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An analysis of implementing an ERP system in a higher education institution

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An analysis of implementing an ERP system in a higher education institution

by

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DEDICATION

This paper is dedicated to my family.

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ABSTRACT

Although much research has been done on implementing ERP systems outside of academia, there is much less research on implementing these systems in the Higher Education field. The goal of this paper is to identify the unique challenges of rolling out such a system in a Higher Education environment at a large U.S. University. Through the use of literature review and case study, I want to highlight the unique issues related to implementing an ERP system at a large, U.S. university, but also look deeper at issues specific to the school. In addition, I wanted to look at implementations at similar-sized universities and look for similarities and differences in regard to whether they had a successful rollout or not.

CHAPTER 1: INTRODUCTION

"Everyone wants to do better, but no one wants to change." (Allen, 2017) This was how Iowa State University Interim President Benjamin Allen described the ERP system that the university had begun implementing.

Enterprise Resource Planning is defined as "the integrated management of core business processes, often in real-time and mediated by software and technology." (Wikipedia, 2018) An Enterprise Resource Planning System (or ERP System) often refers to a collection of industry standard business processes, collected together in function-specific modules and united together with a common data source. These systems promise to replace a multitude of discrete back-end systems while at the same time offering the best in class business processes. In recent years, the higher education industry has been implementing ERP systems for the same reasons as corporations.

The goal of this paper is to define ERP systems, discuss their implementation, and then, through a case study and interviews, analyze the implementation of such a system at a large U.S. university and identify differences in implementations in higher education compared to other industries as well as differences within the higher education industry and whether or not they are related to successful or failed rollouts.

CHAPTER 2: LITERATURE REVIEW

ERP Systems

The goal of an ERP system is to improve processes and decrease costs. (Nah, Lau, & Kuang, 2001) ERP systems began as locally installed, networked systems and began to gain prominence in the 1990s. Since then, ERP systems continue to evolve. In the last decade, the trend of developing cloud-based software as a service (SAAS) ERP systems has been increasing. Some of the largest sellers of EPR systems; Oracle, Peoplesoft, SAP, Workday, as well as others have cloud-based ERP system offerings. With these new offerings, ERP systems no longer require local hardware infrastructure/support and offer a "subscription" model for purchasing such a system.

These systems often are composed of discrete modules that all share a common database. Common modules are HR, Finance, Sales, Purchasing, and CRM. (see figure 2.1)
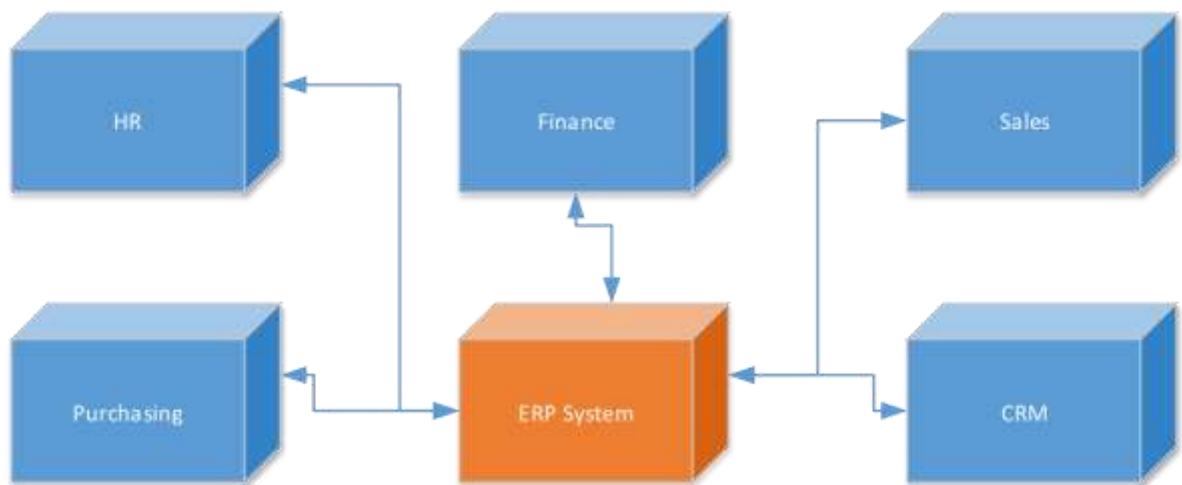

