



8/12/2009

Improving the Marshall University Banner ERP Business Processes

After 10 Years Plus After Deployment

Improving the Marshall University Banner
ERP Processes

Improving the Marshall University Banner ERP Business Processes

After 10 Years Plus After Deployment

Executive Summary

Even though every higher education institution touts efforts to improve performance, persistence, and retention, few have ever mined the wealth of data provided by the Electronic Resource Planning (ERP) or course management systems. Student, financial and human resources risk triggers are not in place and the data provided by reports is questioned. What are the institutional outcomes that need to be achieved in order for the ERP and the predictive analytics to be considered a success? What is an acceptable timeline for these outcomes? It will take institutional leadership and determination to make the necessary changes to realize the full benefit of our systems. We need to look both at administrative and technological innovation along with business process improvement. What are the weak links and the low hanging fruit that just need to be resolved? We cannot overlook that we have come an enormous way, we just need to go to the next level and beyond.

There are few higher education institutions that deployed their ERP solutions as early as Marshall University. This success does not come without issues. As with any system or process, it needs to be reviewed from time to time to assure that the maximum benefit is being achieved and to resolve issues that have arisen over time. This report is not inclusive of the entire campus recommendations, but it has been reviewed by some of the major potential contributors. Appendix III includes a possible survey from ECAR Educause that is used to gather key campus data on ERP deployment.

The following are the most pressing recommendations for improving the Banner ERP processes. A Gap Analysis for all core institutional business processes needs to be performed and the recommendations acted upon to maximize efficiency. Every Vice President should review and confirm that their units are not using shadow systems for core institutional data that would normally be held in an ERP. Clean reporting, processes and predictive analytics will never be accurate if this practice is allowed to continue. A data standards committee whose purpose is to establish policies to assure the accuracy and consistency of data within all systems will need to be created. The Banner Workflow product will need to be fully implemented once the gap analysis has been performed. The MU Data Warehouse Project will need support at the Cabinet level and a willingness to allow staffs in all areas to contribute their time and effort to the project. The project will need a clear project plan, scope and price tag. Data definitions will need to be clearly defined and shared across the enterprise so that reports can be properly created, interpreted and analyzed. A comprehensive Banner training program needs to be online with just-in-time educational resources. Any new and existing employees need to have a formal assessment of their Banner skills and access to educational resources that build upon their expertise. The proposed plan of sharing ERP technical staffs will need to be reviewed by the Senior Vice Presidents. The Banner Self-Service Products (HR and Finance) will need to be fully utilized to improved errors, time on task, overall efficiency training issues as well as data quality. Once the Xtender imaging product is fully functions, it should ease some of

the paper storage issues that are occurring in all administrative areas. Any expansion of the ERP needs to be driven by the needs and recommendations of the academic and administrative units with a firm understanding of the total costs that will need to be allocated in order to sustain these new products.

Enterprise Resource Planning ERP

The term “ERP” (Enterprise Resource Planning) solutions were implemented to replace the many disparate systems in an organization and integrate their functions to eliminate redundancy in data, systems platforms and functional processes. A major benefit of ERP is the standardization and streamlining of business processes throughout the entire organization. ERP implementations emerged quickly to address the lack of system integration, high mainframe and legacy system costs, lack of system and process integration and the inability for functional users to easily and quickly access data. Further, only select, authorized users can be authorized to do transactional activity. Today’s new ERP systems are classified as ERP II and SCT/SunGard Banner is considered an industry leader surrounding ERP II concepts and technologies. ERP enables an institution to realize that the whole is greater than the sum of its parts with full integration being the key. SunGard Banner ERP is very highly regarded in evaluations provided by independent analysts (Figure 1.). SunGard Banner is also the world’s most widely used collegiate administrative solution.

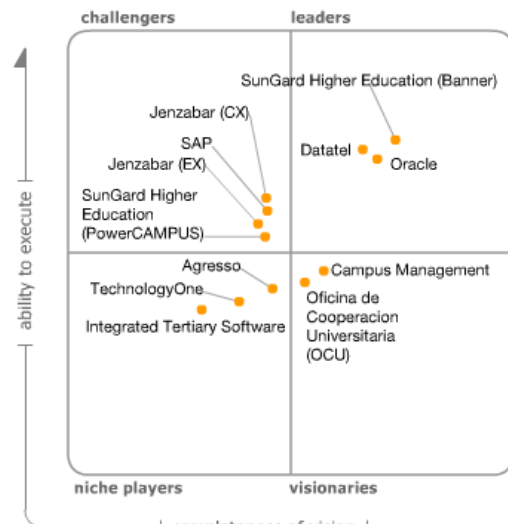


Figure 1. Gartner Magic Quadrant of Higher Education Administrative Suites for 2007

Higher education institutions have implemented a number of technologies in an effort to improve business processes. The most significant of these is ERP systems, which provide efficient transactional business processes but cannot be easily or inexpensively modified. Also, while many institutions have realized that ERP systems provide a useful foundation, the value is not in the transactions themselves, but in the information provided by combining and analyzing the transactions. Marshall University is in the process of deploying a number of business intelligence systems including a data warehouse, reporting packages, and online analytical processing (OLAP) tools to enhance the information content value and accessibility.

