



A REPORT
TO THE
MONTANA
LEGISLATURE

INFORMATION SYSTEMS AUDIT

***Banner: Administrative
Services System***

Montana State University-Bozeman

FEBRUARY 2010

LEGISLATIVE AUDIT
DIVISION

09DP-07

**LEGISLATIVE AUDIT
COMMITTEE**

REPRESENTATIVES

DEE BROWN, VICE CHAIR
BETSY HANDS
SCOTT MENDENHALL
CAROLYN PEASE-LOPEZ
WAYNE STAHL
BILL WILSON

SENATORS

MITCH TROPILA, CHAIR
GREG BARKUS
JOHN BRENDEN
TAYLOR BROWN
MIKE COONEY
CLIFF LARSEN

AUDIT STAFF

INFORMATION SYSTEMS

DEON OLSON
KENT RICE
DALE STOUT

FRAUD HOTLINE
HELP ELIMINATE FRAUD,
WASTE, AND ABUSE IN
STATE GOVERNMENT.
CALL THE FRAUD
HOTLINE AT:
(STATEWIDE)
1-800-222-4446
(IN HELENA)
444-4446

INFORMATION SYSTEMS AUDITS

Information Systems (IS) audits conducted by the Legislative Audit Division are designed to assess controls in an IS environment. IS controls provide assurance over the accuracy, reliability, and integrity of the information processed. From the audit work, a determination is made as to whether controls exist and are operating as designed. We conducted this IS audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our finding and conclusions based on our audit objectives.

Members of the IS audit staff hold degrees in disciplines appropriate to the audit process. Areas of expertise include business, accounting, education, computer science, mathematics, political science, and public administration.

IS audits are performed as stand-alone audits of IS controls or in conjunction with financial-compliance and/or performance audits conducted by the office. These audits are done under the oversight of the Legislative Audit Committee which is a bicameral and bipartisan standing committee of the Montana Legislature. The committee consists of six members of the Senate and six members of the House of Representatives.

Direct comments or inquiries to:
Legislative Audit Division
Room 160, State Capitol
P.O. Box 201705
Helena, MT 59620-1705
(406) 444-3122

Reports can be found in electronic format at:
<http://leg.mt.gov/audit>

LEGISLATIVE AUDIT DIVISION

Tori Hunthausen, Legislative Auditor
Monica Huyg, Legal Counsel



Deputy Legislative Auditors
James Gillett
Angie Grove

February 2010

The Legislative Audit Committee
of the Montana State Legislature:

We conducted an Information Systems audit of Banner which is maintained and operated by Montana State University–Bozeman to assist in the administration of financial, human resource, student, and financial aid records. The intent of the Banner audit was to identify and test key controls over the Finance, Financial Aid, and Human Resource modules to ensure the modules operate as intended. This report outlines our findings and conclusions from our review.

We wish to express our appreciation to Montana State University–Bozeman for their cooperation and assistance.

Respectfully submitted,

/s/ Tori Hunthausen

Tori Hunthausen, CPA
Legislative Auditor

TABLE OF CONTENTS

Appointed and Administrative Officials	ii
Report Summary	S-1
CHAPTER I – INTRODUCTION AND BACKGROUND	1
Introduction	1
Background	1
Audit Objectives.....	2
Scope and Methodology	2
Management Memorandum	3
CHAPTER II – SELECT BANNER ACCESS	5
Who Can Access University Information?	5
Finance Module	5
Vendor Data.....	5
Invoice Creation.....	5
Student Fees	6
Financial Aid Module	6
Satisfactory Academic Progress	6
Verification.....	7
Cost of Attendance.....	7
Human Resources Module	8
Payroll	8
Time Entry	9
Access Review	9
CHAPTER III – SELECT BANNER MODIFICATION.....	11
How Has Banner Changed?.....	11
Finance Module	11
Modifications and Change Management.....	11
Generic Access.....	12
CHAPTER IV – BANNER PROCESSING CONTROLS.....	15
How Does Banner Process Data?	15
Finance Module	15
Cashier Session.....	15
Purchasing Payments	16
Other Finance Controls	17
Financial Aid Module	18
Verification Rules.....	18
Eligibility	18
UNIVERSITY RESPONSE	
Montana State University–Bozeman.....	A-1

