Banner expertise
- Missing out on technological advancements and potential competitive edge

These risks all lead to the crucial risk of failing internal controls which presents a material compliance risk to the University as noncompliance results in settlements, risk of losing funding from government agencies and impacts the ability to recruit/retain top faculty and students. All of this results in a significantly diminished ability to fulfill our educational and public service missions.

# APPENDIX

## Interviewees



UNM Stakeholder  
Interviews.xlsx

## Peer Analysis



UNM ERP  
Analysis.xlsx

## RFI Results



ERP RFI  
Recommendations.p

## Risks

The following chart includes detailed risks to consider if moving forward with an implementation of a cloud ERP solution as well as the inherent risks of doing nothing (status quo). The risk assessment is categorized from a strategic, operational, technology, financial, implementation, and status quo perspective.

| Risk Category | Key Risk  | Mitigation Strategy   |
|---------------|---|---|
| Strategic     | Replacement of the full ERP system may not be viewed as a critical initiative for the University given other initiatives. | It needs to be agreed upon by leadership that the implementation is of significant importance and include all relevant stakeholders in the decision making. |
| Strategic     | There will be a significant effort to develop the buy-in from the campuses/schools/units for a change of this magnitude.  | This needs to be addressed through a change management strategy and collaboration with leadership and key stakeholders from the campuses/schools/units.     |



| Risk Category | Key Risk  | Mitigation Strategy  |
|---------------|---|--|
| Strategic     | The best of breed solution strategy makes it harder to utilize the functionality in an ERP platform solution.   | A clear rationale for the importance of this initiative and how it will impact other initiatives must be agreed upon by leadership and communicated to the community. The goal should be to reduce the number and complexity of 3 <sup>rd</sup> party systems. |
| Strategic     | Finance and HCM products in the cloud market are mature, however, the maturity of the Student products to address the large, R1 University complexities hasn't been proven yet.   | Need to keep a close connection with the other universities currently implementing or planning on implementing cloud solutions.  |
| Operational   | The new system will be a significant change and it will be a challenge for staff to learn a new system.   | Strong executive support and a robust change management approach are needed to mitigate the risk and prepare the university for this type of change.   |
| Operational   | Policies and practices are hard to change, especially when the practices of the past have been to customize the system to accommodate.  | Strong executive support and a robust change management approach are needed to mitigate the risk.  |
| Technology    | Many UNM personnel who support the current system and are critical to operations can retire in the short-term. In addition, there is the potential to lose staff during the implementation of new technology.                 | Need to perform succession planning in all areas and potentially retool the support team away from traditional development towards cloud technology and functional skills. Need to monitor retirements.  |
| Technology    | Campuses, schools, and units want to retain their shadow systems because they find them easier to use than an ERP, maintain stronger control of their data, and are easily configured to suit their specific reporting needs. | The project needs to work with the community to ensure data and reporting requirements have been documented and are part of the selection of a modern ERP that the users will adopt more readily.  |
| Technology    | As with any major technology shift, there is risk associated with moving from on-premise to cloud solutions, including the increased reliance on the software vendor.   | Leadership needs to understand that this is not a simple move, regardless of the solution, and will need to support the decision and help manage the vendor relationship.  |
| Technology    | Need to retain historical data for auditors, research, student records, etc. This is critical.  | A strategy for historical data conversion as part of a Reporting/Analytics Assessment in advance of an ERP   |

| Risk Category      | Key Risk  | Mitigation Strategy   |
|--------------------|---|---|
|                    |   | implementation can help mitigate the risk of conversion into a cloud system.  |
| Financial          | The project must have qualified, dedicated resources and backfill in operational areas and IT.  | Leadership needs to understand the true cost, including backfill positions and additional staffing for an initiative of this size and magnitude.  |
| Pre-Implementation | To gain full benefits of a single platform cloud ERP, the organization needs to be ready to change practices and not carry the same thinking and historical processes to the new cloud environment.   | UNM needs to focus on transformation work first – lean processes, flexible policies, simplified and standardized processes.   |
| Pre-Implementation | Cloud ERP requires a ‘vanilla’ implementation; you can configure vs customize.  | The project team should spend time understanding what a ‘vanilla’ implementation means and explore how this can occur and where there will be gaps.   |
| Pre-Implementation | The implementation of a new ERP Application will not solve all reporting challenges. This will be true for any solution. In addition, historical data needs to be accessible.   | A Reporting/Analytics Assessment will help identify the reporting strategy before the ERP implementation.   |
| Status Quo         | The current ERP System is fragile – too many integrations to 3 <sup>rd</sup> party systems, single points of failure with system support and operations, flood of retirements coming, less people in market to replace resources. This all leads to material compliance risk to the University. | Without an integrated cloud ERP system, UNM will need to pay more for resources to support outdated solutions or may not even be able to find resources to support which will lead to noncompliance and results in a diminished ability to fulfill the educational and public service missions. |
| Status Quo         | Technology is improving at a rapid pace and our systems haven’t been keeping up. We are missing out on functionality and potential competitive edge.  | Currently, the only option is to invest in disparate 3 <sup>rd</sup> party solutions across the campuses, schools, and units, create costly and hard to maintain integrations, and hire additional staff to handle manual workarounds.  |
| Status Quo         | Without improved student, research, and administrative processes including a modern user interface, it will be difficult to attract and retain the best and brightest students, faculty, and staff.   | Currently, the only option is to invest in disparate 3 <sup>rd</sup> party solutions across the campuses, schools, and units, create costly and hard to maintain integrations, and hire additional staff to handle manual workarounds.  |

| Risk Category | Key Risk  | Mitigation Strategy   |
|---------------|---|---|
| Status Quo    | <p>Ellucian will not support the On-Premise ERP and ODS solutions forever and lack of investment in current products will translate into the need for customizations, manual workarounds, and higher cost. Already seeing this with lack of support for state tax requirements.</p> | <p>Without an integrated cloud ERP system, UNM will need to pay more for resources to support outdated solutions and perform manual workarounds or may not even be able to find resources to support.</p> |
| Status Quo    | <p>Security of data in an On-Premise application can be a risk to the organization. Same is true for cloud, however, with the market moving in this direction, investments are being made by the cloud vendors to mitigate the risk.</p>  | <p>Without an integrated cloud ERP system, will need to continue to implement security measures that could be costly.</p>   |