History

Enterprise resource planning (ERP) systems have become a fact of life in higher education. Marshall University was a very early ERP implementer. The Banner SIS module was implemented in 1987, with the HR, Alumni and Finance being implemented by 1998. Marshall University was one the original two schools in the world to implement Banner SIS. Banner Workflow was purchased but not implemented due to the sheer time and effort it took to deploy the systems. The university portal (Pipeline then Luminis) was implemented in 2001 and was called myMU. It provided the web conduit for accessing and

integrating the Banner resources via a secure authentication methodology. The combination of these resources forms the Marshall University Unified Digital Campus. Over the last couple of years, additional modules have been purchased including Banner Self-Service HR, Self-Service-Finance, XTender Imaging, ODS (Operational Data Store) and the Enterprise Data Warehouse. These products are actively being deployed, but are not yet fully functional. Additionally, many products are interfaced and integrated to this Oracle based database management system including the library III system, ID Office, Parking, plus many other (Appendix I.). MU was the first to provide WebCT integration. Brian Morgan in Integrated Science has even created a nationally renowned reporting product called MU BERT, Marshall University's Banner™ Extraction/Reporting Tool. MU BERT is today an ever-evolving tool which provides access to data in an easy to use Web delivered format. Bob Walker in Finance has also provided specialty interfaces to many of the state systems.

MU Information Technology also supports via service contracts both MURC and the University Foundations Banner systems. The Marshall University ERP was deployed at a fraction of today's costs. All West Virginia public high education institutions use Banner SIS and utilize a state contract. MU has its own contract as can also utilize the state level contract.

Issues & Recommendations

- Our financial, human resource and procurement systems have capably served the University since their installation. Since then, processes have changed and the institution has gained some independence from constraints imposed by state processes. To accommodate some of these state and institution-history-imposed restrictions at implementation time, work-arounds and relaxation of data element definitions as well as system modifications have been done in the name of “this is the way we have always done it”. These accommodations have continued as the institution's requirements have expanded. As a result, continuing to satisfy the operational and analytical demands of our complex university have become increasingly difficult and expensive as academic, administrative, and technical staff labor to accommodate and extend past work-arounds, make modifications or to interface ancillary new systems (Appendix I).
 - Marshall needs a clean external review of our business process that includes a Gap Analysis. The central aim of the gap analysis is to define the fit of the software to the processes and identify opportunities for process change or system modification for long-term improvements in efficiency, quality, and cost across the entire institution that will serve the University well into the future. Possible areas of analysis would be processes in HR, Student Services, Grants Management and the entire Management Information and Analysis Process.
 - Marshall University has recently hired an expert in workflow analysis as part of the MU IT Database Systems team. The intent is to provide a central resource that will be able to assist in the long-term work flow improvements that will need to be continually maintained.
 - Implement the Banner Workflow subsystem to assist in documenting and assisting in the general workflow process in the institution. A description is in Appendix V.
 - Appendix II includes business process improvements and responses from the campus Banner Community on detailed items that need to be immediately improved upon.

- Shadow data systems still remain in some areas of the enterprise. In any ERP, the master data must reside in the ERP or accurate data reports become impossible. Banner is a very complex system and sometimes it seems easier to hold the primary institutional data in other formats and systems.
 - All administrative system procedures need reviewed in all administrative areas. Any shadow system needs to be exposed and reviewed to make sure the data in the system is not primary. The institution must make the commitment at the highest levels to overcome this issue.

- We need to be responsive to the changing informational and reporting needs to the MU Board of Governors, management, state, federal, research and local reporting requirements. There are increasing pressures and mandates for institutional, performance and predictive data both internally and externally. The needs of executives and decision-makers are often not considered in data gathering; therefore, data needed for decision making is often not available. By the nature of the operational transaction processing systems, it is tuned to support the tactical goal of rapidly collecting and processing data to support the day to day needs of the core operational offices, such as student admission and registration, billing, payroll, and housing. While this is essential to MU operations, we are lacking functions that will help identify and process information needed by decision makers and facilitate the process of gathering, maintaining and using information for tactical and strategic purposes.
 - There are several fundamental reasons why our current reporting system and decision-support environment is not addressing the needs of decision-makers across the institution. First and foremost is that our operational systems are not designed to support analytical processing and we have not fully deployed ad-hoc tools designed to perform analytical functions such as “drilling down,” “slicing and dicing,” “what if?”. Some of this will be resolved once the data warehouse is fully in place.
 - We need to set forth a formal institutional team that will establish the goals and timeline for a full implementation of the MU Data Warehouse Project. The product is being installed, but the real work will come in the design and campus wide deployment. This will require institutional leadership of the entire Cabinet.
 - Implement the Operational Data Store as well as the Enterprise Data Warehouse. Descriptions of these products are found in Appendix V.