Figure 2.1 *Common ERP modules*

Although the higher education industry is most likely less financially competitive than corporations, colleges and universities can still benefit from implementing ERP systems. (Seo, 2013) The Higher Education market can use many of the same modules as used in other industries, and in the last 15 years, large ERP manufacturers have begun offering a "student" type module to appeal even more to Higher Education. (see figure 2.2). A student module would contain specific business practices of a college or university. Specifically, it would allow for student activities like class registration, reporting of grades, management of classes taught, and degree audit features.
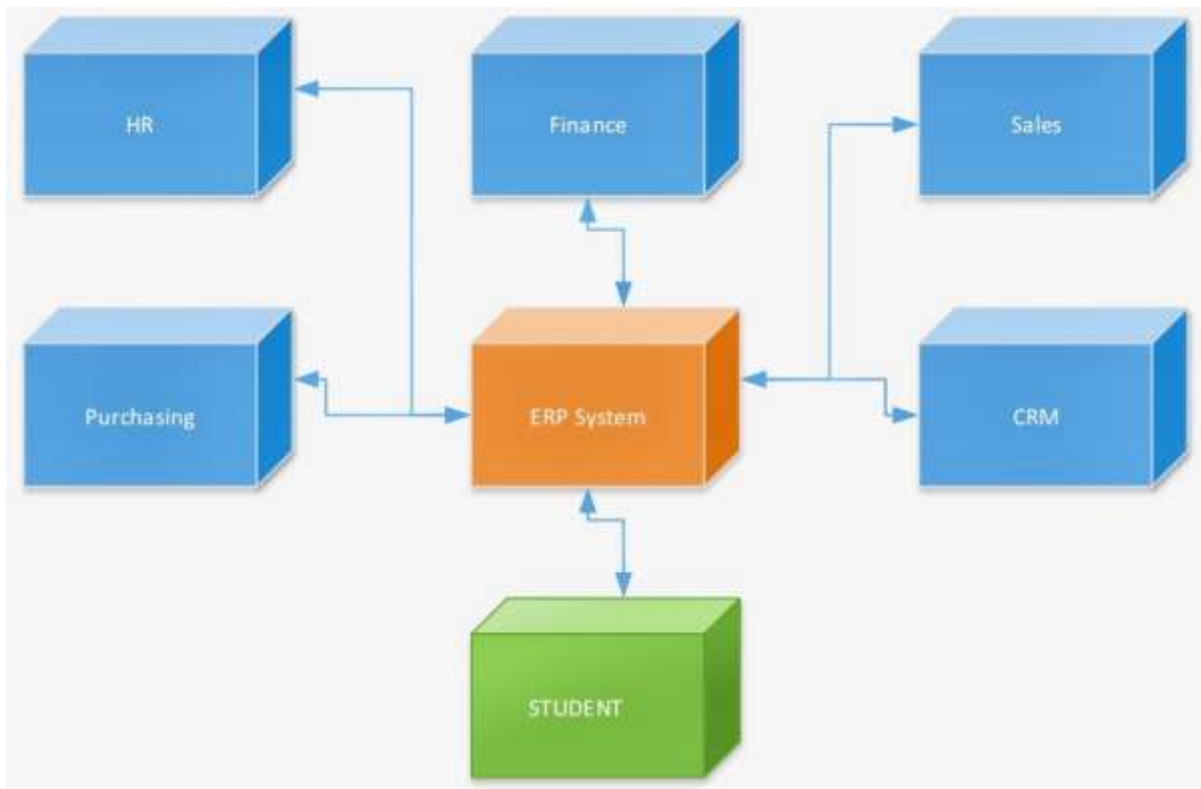

Figure 2.2 *Higher Education ERP system including "Student" module*

With the implementation of more than one module, an organization can gain even greater efficiencies. For example, if a university implemented all of the modules in figure 2.2, they would be able to have a student register for classes (using the student module), but

also have the student pay their tuition (using the finance module). If the student has a part-time job at the university, their information would be stored in the HR module so that taxes could be reported accurately at the end of the year. The strength of the system is that the student's information (i.e. name, address…) would reside in a central ERP system, but the individual modules would use just the data they needed. If that data changed, it would change for all modules.

Implementing ERP Systems

Implementing an ERP system often uses a waterfall development process approach. There are major stages that occur during each implementation. Ehie and Madsen (2005) developed a 5 stage model to represent a standard ERP implementation. (figure 2.3) This model shows the following major stages:

1. Project Preparation
2. Business Blueprint
3. Realization
4. Final Preparation
5. Go Live and Support

The first phase, Project Preparation, is where an organization selects the key individuals or sponsors of the project. Usually, there is a steering committee developed which then develops the scope of the project. One theory is that "leadership commitment" is a key ingredient in successful ERP implementations. (Mehlinger, 2006) This phase may be the most important of the five.

The second phase, Business Blueprint, is the part of the project where the organization learns the functionality of the new ERP system and begins the configuration. This happens concurrently with the review of all current business processes so that they can be compared to the business processes contained in the ERP system.

The third phase, Realization, is where the integration of the new ERP system with organizations' existing systems or outside vendors begins. The creation of a prototype also begins during this phase.

The fourth phase, Final Preparation, has two main parts. Testing and Training. During testing, the functional users begin testing the new ERP system and providing feedback so as to adjust the system for optimization. The training step being the education of users who will be using the system once it goes live.

The fifth and final stage is Go Live and Support. As the name suggests, this step contains the cutover from the old system(s) to the new ERP system as well as the beginning of the regular support process for the ERP system.