APPOINTED AND ADMINISTRATIVE OFFICIALS

Montana State University–Bozeman

Waded Cruzado, President
 Craig Roloff, Vice President for Administration and Finance
 Allen Yarnell, Vice President for Student Affairs
 Jim Rimpau, Vice President for Planning and Chief Information Officer
 Laura Humberger, Assistant Vice President for Financial Services
 Daniel Adams, Director, Internal Audit
 Jo Oudshorn, Interim Assistant Vice President for Human Resources
 Adam Edelman, Chief Security Officer
 Chris Catlett, Director of Division Planning and Information Systems
 Brandi Payne, Director of Financial Aid Services
 Craig Deaton, Director of Administrative Systems

Board of Regents of Higher Education

Stephen Barrett, Chair
 Clayton Christian, Vice Chair
 Robert Barnosky, Student Regent
 Todd Buchanan
 Lynn Morrison-Hamilton
 Janine Pease
 Lila Taylor
 Sheila Stearns, Commissioner of Higher Education*
 Brian Schweitzer, Governor*
 Denise Juneau, Superintendent of Public Instruction*

*Ex officio members

For additional information concerning Montana State University (all campuses), contact:

Daniel Adams, Director of Internal Audit
 Hamilton Hall
 Bozeman, MT 59717
 (406) 994-7035

e-mail: danieladams@montana.edu

REPORT SUMMARY

Banner: Administrative Services System

The Banner system is used by Montana State University–Bozeman (MSU) to assist in the administration of financial, human resource, student, and financial aid records. Banner consists of baseline functionality, as delivered by a third party vendor, and customized functionality through modifications developed by MSU. Banner is maintained by MSU departments responsible for data (Financial Aid, Registrars Office, etc) with hardware and modification support being handled by MSU's Information Technology Center.

The Banner system consists of four modules:

- ◆ Finance – manages MSU financial data including budget, accounts, ledgers, purchases, and payments.
- ◆ Human Resources – manages MSU employment information and payroll processing including job and employee information, taxes, benefits, and deductions.
- ◆ Student Services – manages MSU student academic information including admissions, class registration, course information, rosters, grading, and enrollment status of students.
- ◆ Financial Aid – manages the MSU student financial aid process from the receipt of the student's financial aid form through needs assessment and award issuance.

To help determine system risks, we reviewed system processes and changes, and considered prior audit testing and Banner delivered functionality. This audit focused on high risk areas of the Finance and Financial Aid modules, including system modifications. The audit also addressed limited areas within the Human Resources module. Audit work addressed the following objectives:

- ◆ Ensure access to select Banner functionality is limited to users with identified business needs
- ◆ Review controls over Banner modifications
- ◆ Ensure select Banner processing controls function as intended

This report discusses the work performed during this audit, including findings and recommendations. Overall, we conclude MSU has controls in place over the audited areas. However, we did identify areas where MSU could improve. This report contains two recommendations for MSU to strengthen user access controls to ensure access is segregated by job duties and needs, and strengthen controls over the use of a code migration account to increase individual accountability.

Chapter I – Introduction and Background

Introduction

Information Systems auditors conducted an audit over controls residing within the Banner system at Montana State University–Bozeman (MSU). The intent of the Banner audit is to identify and test key controls over the application to ensure the system is operating as intended. In addition to this report, we provided an internal memorandum to Legislative Audit Division staff providing detailed control information to consider during other audit work.

Background

The Banner system is used by MSU to assist in the administration of financial, human resource, student, and financial aid records. Banner consists of baseline functionality as delivered by a third-party vendor, and customized functionality through modifications developed by MSU. Banner data is maintained by MSU departments (Financial Aid, Registrars Office, etc.) with hardware and modification support by MSU's Information Technology Center.

Banner consists of four modules: Finance, Human Resources, Student Services, and Financial Aid. Within each module are subsystems providing different functionality to Banner users.