- Over the years, Marshall University has responded to external pressures for quantifying data differently. For example, the student enrollment numbers can be calculated in ways that provide the best institutional scenario in order to obtain our portion of state funds. This has impacted trend reports and true planning efforts that are based on solid financial and student data.
 - Data definitions need to be clearly defined and shared across the enterprise so that reports can be properly created, interpreted and analyzed.

- Security and integrity of data is important for confidentiality and providing accurate data necessary for good decision making. Quality data reports and analysis can never be achieved without consistent quality controls across the entire enterprise. Over the last year, a major effort was undertaken by Academic Affairs to review all faculty data that is stored in Banner due to the Digital Measure project. Each area within the ERP will need a similar review. Fully documented

and automated procedures that are based on best practices need to be fully implemented. Many internal institutional procedures are based on “that is how it has always been done” instead the most efficient and quality centric approach.

- Establish a data standards committee whose purpose is to establish policies to assure the accuracy and consistency of data within all systems. The data warehouse project will never be able to provide quality reports without some quality assurance in all areas of data collections.
- For several years, Marshall University has suffered many losses in ERP trained staff across all administrative areas. This has caused a slowdown in deployment of many of the ERP projects and the ability to fully embrace new applications.
 - Staffs being hired in areas that require ERP skills need a formal technical skills assessment before being hired. If they show potential and do not have these skills, then a formal training program needs to be in place to provide the training resources so they can gain these skills. Marshall University currently does not have a dedicated position for Banner ERP Training.
 - New champions need to be nurtured and fully trained in all major administrative areas.
 - We need to commit to both just-in-time training as well as more flexible training methods.
- The majority of our current organizational resources are dedicated to support the operational needs of the core operational offices. Even though Marshall University has been very aggressive in management and processing coordination efforts through the establishment of a Banner Users Groups in all of the major areas and a Banner Oversight Committee that reports the Information Technology Council, we are lacking the ability to share and coordinate the technical expertise of staff members across the entire organization.
 - In 1998, I submitted a Banner Enterprise System Proposed Experimental Support Recommendations (Appendix IV) to address this issue. I would like to have this reviewed again and modified to meet today’s institutional needs. Today each unit and division across the institution is struggling on its own to identify what type of information is available, obtain it, conduct data analysis, and interpret the results. There is no Institute-wide function that facilitates the flow of accurate, timely information and assists all levels of management in defining issues, selecting research designs, obtaining information, and interpreting results.
- Because we have had the ERP system deployed for more than a decade, many systems are either interfaced to or require batch data exports for the system (Appendix I.). That is exactly what an ERP system should support. As we move to major point upgrades (i.e. Banner 8), the issue is the sheer number of these applications that must be tracked and possibly reinterfaced to batch process rewritten and verified.
 - We need a more formal campus-wide data collection method checklist of all the systems that currently interface or require a batch export from Banner including software versions. This will assist in making sure all systems are operating during the review phase of an upgrade.

- One of the most challenging issues of the ERP deployment has been the Electronic Personal Action Form (EPAF). This should have been implemented ten years ago. There are portions that have been completed and the HR teams are progressing. An Electronic Personnel Action Form (EPAF) is a web-based form accessed through myMU. With EPAF the user can initiate a transaction such as a student hire, route the form to specified approvers and Payroll electronically from any PC with the appropriate online access.
 - Take advantage of existing Banner and Employee Self Service functionality by building and using Electronic Personnel Transaction Forms (EPAF)
 - The transaction can be applied directly to the Banner database without re-entering the data.
 - Institutional outcomes include increased efficient use of time and resources, practical use of technology, accurate data entry, and ability to track and manage transactions, more control over the process and less duplication of effort.
 - Fully deploy the Banner HR and Finance Self Service and the XTender Imaging product by the end of the 2009 fall term. These products will greatly reduce the training needs, improve workflow and reduced the number of data entry errors due automated quality control system checks.
 - Banner Employee Self-Service (BESS) allows employees to enter and submit work hours on an electric timesheet, view sick and vacation leave balances and view pay records.
- The perennial challenge of coordinating and linking paper and other virtual paper documents to the records in the ERP still remains with us. The paper takes up space and tracking the virtual paper documents usually results in converting them to paper to store.
 - Implement the Banner Document Management Suite (formerly known as Banner xTender. This product is described in more detail in Appendix V but is a document management system that will link these types of external material to records in Banner and allow for their retrieval.
- There are still components of the ERP that still need to be purchased as well as the addition of other administrative products that need to be purchased and interfaced to the system. Any expansion of the ERP needs to be driven by the needs and recommendations of the academic and administrative units with a firm understanding of the total costs that will need to be allocated in order to sustain these new products.
 - The Banner Enrollment Management Suite provides the complete student communication and tracking tools for prospective students. It also provides performance metrics, scorecards, and reports provide intelligence about individual, team, and organizational performance. Configurable alerts provide notification when program or campaign outcomes don't match expectations, so managers can adjust strategy or tactics to improve final results.
 - EProcurement Enterprise Facilities Management solution enables the entire facilities lifecycle—from real estate to operations, maintenance, facilities management, project management, and performance metrics—to be handled by a single suite of standards-based, web-architected software. Creating a seamless, collaborative environment in