Implementing an ERP system also requires strong project management. With this in mind, the three parts of the Lamers triangle; scope, time, and cost must be considered. (Lamers, 2002) The Ehie and Madsen module lays out the steps of implementing an ERP system, but without time and cost which are arguably just as important.
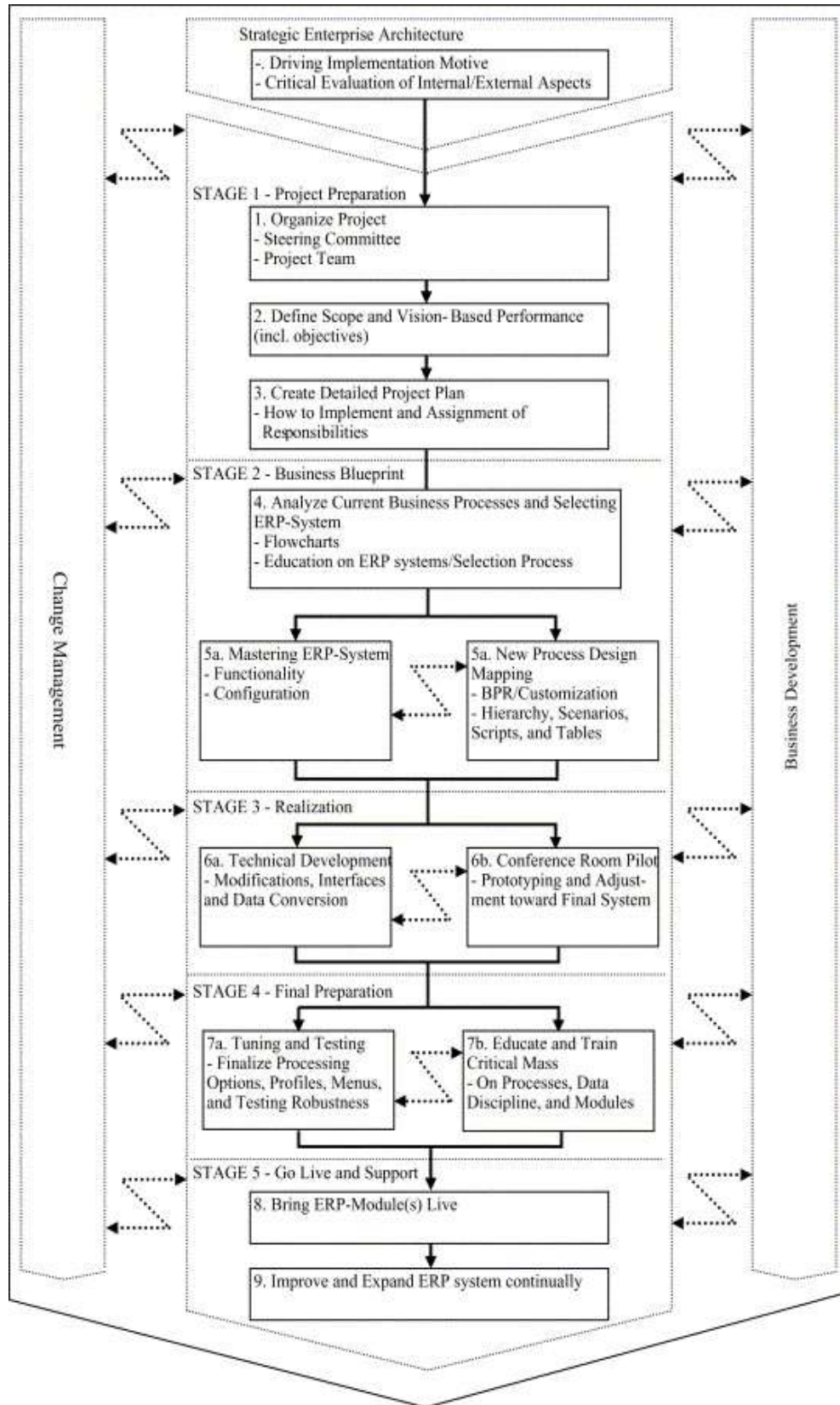
Figure 2.3 *A five-stage implementation process.* (Ehie & Madsen, 2005)

Implementing ERP Systems in Higher Education Institutions

The literature for implementing ERP systems in Higher Ed is filled with some success stories and many big failures. In this paper, I will focus on their school size, school self-identified challenges/risk mitigation, administration/governance, and use of a shared services model for supporting their ERP system.

<div align="center">

Texas A&M University System

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One of the biggest successes was Texas A&M University system. The Texas A&M University System is made up of multiple universities, state agencies, a health center, and an administrative office. The System has "149,000 students, 48,000 faculty, staff and student workers, and 10,000 retirees who receive benefits." (Prosci, 2018) A&M decided in 2015 to replace their 35-year-old payroll system with the Workday cloud-based ERP system, ultimately replacing their payroll, HR, and other administrative systems.

The sponsors for their project were their Assistant Vice Chancellor for Administration, Vice President for Human Resources and Organizational Effectiveness, Executive VP for Finance and Administration, Chief Information Officer, Executive Director of Risk Management and Employee Benefits. (Texas A&M University System)

The Texas A&M System adopted 5 Guiding Principles for the project. In their guiding principles, they commit to serving students, faculty, and staff of the Texas A&M System, recognize the need to standardize and simplify their payroll and HR systems, focus on the quality of their business processes and solutions, resolve to "keep moving forward", and follow Workday best practices. (Texas A&M University System, 2018) (figure 2.4)

Figure 2.4 *Texas A&M Guiding Principles* (Texas A&M University System, 2018)

During their implementation planning, according to Prosci, the school identified several issues related to the project.