The Finance module manages MSU financial data including budgets, accounts, ledgers, purchases and payments. It includes the following subsystems and functionality:

- ◆ Accounts Payable – processes invoices, maintains vendor data, calculates discount and payment schedules, and manages tax disbursements
- ◆ Purchasing – manages both immediate purchases and purchases requiring a bid process
- ◆ Accounts Receivable – maintains charge and payment information for individual accounts, including student accounts
- ◆ Budgeting – manages MSU's yearly operating budgets
- ◆ Posting – moves transactions from all functions into MSU ledgers
- ◆ Fixed Assets Management – maintains assets over \$5,000

The Human Resources module manages MSU employment information and payroll processing including job and employee information, taxes, benefits, and deductions. It includes the following subsystems and functionality:

- ◆ Employment – manages employee information, job profiles, and benefit information

- ◆ Payroll – manages time entry, approval and payroll process

The Student Services module manages student academic information including admissions, class registration, course information, rosters, grading, and enrollment status of students. It includes the following subsystems and functionality:

- ◆ Admissions – tracks potential students and manages student admissions
- ◆ Registration – manages student registration and grades

The Financial Aid module manages the student financial aid process from the receipt of the student's financial aid form through needs assessment and award issuance. It includes the following subsystems and functionality:

- ◆ Financial Aid Drawdown – processes U.S. Department of Education's download of federal financial aid forms for integration into Banner
- ◆ Tracking – tracks student eligibility for receiving financial aid
- ◆ Budgeting – calculates the cost of attendance and student financial need
- ◆ Packaging – manages the financial aid award process

Additionally, Banner financial data is transferred to the Statewide Accounting, Budgeting, and Human Resources System (SABHRS).

Audit Objectives

This Information Systems audit addressed the following objectives:

1. Ensure access to select Banner functionality is limited to users with identified business needs
2. Review controls over Banner modifications
3. Ensure select Banner processing controls function as intended

Scope and Methodology

To help determine system risks, we reviewed system processes and changes, and considered prior audit testing and Banner delivered functionality. This audit focused on high risk areas of the Finance and Financial Aid modules, including system modifications. The audit also addressed limited areas within the Human Resources module.

Audit methodologies included interview of staff, query and analysis of Banner data, and observation of Banner and MSU staff operations. We evaluated the control environment using Board of Regents policy, Banner User Guides, MSU security policy, federal law, and industry accepted information technology standards established by the IT Governance Institute and the National Institute of Standards and Technology. The audit was conducted in accordance with Government Auditing Standards published by the United States Government Accountability Office (GAO).

Management Memorandum

During the course of our audit, we identified the following area warranting management attention:

Verification – Verification flags prevent a student’s financial aid form from being processed for financial aid eligibility. The flags can be manually removed; however, minimal monitoring of flag removal occurs, so monitoring could be strengthened.

Although not included as a recommendation in this report, our suggestion was presented to MSU for its consideration.

Chapter II – Select Banner Access

Who Can Access University Information?

Automated systems store one of an organization's most valuable assets—data. These systems are often critical in supporting the organization's functionality. In order to protect the system and data from unauthorized activity, access should be controlled. Controlling access allows employees to complete assigned job responsibilities while inhibiting misuse of confidential information. Montana State University–Bozeman (MSU) relies on user access controls in all modules of Banner. In order to obtain access within Banner, a user must complete a Banner Account Request form and obtain necessary approval, including each module's team lead and manager. The forms are then routed to Banner security personnel for access assignment. To satisfy our first objective, we reviewed specific user access in the Finance, Financial Aid (FA) and Human Resources (HR) modules.

Finance Module

Vendor Data

In order to make payments on purchases, Banner requires vendor information and an invoice to be created and approved. Since vendor payments are generated using information stored in Banner, access to vendor data should be controlled to prevent unauthorized changes. To ensure vendor data access is limited to users commensurate with job responsibilities, we queried Banner to obtain a list of users with rights to add or modify vendor data and compared the results with information from the MSU Banner Finance Team Lead. We determined access to vendor data is limited to users with an identified business need.

Invoice Creation

Invoices are manually entered into Banner by Accounts Payable (AP) staff in Business Services. Invoice creation includes adding or updating vendor information. Once created, each invoice is to be approved prior to payment; if not approved, the invoice is not paid. Any individual having access to update vendor data and create and approve invoices has the ability to create their own payments. To ensure controls prevent any individual from having access to all three functions, we queried Banner for a list of individuals with the ability to enter and approve invoices and compared the results with the list of individuals having update access to vendor data. We determined nine individuals could perform all three functions; however, we confirmed AP management performs daily reviews of both vendor updates and invoice creations to ensure all invoices are authorized.