which employees, suppliers, contractors and partners all work as one, on the same page, toward common goals set and monitored by management.

Appendix I

Additional Products Interfaced to Banner or Require a Batch Data Export

Academic Verification - National Student Clearinghouse - The National Student Clearinghouse, a leading provider of educational reporting, verification, and research (Core, DegreeVerify, EnrollmentVerify, Transcript Ordering, Student Self Service, Electronic Transcript Exchange) help institutions save money and time while enhancing service. StudentTracker, helps colleges and universities improve their research results.

BookNow - Integrates online course registration with e-Follett. Course information, including required course materials, is sent to the bookstore's system. After selecting their courses, students are redirected to efollett.com where they are offered the opportunity to purchase their course materials. The system will offer used textbooks first, if they are available. Student can then pay for materials online. **BookLook** is another level of this product that will need to be operational by July 2010 to respond to the Higher Education Opportunity Act and requires for the complete textbook information including retail prices to be available on the intuitions web page for each course section.

Call Center – RuffaloCody – This is a product used by our Foundation and Alumni. RuffaloCODY provides targeted, cost-efficient services that assist clients with their annual giving, capital campaign and membership needs. We specialize in communicating directly with client constituents (via the telephone and e-mail), on their behalf - enhancing relationships and assuring successful campaigns and membership cultivation.

Campus ID Card – Campus ID/Card System: Blackboard, HigherOne - This is maintained by the university ID Office, but is integrated with Banner. The Marshall University Campus-Wide Points Plan is a valued, optional service available to students, faculty, and staff. By placing money on account with the Campus-Wide ID Office, your Marshall University Identification Card serves as a pre-paid debit card accepted at numerous locations on or near campus. The credit portion is outsourced to HigherOne.

Document, Form and Print Management - Evisions, Inc - Evisions' "FormFusion" document enhancement and distribution suite eliminates pre-printed forms, enhances printed output without modifying code, and can send documents to students, employees and vendors electronically. The Evisions "IntelleCheck" secure payment solution creates laser checks, e-mails direct deposit statements, and uploads bank reconciliation data into Banner. Evisions' "ARGOS", is Banner's fastest selling web-based reporting solution. Argos ships with hundreds of pre-developed reports and advanced features for use with ODS and EDW.

E-Learning – Blackboard Vista- Blackboard's solutions allow organizations to extend teaching and learning online, facilitate campus commerce and security, and communicate more effectively with their communities.

Emergency Notification – Everbridge is the provider of the Marshall University mass notification system. Everbridge is a global provider and leader in mass notification systems and is interfaced to the ERP and portal.

eVoter - Online voting system that is interfaced to our Banner system that allows for online voting for faculty, staff and students.

Faculty – Digital Measures - Digital Measures is a web enabled database program that allows faculty to input their teaching, research and service accomplishments over the course of the year into one place so that the administration does not have to ask for the same data multiple times and the faculty member can keep an ongoing record of what they have taught, written and done at MU. It is interfaced with our university ERP Banner System.

Hobsons – Extract - EMT Connect provides a Web-based CRM that stores student contacts, sends e-mail and direct mail communications, manages communication flow, and creates detailed reports on recruitment efforts.

Housing & Student Life (yet to be deployed) - Residential Management Systems Inc. (RMS) – RFP Process - RMS software for university housing, conference, and judicial is a multifunctional, integrated, and fully web-based system. RMS features automatic assignments and self assignments, judicial affairs management, and conference and event management. RMS is fully integrated in real time with Banner. The student web self-service integrates within the portal and enables students to manage assignments, demographic and financial information, online payment, and self-assignment.

International - fsaATLAS is a proven solution for international student and scholar management that provides comprehensive case management tracking, dynamic reporting capabilities on all fields in the system, and eliminates manual entry of SEVIS and non-SEVIS forms.