1. "Large stakeholder groups and long review cycles

2. Stakeholders were not aligned with the right solution for the new system

3. Financial leaders from the A&M System and each university and agency needed to decide how to pay for the new system" (Prosci, 2018)

To mitigate these issues, they adopted a change management methodology created by the Prosci consulting company. This methodology uses proactive resistance management, sponsorship coalitions/change networks, a training strategy and plan, communication plan, and measurable metrics. (Prosci, 2018)

Texas A&M University System uses a Shared Services model for administering their Information Technology services. This model is based on the ITIL framework and was in place before the rollout of their ERP system. (Texas A&M University - Division of Information Technology, 2018) They also use a Shared Services model for their HR, procurement, and finance services. (Adams, 2015) This was also in place before the rollout of their ERP system.

On December 17th, 2017, the school went live with Workday HCM and payroll "on time and approximately $3 million under budget." (Texas A&M University System, 2017)

University of Washington

University of Washington's ERP implementation was part of a larger systems modernization plan. The main goal was to replace legacy systems with the latest ERP offerings as well as leverage "lessons learned" from ERP system implementations in academia and industry. (University of Washington, 2018) In 2017, the University of Washington had 14,134 employees (University of Washinton Office of Research, FY 2017) and over 46,000 students. (University of Washington, 2018)

The leadership for the ERP implementation project consisted of people in the following positions: Executive Director – Health Sciences Administration, Vice Provost for Academic Personnel, VP Human Resources, Chief Business Officer and VP of Medical Affairs, VP of UW-IT and CIO (University of Washington, 2018) In addition, the university uses three IT Governance boards to assist with their decision making. These boards set the strategy and priorities for the school's IT projects, service improvements, and infrastructure

investments. (University of Washington, 2018) The members of these boards were made up of senior leadership across the university including faculty and staff.

To minimize risks, the University has developed an Administrative Systems Modernization Strategy. This strategy included the following key assumptions:

- Undertake only one major University-wide system replacement at a time, given the complexity of the institution

- Focus on incremental innovation for areas such as Student Systems

- Invest in business process redesign to achieve better outcomes and return on investment

- Leverage momentum and expertise from initial system replacement to accelerate replacement progress

- Provide better information for decision making as rapidly as possible (University of Washington, 2018)

In addition, the university identified six major risks for this implementation and developed a mitigation plan to solve each issue. They also decided to "leverage Workday's formal methodology and implementation best practices" to further mitigate risk. (University of Washington, 2017) They also created a change management team and website to assist employees with the transition to the new system.

Outside of the governance listed above, the University of Washington rolled out Shared Services at the same time they went live with their new ERP system. Named "Integrated Service Center" or "ISC", this new team's objective is to provide support for HR and payroll inquiries and transactions. Essentially ISC became the first contact for questions

(tier 0 and 1) and transaction processing (tier 2) but culminated with advanced training and support (tier 3) for their new ERP system, all located in a central location. (figure 2.5) (University of Washington, 2018)

Figure 2.5   *University of Washington ISC Organization Structure* (University of Washington, 2018)

On June 27, 2017, the University of Washington successfully rolled out their new ERP system.

Louisiana State University

Louisiana State University's ERP implementation was not nearly as successful as Texas A&M or Washington. The implementation began with an announcement in early 2015

that they were selecting Workday as their ERP system. They chose to implement HCM, payroll, and finance modules at the same time. Their system went live July 1, 2016. The university experienced many issues that culminated with a formal vote of no confidence from their faculty and a newly created IT Governance Council.

LSU's background is similar to the previous two universities. It is a large school with more than 28,000 students and over 6,500 academic and administrative staff. (Wikipedia, 2018) (Louisiana State University, 2015)

Louisiana State University's executive sponsors consisted of only two positions. The Vice President for Finance & Administration/CFO and the Chief Information Officer. In July 2017, LSU created an IT Governance Council to "provide oversight for IT activities on campus to ensure alignment with objectives state in our Strategic Plan. The group will use data-supported measurements – such as strategic fit, return on value (ROV), total cost of ownership (TCO) and strategic directions – in prioritizing and finding resources for the many conflicting requests for IT services." (Louisiana State University, 2018) A previous IT governance structure was not found in my research, but I suspect this new council, consisting of faculty, staff, and student representation was created because of the ERP implementation issues.

For risk mitigation, LSU created guiding principles for their project. This consisted of eight key points:

1. Transparency
2. Inclusion and Consensus
3. Timely Implementation

4. Minimum Requirements

5. Business Practices and Procedures

6. Sustainability of the Technology and Workforce

7. Flexibility and Adaptability

8. System of Record (Louisiana State University, 2015)

The details of these guiding principles were similar to the other universities. A focus on transparency, efficiency, and best practices.

My research was not able to find any mention of having shared services at their university, nor the mention of implementing shared services during their ERP implementation.

Although Louisiana State University's ERP system rolled out on July 1, 2016, the rollout did not go smoothly. On October 11, 2016, the LSU Faculty Senate submitted a resolution entitled "Regarding the Workday Implementation" that alleged the following:

- The ERP system was "imposed" on faculty and staff

- Minimal training support

- Changes to processes without transparency

- "Substantive shift in workload"

- Dismission of faculty concerns in a "paternalistic" manner

- Lack of broad outreach

- "Great inconsistency" in system processes

- Multiple month-long delays in personal reimbursements (Louisiana Faculty Senate, 2016)

This resolution culminated with the demand for immediate fixes as well as the statement, "Let it be resolved that this body condemns and rejects the implementation of Workday, a system that has been enacted with questionable transparency and attention to detail." (Louisiana Faculty Senate, 2016) Many of the items mentioned in the faculty senate's resolution are in direct conflict with LSU's ERP guiding principles.