Student Fees

Banner's Accounts Receivable (AR) subsystem tracks all MSU customer accounts and is used to enter incoming funds into Banner. For student accounts, funds can be credited as direct payments such as cash and checks paid on an existing account for items like tuition and fees, as well as room and board. Payments can also come in the form of credit card payments, financial aid credits, and refunds or credits. For nonstudent accounts, funds are credited much the same way using a vendor ID, agency ID, etc. Student fees are generally managed by the Student Accounts Receivable staff in Business Services, while nonstudent fees are managed by different staff in the same office. Since student fees make up the majority of AR transactions, we reviewed AR staff access to change or remove student fees. We queried Banner for a list of individuals with the ability to update student fees and compared the results with the Banner Finance Team Lead's assertion of staff with the job requirement to update student fees. All individuals matched, indicating MSU staff with access rights to remove student fees have an identified business need.

Financial Aid Module

Satisfactory Academic Progress

To receive federal financial aid, U.S. Department of Education (DOE) regulations require students to meet both a quantitative and qualitative measurement called Satisfactory Academic Progress (SAP). MSU mandates students meet three SAP requirements to receive financial aid:

- ◆ Cumulative credits pass rate: MSU students must pass at least 67 percent of the cumulative credits attempted in their degree.
- ◆ Maximum credit hours: students must not exceed the number of credits required to obtain their degree (for example, 180 credits for an undergraduate degree).
- ◆ GPA: MSU mandates undergraduate students carry a cumulative GPA of 2.0, and graduate students carry a cumulative GPA of 3.0.

Students not meeting all three requirements will be considered ineligible for financial aid. The University monitors student progress and relies on Banner to determine SAP violations based on MSU policy entered in the system. If a student does not meet any of the SAP requirements, Banner flags the student account preventing any further processing of financial aid eligibility. However, SAP flags can be manually changed. For example, when a student with a flagged record appeals and MSU decides mitigating circumstances caused the student not to meet SAP, the flag will be removed. Manual flag changes can also occur when nonfederal financial aid adjustments need to be made. For example, if work study amounts need to be changed, the flag is removed, adjustments are made, and the flag reinstated.

We reviewed who can change SAP flags, if all SAP flag changes between January 1, 2008 and October 1, 2009, (corresponds with semester end dates) were made by authorized individuals, and if SAP flag changes are monitored. Management provided us a list of individuals with the need to remove or change the SAP flag and we compared it to a list of individuals obtained through query of Banner. We also compared a list of who made SAP flag changes in Banner between January 1, 2008, and October 1, 2009, with the list of individuals with the need to remove or change the SAP flag. In both comparisons, we determined only authorized individuals have access to change the SAP flag. We also interviewed FA management and reviewed Banner reports and determined management reviews SAP flag changes on a semester basis.

Verification

Banner's financial aid process begins with importing financial aid forms from DOE. Generally, DOE requires universities to verify a percentage of the forms to ensure students are completely and accurately filling out the forms. To ensure this occurs, DOE flags a sample of up to 30 percent of financial aid forms for verification. However, MSU is rated as a "quality assurance" school by DOE, allowing MSU to create its own verification rules. The rules are created by the FA director and staff, and the FA system analyst enters the rules into Banner. Banner compares the rules with student records and flags any record requiring verification (meeting the rules). Once a student's financial aid record is flagged, FA evaluators send a letter to the student with details on what information must be submitted for verification. We reviewed access to modify verification rules in Banner to determine it is limited to users with an identified business need. Our work compared a list, from Banner, of individuals with access to change MSU verification rules with FA management's assertion of who should have access. We determined all users with access to change the rules have an identified business need.

Once FA evaluators receive verification information, they compare it to the financial aid form; if everything matches, verification is marked as complete, the flag is removed, and the form will continue being processed. We reviewed access to determine if rights to mark verification as complete are limited to individuals with a business need. Our work compared a list, from Banner, of individuals with access to mark verification as complete with FA management's assertion of who should have access. Both lists matched. As a result, access to mark verification as complete is limited to individuals with a business need.

Cost of Attendance

Key to determining student financial aid need is the base Cost of Attendance (COA). The COA is a calculation of how much it will cost a student to attend MSU, depending

on student status. Banner compares the COA to student resources (income, Pell Grants, fee waivers, etc.) with the difference being the student's financial aid need. The FA Director and staff initially determine the base COA, which is manually entered into Banner. However, additional COA is applied where additional costs are identified. For example, if the base COA for a full-time student is \$1,700 a semester, but books will cost an additional \$700, the new total COA is changed to \$2,400. However, when the addition is made, the base COA (\$1,700) is not changed. To determine if the ability to change the base COA is limited to individuals with a business need, we reviewed a list, from Banner, of individuals with access to change the COA. Our work identified 11 individuals with the ability to change the COA, and FA management verified a business need for all 11. However, they can only add to the base COA, not change it. We also noted changes to the base COA would cause a recalculation of all student financial aid eligibility, which, through reporting, would elevate management's awareness of unauthorized base COA changes. To ensure these controls prevented the COA for school year 2009-10 from being changed, we compared the COA in Banner to the calculated COA and determined the rates are the same.