Library Innovative Interface III – A comprehensive solution that streamlines library operations, cataloging and supporting a complement of metadata schemes and technologies for handling and transmitting data describing our library collections.

MAP-Works (extract) --- (Fall 2009) MAP-Works is a web-enabled student retention and success program created through a partnership between Educational Benchmarking (EBI) and Ball State University. MAP-Works helps campus personnel identify at-risk first year students as early as the third week of the semester.

Parking (extract) – TickeTrak by Cardinal Tracking is a comprehensive system designed to control parking management operations.

Payment Processing CASHNet (Being Purchased) - CASHNet's any payment, anytime, anywhere technology delivers a secure, hosted software suite of eBill, ePayment, eRefund, MyPaymentPlan, eMarket, and Cashiering solutions that balance the need for expanding customer service while maintaining system integrity and data security.

Recreation Centers (extract) – Spectrum NG - CSI Software is the leading provider of software and related services to health and fitness clubs, campus recreation centers, wellness centers, JCC YMCA YWCA organizations, hotel and fitness resorts and parks and recreation departments. Since 1978, CSI Software has achieved success by providing innovative technology solutions that help organizations meet their most critical challenges.

Scheduling - CollegeNet Academic and Administrative Scheduling R25 & S25 - CollegeNET's Series25® software suite allocates campus space and resources efficiently, manage workflow, discover opportunities for cost savings, and plan construction.

Survey Tools – Survey Pro by iMagic – Survey Pro is a simple and easy to use survey program. Surveys can be conducted via SCT Banner authentication. Surveyors can create custom questions or choose from a small library of common questions provided by the software.

Work Order – Maximus -Facilities and asset management solutions for work order entry. This is an old version of the product and currently does not have any maintenance support. This product needs to be upgraded.

Appendix II

Results of Business Process Improvement

Desired Result	Definition	Example
Efficiency	Doing the same thing cheaper or faster	Reducing the time to process a financial aid application
Effectiveness	Doing the same thing better, introducing higher quality or higher value	Reducing the number of errors during financial aid processing
Risk avoidance	Reducing risk to the institution, such as through better management information or better controls	Reducing financial exposure by tightly integrating budget and financial systems
Customer satisfaction	Doing things that make students, faculty, staff, and other constituents happier with institutional services	Introducing self-service capabilities for common student and employee transactions
Cost avoidance	Doing things that allow the institution to avoid future expenditures	Designing processes to scale without the need to add employees, often through the use of technology
New capabilities	Adding new services that were not available before the improvements	Allowing a student to handle any student services transaction at any student-facing office, rather than having to go to multiple places

Responses to Questions Submitted to Banner Users

1. What recommendation(s) can you make for changing or even stopping an internal process that would improve the overall administrative process? Please included the specific Banner product (i.e. SIS, Finance, HR, Self- Service suite, Financial Aid, etc.) in your answer.
 - a. Improved access to accurate and timely information
 1. NBAJOBS has the most updated info for position title, pay rate, fund/org, pay history etc. for each state position. I wish MURC Banner could have NBAJOBS form for each full time MURC Position, it will be very helpful to have accurate salary information from Banner instead of getting it from the old copy of PAR.
 2. Various processes in existing Banner modules have not been fully implemented. Among these is the “Student Type Roll,” which allows for the identifications of new freshmen, new transfers, new graduate students, etc., within the data base. Completing the set-up of the roll process and maintaining it from semester to semester is difficult, and it doesn’t significantly impact the operation of other aspects of Banner, so it’s always something that would be addressed when time allowed. Office’s that need to identify new students, such as Institutional Research and Planning, do so outside of banner using rules based on existing data. These orphan processes should be identified and implemented as soon as possible. Many will probably have to running prior to the implementation of the ODS and Data Warehouse.

- b. Enhanced workflow, increases efficiency, and reduces the need for paper
 - 1. PARs are missing from time to time in between offices, EPAF is needed;
 - 2. To start a full time employee on MURC by processing requisition is always a lengthy process. Our department can not send in PARs before a MURC fund is assigned, while MURC will not assign a fund without receiving an actual PO, even though Banner shows the requisition has been converted to PO. I wonder if it is possible that a PO can be automated from Banner once it is processed and converted by purchasing. That would definitely save time and paper for the process.
 - 3. Banner Leave Balances form PEALEAV should have the most updated balance. If not, it should at least show a date on this form when is the last time this form is updated.
 - 4. The Miscellaneous tab in NBAJOBS is to store Supervisor information for the specific position. Can this tab be maintained and updated by the admin office in each department instead of sending through a PAR to make a change?