<div align="center">**University of Massachusetts**</div>

The University of Massachusetts (UMass) was the site of another ERP system failed implementation. In Fall of 2004, the university was rolling out its new PeopleSoft ERP system student module. It crashed under the workload of 24,000 students returning to campus to start the fall semester. Later analysis would put the failure on not enough testing before the hard deadline of the fall semester start. (Wailgum, 2005)

The demographics of UMASS was similar to the other schools studied. In 2004 the university had over 24,000 students. (University of Massachusetts, 2012) In addition, they had 1,100 full-time instructional faculty. (University of Massachusetts, 2017) Staff data at that time was not found.

Although an older ERP implementation failure, much has been written about the outcome. UMass purchased the PeopleSoft ERP system. They had just rolled out a new HR module in January of 2002 and a new Financials module of July 2002. As part of those implementations, they had created a governance model to mitigate risk. Although my research did not find such a model for the 2004 student system rollout, it would be unlikely that they didn't take a similar approach for their student system. Some of the findings by

Robert Solis, the Director of the school's Information Technology Services department, in a 2003 review of their successful rollout of their HR and Finance modules were:

- "At time, practice of governance not true to model

- Better/more end to end testing (needed)

- Need to focus on performance testing much earlier" (Solis, 2003)

It is possible that similar to Louisiana State University, a governance plan was made, but then not followed. In addition, my research was not able to find any mention of having shared services at their university, nor the mention of implementing shared services during their ERP implementation.

CHAPTER 3: CASE STUDY

Iowa State University

In 2002, the State of Iowa Board of Regents identified the need to modernize their IT infrastructure. (Iowa State University, 2018) One result of that finding was the goal to modernize Iowa State University's mainframe systems and develop an ERP system. At the time, ISU had just under 28,000 students (Iowa State University - Institutional Research, 2018) and was using many legacy systems to support their operations. The targeted systems to upgrade first were their Student and Finance systems. Their HCM system at the time was a mainframe-based offshoot of the university's finance system. In 2004, they became a partner in the Kuali Foundation. The Kuali Foundation "is an umbrella organization that supports the Kuali community." (Kuali Foundation, 2018) The Kuali community was made up of "partner" universities that co-developed finance and student management systems for higher education. In 2014, Kuali changed from a non-profit community of developers to a full corporation to "focus efforts on accelerating software development, improving the Kuali user experience, and bringing Kuali Student, Financials, Research, and Ready to the cloud." (Kuali Co, 2018) Although Iowa State University had implemented Kuali Financials, the university left the Kuali Community and again performed a needs analysis to determine what systems would work best to replace their back-end systems.

In 2015, the university had grown to just over 36,000 students. (Iowa State University - Institutional Research, 2018) The university decided that they needed to purchase/license a state of the art, (Iowa State University - Institutional Research, 2018) cloud-based ERP system. In 2015 an RFP (request for purchase) was issued, and in fall 2015 and early spring of 2016, finalists were brought to campus for review. Finally, in December 2016, Workday

was selected as the new ERP system. According to the Chief Financial Officer, Miles Lackey, Workday promised a "resource planning system and student information software applications will bring many business functions -- accounting, billing, budgeting, employee recruiting, performance management, admissions, transcripts, grades and more -- into one integrated system." (Lackey, 2016) On February 9th, 2017, Iowa State University began implementing their new ERP system with an announcement from their president. (see figure 3.1 for ISU ERP implementation timeline.)

Iowa State University Implementation

Note: As of the writing of this paper, Iowa State University is just about halfway through implementation. Some of the specific details of the university's implementation are confidential because of proprietary Workday methods used.