CONCLUSION

Based on audit work, we conclude access to select Banner Finance and Financial Aid functionality is limited to users with identified business needs.

Human Resources Module

HR staff is responsible for entering all employee data into Banner, as well as processing payroll. Industry best practices suggest job duties be segregated to prevent any single individual from subverting critical processes. Furthermore, user access should only be allowed to accomplish assigned tasks in accordance with business functions. As such, the ability to create an employee or job position and enter time in Banner should be segregated to prevent a single MSU employee from being able to create and pay an individual.

Payroll

In order for a user to create and pay employees in Banner, update access to four different forms is required. In addition, they must have specific security access to generate an employee ID. We queried Banner to determine if any individual user had both update access to all four forms and the security access. Our analysis identified one individual with both types of access, and an additional individual with access to all four forms and the ability to give themselves the security access. Although MSU has segregated HR and payroll business processes, our work determined they have not fully segregated

HR and payroll job duties within Banner. This level of access would allow these users to potentially create and pay fictitious employees. We spoke with business function representatives to determine the reason for granting this access. These representatives were unaware of the lack of segregation of duties within Banner.

Time Entry

MSU has two methods of entering employee time: through a Banner time entry form, and through a web time entry portal. The main difference between the two methods is web time entry requires supervisor approval before time can be processed for payment. At the time of the audit, only MSU payroll staff entered time through the web portal.

Industry best practices suggest a segregation of duties should exist preventing any individual not having time entry responsibilities from being able to enter time in Banner. We reviewed access to the Banner time entry form to determine if it is limited to individuals with a business need. We queried Banner to identify everyone with access to the time entry form and compared the results to HR management's assertion of who should have access. Our analysis identified an IT administrator with access to the form; however, this access was not reflective of their job duties. As a result, a lack of segregation of job duties existed, potentially allowing the entry of unapproved time. Business function representatives were unaware of this lack of segregation of duties. We also queried Banner to ensure users with access to modify time were not modifying their own time. Query results indicated no one had entered their own time.

Access Review

Subsequent to our identification of the above segregation of duties issues, MSU personnel conducted further review of Banner access. In its review, MSU identified personnel who were aware of the segregation of duties and obtained reasons for granting access. For payroll, permanent access was granted for backup purposes. However, backup responsibilities are temporary in nature, so permanent access is not needed. For time entry, existing access for a position was transferred to a new employee. According to MSU, this access was not required and has been revoked.

MSU has established Banner security administration procedures referencing user access. While an intent of the procedures is to ensure continual review of Banner access, they do not provide clear and detailed guidance on specific procedures to follow and personnel to notify. While some MSU personnel were aware of the access issues we identified, personnel within the related business functions were not aware of these situations. As a result, current practice does not ensure existing access is assigned and communicated according to business need.

RECOMMENDATION #1

We recommend Montana State University–Bozeman strengthen user access controls to ensure access is segregated per job duties and need.

Chapter III – Select Banner Modification

How Has Banner Changed?

Banner is a commercial-off-the-shelf system. When a system such as Banner is implemented, system functionality is considered delivered, or baseline. However, the system may not perform as expected or needed by the implementing organization, thus requiring system modification. To ensure modifications operate as intended and do not have adverse impact, Montana State University–Bozeman (MSU) has implemented change control procedures to request, develop, test, and implement modifications to Banner functionality. To address our second objective, we reviewed modifications to Banner's Finance and Financial Aid modules to answer the following questions:

- ◆ Was Banner baseline functionality changed?
- ◆ If so, does Banner still function as MSU intends?
- ◆ Did modifications follow MSU's change control procedures?

We determined MSU only modified Banner Finance. As a result, our system modification review was limited to Banner's Finance module.