- c. Tightened controls and automated workflow
 - 1. It will be nice if each department or at its Senior VP level can run its salary report from Banner instead of getting salary info from Banner one by one.
 - 2. I-9 information in Banner is confusing. In GOINTL, it shows that I have an I-9, while in PEAEMPL, under United States Regulatory, it shows “none” in I9 section.

Appendix III

IT Investment and Business Process Performance

Section 7. Factors Influencing Process Performance

The questions in this section refer to the institution as a whole.

Leadership

- 7.1 My institution has stable senior leadership.
 Strongly Disagree Disagree Agree Strongly Agree Don't Know
- 7.2 My institution's strategic plan calls for high performance in our administrative processes.
 Strongly Disagree Disagree Agree Strongly Agree Don't Know
- 7.3 Process improvement at my institution is driven primarily by grass roots (employee) ideas.
 Strongly Disagree Disagree Agree Strongly Agree Don't Know
- 7.4 My institution has a highly centralized decision-making structure.
 Strongly Disagree Disagree Agree Strongly Agree Don't Know
- 7.5 My institution's senior leaders act as champions of business process change.
 Strongly Disagree Disagree Agree Strongly Agree Don't Know
- 7.6 My institution's leadership has a high tolerance for risk.
 Strongly Disagree Disagree Agree Strongly Agree Don't Know

Process

- 7.7 My institution effectively uses technology to achieve high business process performance.
 Strongly Disagree Disagree Agree Strongly Agree Don't Know
- 7.8 My institution regularly measures the effectiveness of its business processes.
 Strongly Disagree Disagree Agree Strongly Agree Don't Know
- 7.9 Business units in my organization often ask for IT's assistance in using technology to improve their processes.
 Strongly Disagree Disagree Agree Strongly Agree Don't Know
- 7.10 My institution has made a significant commitment to one or more formal process improvement methodologies (e.g. Six Sigma, Baldrige).
 Strongly Disagree Disagree Agree Strongly Agree Don't Know
- 7.11 We often look externally for ideas to improve the performance of our administrative business processes.
 Strongly Disagree Disagree Agree Strongly Agree Don't Know

Culture

- 7.12 Administrative process improvement occurs frequently at my institution.
 Strongly Disagree Disagree Agree Strongly Agree Don't Know
- 7.13 Administrative process improvement occurs throughout my institution.
 Strongly Disagree Disagree Agree Strongly Agree Don't Know

- 7.14 My institution rewards departments that improve the processes under their control.
 Strongly Disagree Disagree Agree Strongly Agree Don't Know
- 7.15 My institution rewards individuals who improve process performance.
 Strongly Disagree Disagree Agree Strongly Agree Don't Know
- 7.16 My institution actively learns from failures.
 Strongly Disagree Disagree Agree Strongly Agree Don't Know
- 7.17 My institution has achieved process improvements that cross traditional functional boundaries.
 Strongly Disagree Disagree Agree Strongly Agree Don't Know
- 7.18 The environment at my institution can best be described as:
 Stable
 Dynamic
 Turbulent
 Volatile
- 7.19 What primarily drives process improvement at your institution? (Select up to three)
- 7.19a Board initiatives
 - 7.19b Institutional plans / initiatives
 - 7.19c Departmental level plans / initiatives
 - 7.19d Senior executives (e.g. President, Provost, EVP)
 - 7.19e Departmental leaders (e.g. VP of Finance)
 - 7.19f Employee suggestions
 - 7.19g Change in leadership
 - 7.19h Implementation of technology (e.g. ERP)
 - 7.19i Regulatory requirements
 - 7.19j Economic pressures
 - 7.19k Enrollment demands
 - 7.19l Constituent demands (students, faculty, alumni, etc)
 - 7.19m Events causing negative publicity (e.g. adverse audit, student registration failure)
 - 7.19n Reaction to other external events
 - 7.19o Other
 - 7.19p Describe "Other" (optional)
- 7.21 Our overall goal for information technology at our institution can best be described as:
 Budget-centric: Provide an adequate level of service to our constituents at a low cost.
 Customer-centric: Provide differentiated services within the institution to meet differing stakeholder demands.
 Differentiator: Use IT as a competitive differentiator (e.g. attract and retain faculty and students).