Implementation started with a signed contract with the ERP vendor and an announcement from Steven Leath, ISU university president.   Immediately after program sponsors were identified and a steering committee was formed. The program sponsors consisted of the Senior Vice President for University Services, the Chief Financial Officer, the Chief Information Officer, the Senior Vice President for Student Affairs, and the Senior Vice President & Provost. The steering committee consisted of a wide-ranging group of administrators and employee representatives.
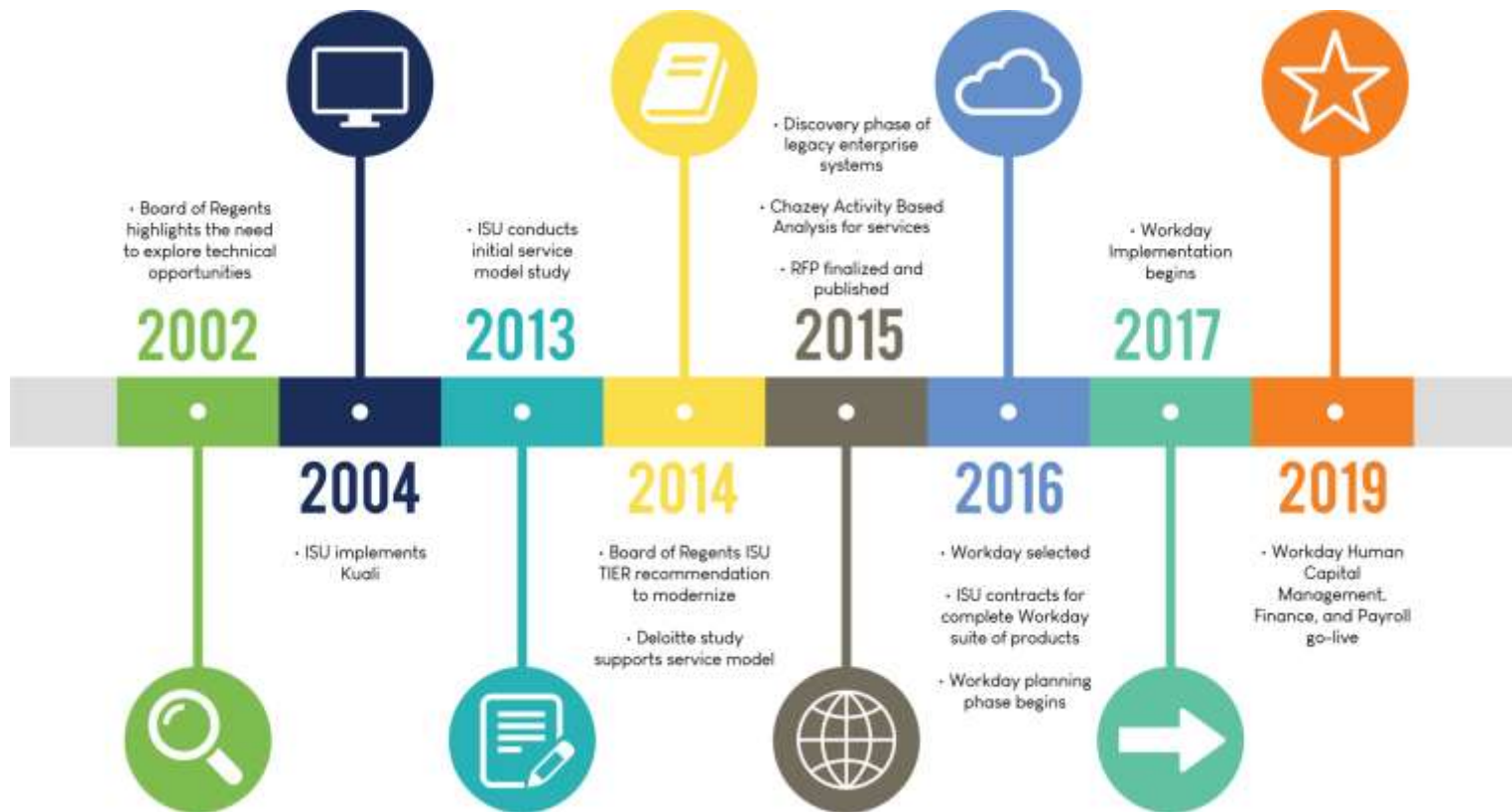
Figure 3.1 *ISU timeline from beginning to end of ERP implementation Part 1.* (Iowa State University, 2018)

The next step was to create guiding principles for the project. The six principles were:

1. "Adopt Uniform Processes and Best Practices

2. Minimize Conversion of Legacy Data

3. Minimize Legacy System Interfaces by Utilizing Workday

4. Improve Service Delivery Across Campus

5. Enable ISU to Manage Future Integrations

6. Conduct Implementation Project Management using Performance Measures and Metrics" (Iowa State University, 2018)

The university decided to implement the Finance, Payroll, and HCM (Human Capital Management) modules first, and at the same time. (Big bang approach.) The Student module implementation would follow the successful rollout of the first two. Four teams were formed. Human Capital Management & Payroll team, Financials team, Change Management team, and Technical team. Each of these teams had a lead or leads. Within the teams are sub-teams that focus on a specific aspect of the subject matter. Example: In HCM, the sub-teams are Payroll, Benefits, Recruiting, Time Tracking, Academic Information, Talent Management, Core, Absence, and Compensation.

Finally, a consulting company was contracted to assist with implementation. Each team and sub-team had a consultant assigned to it for support. In some cases, the consultants were assigned multiple sub-teams based on their background and experience. All consultants assigned to sub-teams were certified in the ERP system software and most had previous

experience implementing ISU's chosen ERP system at another university or government organization.

Training

Training started soon after the contract was signed. HCM and Finance attend training remotely, received on-site training, or received online training streamed through their computers. For people involved with the project that didn't receive direct training, the consultants were relied upon to explain what the capabilities were in the system. This was necessary so that decisions could be made about how to configure the system.

Configuration Part 1 and Reviewing the Business Processes, Big Decisions

After teams were formed and some training had started, Iowa State University began configuring their new ERP system. All the new ERP system business processes needed to be understood so as to best configure the system. By choosing to "adopt uniform processes and best practices", some of the configurations was just "Who should this route too?" or "Who should approve this?" These "easy" configurations were accomplished first. At the same time "harder" business processes were identified. These were business processes that might be industry best practice but were in direct or indirect conflict with current university policies or procedures. The implementation teams referred to these as "Big D" decisions.