Finance Module

Modifications and Change Management

MSU modified Banner's Finance baseline functionality four times since the last MSU Banner audit (July 2007). After reviewing the modifications, we determined the following functionality was affected:

1. Access in a specific Banner form to change email addresses was removed
2. Ability to review MSU purchasing card accounts was restricted
3. Accounts Receivable database search methods were changed allowing faster database searching
4. A description field in a Banner form was changed to allow specific information

Although the modifications affected Banner baseline processing, our review indicated system functionality remained as expected.

In order to implement a modification in a controlled and coordinated manner, a change control process should be implemented and followed. Furthermore, a change control process reduces the possibility that unnecessary or unauthorized changes will occur. Typical goals of a change control process include minimal disruption to services and cost-effective use of resources involved in implementing change. MSU's Banner baseline change control process begins with development of a Banner modification

proposal which contains details on the modification such as a description, contact person, resource cost, and security implications. The proposal is reviewed by a committee comprised of the Banner module team leads as well as user groups, and the Chief Information Officer of each MSU campus. Once approved, the proposal must also be approved and ratified by two other committees before modification work can begin. The modification is then developed, tested, and accepted. We verified the four modifications followed MSU's change management process.

CONCLUSION

Based on audit work, MSU has modified Banner's baseline functionality; however, system functionality remained as expected. Furthermore, modifications reviewed followed MSU's change management process.

Generic Access

Once a Banner modification has been developed, tested, and accepted, it is ready to be moved (migrated) into the production environment. The migration process involves moving the modification programming code into a specific location (directory) effectively allowing Banner to operate using the newly developed code.

A key control preventing unauthorized code from being migrated to production relies on who has access to move code into the directory. We obtained a list of accounts with access to Banner's production code directory and determined it was limited to one account. However, the account's username and password is not limited to a single individual. This allows any of four IT staff to perform code migrations without the ability to identify which individual migrated the code. Thus, unauthorized code could be migrated into Banner without individual accountability, as suggested by industry best practices. Further work determined use of this generic account is required due to system design. While the use of this generic account is monitored by MSU staff not involved in the migration process, the monitoring does not ensure individual accountability. Additional controls could be implemented to limit access to the account and improve monitoring. For example, the password is currently shared by the four IT staff, but could be secured and managed by individuals not in the same department. In addition, account access could be restricted to a single individual, with additional business needs, such as backup individuals, being granted temporary access only when needed. Policy could also be developed identifying when and to whom the password can be revealed, as well as requiring notification to system administrators when use of the account will require more than one individual.

RECOMMENDATION #2

We recommend Montana State University–Bozeman strengthen controls over use of the generic code migration account to ensure increased individual accountability.

Chapter IV – Banner Processing Controls

How Does Banner Process Data?

Montana State University–Bozeman (MSU) maintains data and information from students, vendors, employees, etc. To be usable, the data and information must be stored in a structured fashion. To do this, the system performs mathematical and logical operations, or processes, on the data. Processing controls ensure Banner functions as expected and operates in accordance with guidelines such as state and federal law. To address our third objective, we reviewed specific Banner processing controls to ensure operations occur as expected.

Finance Module

Cashier Session

As mentioned in Chapter II, Banner’s Accounts Receivable (AR) subsystem tracks all University customer accounts and is used to enter incoming funds. In order to enter payments into Banner, a “cashier session” is created and assigned to the individual making the payment. Any transactions recorded during a specific cashier session will then be included within the session and tracked by the session number. At any time, the session can be closed by the cashier. Once closed, management approves (finalizes) the session in Banner allowing the transactions to be posted to related journals such as the General Ledger.

We performed the following work to determine the cashier sessions operate as expected.

1. We observed AR cashiers sign into Banner, noting Banner automatically assigned each cashier their own session number.
2. As the cashiers recorded transactions, we observed Banner automatically assign the cashier’s ID and session number to each transaction.
3. To record a transaction, Banner requires certain information (such as department number, account number, school term, amounts, etc.) to post the correct amounts to the correct accounts. We observed cashier attempts to complete transactions without required information; Banner would not allow the transactions to be completed without the information.
4. We also observed AR management finalize the cashier sessions. We noted the finalization process does not include verifying the session totals have been reconciled. To ensure each session is correct and unauthorized activity does not take place, management relies on other manual controls. For example, MSU Business Services accounting staff not involved in AR transaction posting perform a daily manual reconciliation between bank accounts and Banner activity.