- Leader: Seek to be recognized as one of the most influential and innovative users of IT.
- 7.22 What are the most significant barriers to improving the administrative processes at your institution? (Select up to three)
- 7.22a Diminishing returns (processes already work well enough)
 - 7.22b Low leadership interest
 - 7.22c Other conflicting priorities
 - 7.22d Lack of funding
 - 7.22e Lack of internal expertise
 - 7.22f Resistance to change
 - 7.22g Technical obstacles
 - 7.22h Organizational structure
 - 7.22i Lack of alignment of technology and business processes
 - 7.22j Other
 - 7.22k Describe "Other" (optional)
-

- 7.23 Please name and briefly describe the one process that best exemplifies a high performing process at your institution, and the person or people best connected with it. [free text response]
-

- 7.24 Does your institution have a central office responsible for improving institutional processes?
- No
 - Yes

Appendix IV

Banner Enterprise System Proposed Experimental Support Recommendations Submitted 1998

Introduction:

As the University grows, the IT units are coping with the classic problems of getting sufficient technology and staff resources to support it. While the University and the state have provided funding for technology infrastructure and equipment, it has not always provided adequately for the cost of support issues. The net effect is that the IT units have been required to stretch existing resources in order to respond, at some level, to increased service demands. This is particularly evident at the newer and still developing Banner Enterprise Administrative System.

Issue:

The institution is at great risk in not having the number and appropriately trained individuals in Banner database systems. Any loss of individuals in these technical areas could have a dramatic negative impact on the institution. MU Computing Services has the responsibility for the core support and maintenance of these resources. Other campus Banner technical support specialist's in the areas of Financial Aid, Enrollment Management, Finance, Alumni, Foundation, and MURC have been hired for specialized unit support. The benefit to the university of these talented individuals could be much greater if a close team management structure were established. These individuals are already participating in technical teams, but their reporting departments provide their daily work routines. Being able to use the entire technical team in a collaborative support structure would help support each administrative departments needs at a higher level. The proposal is that this new-shared management approach should be tested over the next 9-12 months. The core database support team is very lean (4 permanent staff). The decentralized technical support staff would still carry the primary support responsibilities to the areas from which they are paid, but they could be better utilized during the intense final implementation of the Enterprise Administrative System. This approach has been very successful with the technical support person in Enrollment Management.

Paradigm:

- The Banner Oversight Committee will determine Project Priorities based upon analysis of the strategy recommendations developed by the Banner Tech Team and the requirements and timelines identified by each Banner User Group and/or Banner Project Group.
- Each Banner Project Group will comprise of two Banner Tech Team members assigned to the project's functional team. One Tech Team member will be assigned as the lead for the purpose of technical task completion supervision, but both members will equally share the technical workload.
- The Banner Tech Team members will be assigned to multiple projects when required.

- Banner Tech Team members will be paired for projects based on their areas of expertise and their identified areas of needed improvement. For example, a member with strong programming skills but limited knowledge of Banner Database schematics could be paired with a member that has experience with the Database schematics but may lack the depth of programming knowledge needed to write reports efficiently.
- The Banner Tech Team will hold a weekly triage for the purpose of information sharing, brainstorming, problem resolution, project schedule reports, priority updates, etc.
- The Banner Tech Team will develop a written Solution Set and an Electronic Repository that will contain procedures for problem resolution, quick reference for known issues, actual problem resolutions, how-to instructions, sample code, etc.

Benefits:

- Breakdown of current communication barriers between centralized technical staff members and decentralized technical staff members, thereby reducing the technology isolation experienced in the decentralized technical areas.
- Empowered decentralized technical staff members will be better prepared to investigate, analyze, and formulate solutions for Banner technical and functional issues.
- Centralized technical staff members will have a broader understanding of the issues that arise across the entire Banner user base.
- An increase in the University's Banner technical knowledge base.
- Establishment of unified strategies for Banner technical issues that are a result of common University-wide goals such as report writing tools, data warehousing, EPAFs, workflow, etc.
- Banner Tech Team pairs, the Solution Set, and the Electronic Repository will reduce the occurrence of having one staff member as the sole knowledge holder for a particular technology.

Supervision & Security:

- The Banner Tech Team will be supervised to insure proper communication, information sharing, problem resolution, human and system resource management, adherence to current policies and procedures, and proper security guidelines.
- The Banner Tech Team members will be given access to all necessary Banner proprietary software with the understanding that they are granted this privilege but may not pass that privilege on to others.
- The Banner Tech Team members will be granted all necessary network and OS privileges needed to perform the tasks required for project completion and are not to use these privileges for any functions outside their current project list.
- The Banner Tech Team members will agree to protect the Banner Database from unauthorized access and to not implement a solution that could compromise the integrity of the Banner Database.

Appendix V

Banner HR Self-Service

Employees can view and/or make changes to their records from home or the office on a 24/7 basis. This eliminates the need to contact the Human Resources office during business hours to request an update. For Human Resource personnel, Employee Self Service eliminates the need for them to assist or intervene in every payroll and benefits/deduction inquiry or change. This allows the Human Resources professionals to perform other proactive tasks instead of performing data entry functions. Using a familiar Web interface, employees can:

- Update tax exemption information
- Update benefits
- Update the directory profile
- Update miscellaneous biographic information
- Complete timesheets and leave reporting
- Request time off in advance
- View a personalized benefits summary
- View payroll history
- View job history
- View pay stubs
- View leave history
- View year-end tax statements
- View flexible spending account activity

Banner Finance Self-Service

Budget status information for both non-grants and grants as well as purchase requisitions are a part of the several features provided in Banner Self-Service for Finance. This product will allow our principal investigators to browser access to the status of their grant spending and revenues.