Configuration Part 2, Decisions Made, Change Management Planning, Campus Exposure

The next phase of the project was a more advanced configuration as well as the beginning of functional unit testing. Each sub-team was tasked with wrapping up all of their

configurations to support 85% of all business cases. Then they tested each of their configurations to verify that they were working.

Once the capabilities of the system became clear, the Steering Committee began making the "Big D" decisions on policies and procedures. The Change Management team began working at the beginning of the project, but their workload began increasing as the big decisions were being made. This was expected. It was their responsibility to communicate to and train university employees about new policies and procedures that would be coming out of this project.

Around this same time, the teams began offering campus-wide workshops to get employees exposed to the new ERP system and begin garnering support and excitement.

Shared Services

As part of Transparent, Inclusive Efficiency Review (TIER) for the Iowa State Board of Regents, it was identified that there were opportunities to optimize how human resources, finance, and information technology services were delivered. (Pounds, 2014) This shared services approach evolved into what ISU refers to as "Improved Service Delivery". The details of this approach are expected to be announced shortly.

Next Steps: End to End Testing, Parallel Testing, and Cutover/Go Live/Support

All of the events above have occurred as of this writing. Everything following is planned to happen in the remaining 13 months before Iowa State University is planning on going live.

Each sub-team individually tested their part of the ERP system, but at this point, there has been limited inter-area testing. Example: The Benefits sub-team has tested the configured medical benefits plans available to employees, and the Hire sub-team has tested the hiring of new employees but now both teams will work together to test that newly hired employees will automatically be offered and able to select their medical benefits in the ERP system. From application to termination, all of the HCM, Payroll, and Finance business processes will be testing in End to End testing.

Following End to End testing is Parallel testing. The new ERP system will be loaded and run with identical data as the current production system so that comparisons can be made, and data and processes can be validated.

Finally, cutover from the legacy system to the new ERP system will occur. This will most likely require a blackout period for business processes in the old system as those won't carry over. Support for the new system follows go live as the university begins to understand the new maintenance and support norms for the new ERP system.

CHAPTER 4: FINDINGS

My findings focus on three different areas. How does implementing an ERP System in higher education compare to other industries, how does implementation compare between universities, and how does Iowa State University compare to other universities?

Higher Ed vs Other Industries

One of the most obvious findings was discovered early. There is additional need to spend time on the academic aspect of HCM configuration. In the case study above, it was identified that this process has a sub-team called Academic Information. In higher education, there is an entire hierarchy based on faculty rank that does not match up with anything in industry. Assistant professor – Associate Professor – Professor – Chair - Assistant Dean – Associate Dean – Dean – Provost – President. Some of these positions are appointed, and some are earned through scholarship success. The tenure process also needed to be monitored in the ERP system but is not a normal part of human capital management outside of academia. Although these practices exist in many colleges and universities, they may not be implemented or function the same way. Special configurations needed to be made.

In discussions with senior leadership, a second theme emerged as a difference between higher education and other industries. Shared governance. Shared governance is, "giving various groups of people a share in key decision-making processes, often through elected representation; and allowing certain groups to exercise primary responsibility for specific areas of decision making." (Olson, 2009) In Iowa State University's case, this means that various groups, such as the Faculty Senate, Professional and Scientific Council (representing non-faculty and non-union staff), and other groups all have a role in this

project. Per figure 4.1, there are currently 23 members of the university's steering committee

representing many different areas within the university. Selecting and implementing an ERP

system is not made by a single group, but by all.

Affiliation	Department
Amy Ward	Professional and Scientific Executive Committee
Arne Hallam	Associate Dean (LAS)
Bonnie Whalen	Student Affairs
Brenda Lohman	Human Sciences - Faculty
Carol McDonald	IT Services
Cory Harms	Procurement Services
Deb Coates	Extension and Outreach
Ellen Reints	Office of the Provost; Academic Affairs
Francis Quinn	WorkCyte Program Director
Hridesh Rajan	Faculty Senate Representative
Jeremy Neppl	Research
Joan Piscitello	Treasurer
Jody Danielson	Facilities Planning and Management
Kathy Dobbs	Controller
Kristen Constant	WorkCyte Executive Sponsor
Kristi Darr	University Human Resources
Laura Doering	Student Affairs
Lisa Lorenzen	Office of the President
Nicci Port	Diversity and Inclusion
Paula DeAngelo	University Counsel
Rodger Main	Veterinary Medicine - Faculty
Russ Laczniak	Graduate College (BUS)
Stephen Simpson	Environmental Health and Safety

Figure 4.1   *Iowa State University Steering Committee* (Iowa State University, 2018)

An additional finding was that of the ERP sponsor roles. Although I did not analyze outside industries program sponsor roles, there would obviously not be a need for a Provost/Academic Affairs role.

Differences Within Higher Education

In the research, I discovered a similar, but not identical approach to implementing ERP systems in the schools analyzed. Most, if not all have program sponsors and a governance structure. In both the instances of ERP failures mentioned, it appeared that the governance structures were ignored. In addition, both of the successful ERP implementations had implemented a Shared Services model to support their systems.

It was also discovered similarities in ERP program sponsor roles. All of the schools included a CFO and CIO type role as a sponsor. Three of the schools included a Provost/Academic Affairs role. Interestingly only two of the four included a Human Resources role in an implementation that included an HR module. (In Iowa State's case, the Human Resource's Vice President was involved throughout the entire process, but just not identified as a sponsor.). There were also two roles that I categorized as "Other" because they did not fit a standard university category. See figure 4.2 for a breakdown of roles by university.