5. Audit work also identified the ability for AR management to create, enter transactions, close, and finalize their own cashier sessions. However, any unauthorized recorded transactions, whether a change, fee removal, or payment, would still be monitored through the above mentioned reconciliation. Additionally, a report of AR fee changes and removals is printed daily and distributed to three different MSU staff; one of which is not involved with AR transactions.
6. Finally, we conducted testing to ensure cashier sessions must be closed and finalized prior to being posted to other Banner journals. We obtained a list of nonfinalized AR transactions, and then queried posted transactions in Banner to identify any nonfinalized transactions that may have posted; none were identified.

Purchasing Payments

The purchase and subsequent payment for goods and services obtained by MSU occurs within the Accounts Payable (AP) subsystem. MSU purchases are recorded through the following two methods:

1. Direct Payment – For any purchase under \$25,000, MSU departments will submit an approved invoice (as noted by a second signature) to AP staff in Business Services. AP staff manually enter the invoices as batches which are automatically assigned a batch number by Banner. The batches are then reviewed and approved in Banner by AP management. Banner then automatically posts the transactions and prepares warrants. The warrants are transferred nightly to the State Accounting, Budgeting, and Human Resources System (SABHRS) which will print the outgoing checks.
2. Bid Process – For any purchase over \$25,000, an approved hard copy requisition (as noted by a second signature) is created and submitted to Purchasing staff who enter the requisition into Banner. Banner will automatically encumber (attach) the requesting department's funds to the requisition. Then a Request For Proposal is created and released, bids are received, and the winning bid is approved by the initiating department. Subsequently, a purchase order (PO) or contract is created and approved. Creation of the PO automatically releases the encumbered funds allowing for payment. Once the item is received or services are rendered, the initiating department creates and approves a hard copy Banner Purchasing Award (BPA) based on the invoice from the vendor. The BPA is sent to AP where it follows the Direct Payment process described above.

We reviewed controls for the Direct Payment method by observing the process from invoice entry through posting to the General Ledger AP account. We observed the processing of two invoice batches as follows:

1. The AP data entry clerk signed into Banner to begin entering invoices.
2. Invoice entry occurred based on hard copy invoice or BPA. Banner assigned a batch number when the first invoice was entered. Each batch was assigned a unique number. The clerk also ensured account numbers existed on the

- invoices. We observed invoice entry without a department or account number; Banner would not allow completion of the invoice.
3. Once all invoices for a batch were entered, the data entry clerk printed a Banner report of the batch details and manually ran an adding machine tape for the batch. The totals from the Banner report and the tape were compared to ensure all invoice entry amounts were correct.
 4. The batch was set aside for AP management approval.
 5. At the end of the day, AP management ran a Banner report for all invoices and compared the total with a manually determined total from all invoice batches. The invoices were also reviewed to ensure each had required information (approving signatures, asset numbers, etc.).
 6. Once all totals matched, AP management approved the invoice batches, allowing Banner to post the transactions nightly to other Banner ledgers. To ensure Banner requires invoice transactions to be approved prior to posting to other ledgers, we queried Banner for nonapproved AP transactions and compared it to Banner posted AP transactions. Any matches would have indicated Banner allowed transactions to post without approval. No matches occurred.
 7. On the following day, we observed the approved batches had been posted in the General Ledger AP account.

Other Finance Controls

We reviewed other select Banner Finance controls to ensure they operated as management asserted:

Encumbrances - When creating a requisition in Banner, the initiating department's funds are to be encumbered. Banner settings can be applied to require encumbrance based on requisition information. We reviewed the settings in Banner and confirmed they are in place for any requisition created in Banner.

Complete Invoices - Full accounting and payment for purchases relies on invoices being complete in Banner. As noted in item two in our observation above, Banner would not allow an invoice to be processed without either the department or account number.

Invoice Overpayments - When a payment is to be made on a PO, an invoice is created and Banner compares the invoice to the source PO. If the invoices dollar amount is higher than the purchase orders dollar amount, Banner's delivered processing prevents payment of the invoice. To process the payment, either a new PO must be created or the invoices dollar amount must be decreased. However, Banner also has an option, based on each user, to bypass this delivered processing. MSU AP management asserted no user has access to allow these invoices to be processed. We obtained and reviewed Banner user access regarding invoice entry and determined no user has the ability to bypass Banner's delivered processing. Furthermore, we observed AP personnel attempt to create and process invoices with dollar amounts higher than the originating POs, and Banner would not allow creation and processing of the invoices.