Using hypertext links, departmental financial administrators can:

- Create a purchase requisition
- Create a purchase order
- Create budget transfers
- Approve documents
- View departmental, operational budget status:
- By summary or detail level depending on the hierarchy structure of the chart of accounts for both grant and non-grant activity.
- Adjust the columns to be displayed – traditional display includes budget, commitments and encumbrances, expenditures, revenue, and available balance.
- View or drill down to documents tracking budget status activity
- Compare budget status between fiscal years
- Create new query columns by performing calculations on existing query columns – such as calculating a variance
- View departmental encumbrance activity

Work Flow

Implementation of Workflow and Imaging - Banner Workflow is an open, flexible tool that unites processes, information, and people. It automates, simplifies, and directs the flow of information through your entire enterprise. The results are efficient operations, increased automation and visibility, institution-wide consistency, and easy exception handling. With Banner Workflow, administrators, staff, and faculty can access workflows and complete assignments through a standard web browser. Banner Workflow's web interface provides anywhere/anytime access to tasks. Banner Workflow's automated processes allow business events to trigger user notifications, business process logic, external or internal emails, and automated activities. Mundane, low-value tasks can be streamlined and redundancy eliminated. Morale and productivity improve measurably because staffs gain time to focus on more strategic activities.

Benefits of Banner Workflow include:

- Improved customer service and productivity
- Integration of Banner forms and data into business processes
- Consistent organizational procedures
- Flexible exception handling
- Instant communication
- Enhanced responsiveness to actions
- Business process metrics tracking workflow effectiveness
- Automatic events based on business processes or data conditions
- Graphical workflow design and administration
- Testing and evolution of business processes without affecting workflows in progress
- Accelerated completion of cross-departmental tasks
- Dramatic savings in staff time
- Improved morale

Imaging

The Banner Document Management Suite is specifically designed for higher education and provides imaging, document management, data capture, storage management, and output capture and report management for individual departments and for the entire institution. Banner Document Management Suite is the key to simple information management.

Examples

When student documents arrive in the admissions or financial aid offices, they will be scanned in to Banner XtenderSolutions, the imaging module for the Banner administrative system. Banner Xtender will enable seamless one-click document retrieval and capture, integrated security, workflow events, common data repositories, and automated student admissions checklist and financial aid tracking updates. The solution also provides secure access to materials unrelated to Banner or other SunGard Higher Education systems.

Along with imaging, the admissions office will need to establish an admissions review workflow within Workflow. The solution helps automate, simplify, and direct information flow and provides tight integration with Banner and the Luminis Platform, which provides portal capabilities, collaboration, and

communication tools, and a common interface to the college's entire digital campus. Automated activities, worklist updates, and e-mail notifications make sure the right information gets to the right people immediately, inside and outside of the institution.

The admissions review workflow can trigger the decision field. If the applicant does not meet admission requirements, a specific decision kicks off the workflow and sends the director of admissions a worklist item. If additional information is required from the student, the director of admissions can workflow that student back to the admissions processor who then inputs the request for additional information on that student's application.

After our admissions processors verify that all of a prospect's required information is in Banner, they would send the student file to the director for review. The director makes the decision of accepted or not and that decision kicks off another workflow. The solution helps automate, simplify, and direct information flow and provides tight integration with Banner and the Luminis Platform (myMU), which provides portal capabilities, collaboration, and communication tools, and a common interface to the Marshall University entire digital campus. Automated activities, worklist updates, and e-mail notifications make sure the right information gets to the right people immediately, inside and outside of the institution.

Data Warehouse

Our Banner ERP will use an operational data store (ODS), which will extract information from Banner administrative systems, organizes it into a simplified format, and store the information in the ODS database where users can create and deploy operational and ad hoc reports. The ODS provides an extensive, flexible data store and business organized reporting views with improved performance. It will refresh nightly.

The Banner Enterprise Data Warehouse (EDW) is an extension of the Banner Operational Data Store providing additional reporting capabilities. The Banner ODS contains current operational data formatted for ease of ad hoc reporting, whereas the Banner EDW contains detailed, historical data transformed into formats to support ease of analytical reporting and analysis. With Banner EDW, Purdue can: Support enterprise-level information needs and complex business analytics such as trend analysis and forecasting; Create consistent reporting definitions and reports; and free valuable IT resources needed to identify, design, develop, integrate, and maintain custom solutions.