	Texas A&M	Washington	Louisiana State	Iowa State
Role				
Provost/Academic Affairs				
Assistant Vice Chancellor for Administration	x			
Vice Provost for Academic Personnel		x		
SVP for Student Affairs				x
SVP & Provost				x
Chief Financial Officer				
EVP Finance and Administration	x			
Chief Business Officer and VP for Medical Affairs		x		
Chief of Staff to the President and CFO				x
VP for Finance & Administration/CFO			x	
Chief Information Officer				
Chief Information Officer	x		x	x
VP of UW-IT and Chief Information Officer		x		
Human Resources				
Executive Director of Risk Management and Employee Benefits	x			
VP for HR and Organizational Effectiveness	x			
VP for Human Resources		x		
Other				
Executive Director - Health Sciences Administration		x		
SVP for University Services				x

Figure 4.2 *ERP sponsor role breakdown by university*

Iowa State University Specific Differences/Challenges

Per Pam Cain, Interim Senior Vice President for University Services, one of the biggest challenges facing ISU's implementation was on the finance side. (Cain, 2018) The university is switching from a cash basis accounting system to general ledger accrual basis accounting. Although cash basis accounting is still used by some schools in higher education, it is not common. Nor is it common in other industries. In addition to not being common, this change requires all ISU financial support employees to learn a completely new way of doing their jobs. Not just learn new software or a new system, but an entirely new accounting process.

Another specific difference that may be unique to Iowa State University is the drastic change in technology the school is experiencing. Currently, most of Iowa State's back-end systems are COBOL/DB2 mainframes with green screen terminal access. Going from that environment to a SAAS web and mobile-friendly system is "like going from the stone age to the Jetsons". (Cain, 2018)

A third ISU specific difference may be a large turnover of senior leadership. With most ERP implementations, an increase in turnover is expected. At Iowa State University, this was especially the case with the loss of key senior leadership during the first year and a half of this project. The University President resigned early in the project, followed by 3 of the 5 program sponsors: the Senior Vice President for University Services, the Chief Financial Officer, and the Chief Information Officer. In addition, the University Human Resources department began and continues to have an Interim Vice President. Senior leadership turnover occurred at other schools as well, so it might not be as big a difference compared to other schools as previously thought.

CHAPTER 5: FURTHER RESEARCH

As stated previously, Iowa State University has not finished their ERP implementation. With a go-live date of July 1, 2019, for the HCM, Payroll, and Finance modules, that will put the new ERP system live in just over a year from the writing of this paper.

Staff Resistance?

Iowa State University has a culture of collaboration and trying to involve many people in decision making. Because of the many varied interests, it is often challenging to involve everyone who would want to be involved. Many leadership groups on campus have been involved with the ERP implementation at various levels. In addition, all faculty, as well as other staff at ISU, have been getting regular system updates. Will this bear out to be enough involvement? Because the first phase of the ERP implantation is HCM, Payroll, and Finance, most faculty are not directly affected by the new system on a day to day basis. There needs to be a lot of training between now and go live, so that may also assuage any new system fears. In addition, ISU has had their Change Management team working on helping with the transition since day 1. This matches other more successful ERP implementations.

Implementation of Shared Services?

At the expected halfway point of ISU's ERP implementation, the details of the shared services plan are still not known. Although the plan is to have shared services in place by go-live, it is unclear at this time of the impact, if any, this model will have.

Administrator Turnover Impact?

As mentioned earlier, the university had a large amount of senior leadership leave during the project. But what would implantation look like at a university that had no senior leadership leave during the project? The project originally had a go-live date one year earlier than the current date. After the loss of senior leaders, the project took a one month pause to reevaluate its status before selecting a new go-live date and resuming. Perhaps turnover is unavoidable, so if that is the case, what level of senior leadership turnover keeps a project rolling out without delays?

Centralized Administration/Support vs Decentralized Administration/Support

Iowa State University has a decentralized administration. With 8 academic deans reporting to a Provost and a central information technology department working alongside college and departmental information technology staff, implementing an ERP system for all is a large endeavor. The new ERP system will replace over 150 central and departmental individual systems. How would implementation look at a university with a highly centralized administration and support?

CHAPTER 6: CONCLUSION

Based on the research and the case study, both higher education and the corporate sector have a similar process for implementing an ERP system. I was able to discover that there are specific challenges that are unique to higher education ERP system implementations. The biggest being academic specific HCM configurations and the use of shared governance.

Within the higher education industry, implementations are similar, but not identical. Almost if not all have a governance plan at the beginning of their project as well as identified program sponsors. But, the governance plans are not always followed, and the type of sponsors can vary between schools.

In addition, Iowa State has some very specific implementation challenges as well. From a completely new way to do their accounting, to a significant system technology leap, to turnover at a senior administrator level.

Using the results found with this research and study, higher education organizations should consider planning for these differences/challenges and if any of their specific challenges match Iowa State University's, they should prepare for those as well. As the implementation of this project is just over halfway, further research should be done on how successful Iowa State was in rolling out their new ERP system and to see if any new differences within higher education and other sectors show up.

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