File Transfers - MSU sends four daily files to SABHRS. The files include transaction information from the Accounts Receivable and Accounts Payable subsystems, updates to the General Ledger, and student warrants (refunds). SABHRS staff ensures each file is received and processed and posts a report stating the file transfer and processing status. MSU also has log files indicating if there were any errors in the creation or delivery of the SABHRS files. MSU staff checks the reports daily to ensure the files were completely sent and received. We reviewed seven days of reports and confirmed the files completely and correctly transferred each day.

Fixed Assets Management (FAM) - The FAM subsystem records asset information over \$5,000 including initial asset information, depreciation calculations, and disposal. MSU fixed assets are recorded either through Banner's automated entry or by manual entry. To be entered automatically, a specific account number is assigned to the asset when the invoice is entered into the system. Manual entry of fixed assets generally centers on payments made as part of a larger asset. For example, when a new building is recorded, there may be more than one payment issued while the building is being constructed and each payment will have the same asset account code. FAM staff reviews Banner reports for payments made with the same asset account code and, if payments are all for the same asset, the value of the asset is assessed and entered into Banner. To ensure MSU fixed assets are entered into Banner, FAM management relies on both the entry of the asset account code from the invoice and AP management's invoice entry review. We observed both the invoice entry and review and determined the fixed asset account numbers are included as part of invoice entry and reviews.

Financial Aid Module

Verification Rules

As mentioned in Chapter II, U.S. Department of Education (DOE) regulations require student financial aid forms to be reviewed by universities to ensure students are completely and accurately filling out the forms. This process is called verification. MSU is rated as a "quality assurance" school by the DOE, allowing MSU to create its own verification rules. The rules are manually entered into Banner, and are submitted to the DOE for approval. To determine the verification rules in Banner for the 2009-10 school year match those submitted to the DOE, we compared the rules submitted to DOE with the rules in Banner. The rules all matched.

Eligibility

Student financial aid eligibility is determined as a combination of three modules:

1. Expected Family Contribution - amount stated on the financial aid form that the student and student's parents (when applicable) are expected to contribute toward the students costs.

2. Other Financial Resources - other known and expected financial resources the student will have available to assist them with educational costs such as scholarships and tuition waivers.
3. Cost of Attendance (COA) - how much it will cost a student to attend MSU, depending on student status.

To determine financial aid eligibility, Banner adds the expected family contribution and other financial resources and subtracts the COA, resulting in how much cost the student is responsible for (need). Banner then calculates and awards financial aid based on student need and available funding, and sends each student a letter stating results of financial aid eligibility and award processing. We reviewed the eligibility calculation and verified it is baseline functionality.

CONCLUSION

Based on audit work, we conclude select Finance and Financial Aid processing controls function as MSU management intends.

MONTANA STATE
UNIVERSITY—BOZEMAN

UNIVERSITY RESPONSE



RECEIVED
FEB 17 2010
LEGISLATIVE AUDIT DIV.

February 12, 2010

Ms. Tori Hunthausen
Legislative Auditor
Legislative Audit Division
Room 160, State Capitol
P.O. Box 201705
Helena, MT 59620-1705

Dear Ms. Hunthausen:

Montana State University would like to thank the Legislative Audit Division for their time in auditing the Banner: Administrative Services System. We believe this audit was productive and helpful in ensuring the system is operating as intended. We look forward to working with you again during the next audit.

Sincerely,

A handwritten signature in black ink, appearing to read 'Waded Cruzado', written over a light-colored rectangular background.

Waded Cruzado
President

WC/sm

Office of the President

211 Montana Hall
P.O. Box 172420
Bozeman, MT 59717-2420
www.montana.edu

Tel (406) 994-2341
Fax (406) 994-1893

MONTANA STATE UNIVERSITY
Response to Legislative Audit Division Recommendations
Banner: Administrative Services System

Recommendation # 1

We recommend Montana State University-Bozeman strengthen user access controls to ensure access is segregated per job duties and need.

MSU concurs with the recommendation.

MSU will clarify and strengthen its procedures for reviewing existing user access to ensure it is segregated per job duties, will review the updated procedures with appropriate staff and provide training as necessary.

Recommendation # 2

We recommend Montana State University-Bozeman strengthen controls over use of the generic code migration account to ensure increased individual accountability.

MSU concurs with the recommendation.

MSU will implement procedures to mandate that all users of the generic code migration account login to the Admin VPN prior to the generic account so that their activity is logged to ensure increased individual accountability.