Continuous Controls Monitoring: A Case Study

Abstract

This case investigates the benefits and challenges that come with implementing continuous controls monitoring ("CCM"). CCM has been considered by the audit and information systems professions for years. However, a primary problem entails how to effectively integrate this methodology within large technological infrastructures. Because of increasing interest in controls monitoring, professional publications have generated information regarding the potential benefits of CCM, thereby creating awareness and addressing practical implementation issues along the way. We analyze the CCM program used by Premier Plasma Center, a global biotherapeutic and biotechnology company. This case is applicable to auditing, accounting information systems, and other business curricula that examine company controls and their monitoring activities.

Keywords: Continuous monitoring, continuous auditing, internal controls, technology adoption

THE CASE

In an effort to mitigate and detect internal control weaknesses, errors, and potential fraud, Premier Plasma Center, a global biotherapeutic and biotechnology company ("Premier"), implemented continuous monitoring procedures for financial transactions. Although each business unit owns the implementation, management and the internal audit department prompted and directed the overall process. The array of benefits from this initiative is discussed in detail throughout this case.

The Chief Audit Executive, Madison Morgan, led the implementation of continuous controls monitoring upon joining Premier in 2006. She identified the Purchase-to-Pay ("P2P") cycle as a top priority. Each business area maintaining responsibility with P2P was dedicated to improving financial controls as part of a year-long project. A number of those improvements were introduced to the Enterprise Resource Planning ("ERP") system, and can be demonstrated through the front-end of the business intelligence model ("BIM"). BIM, a part of SAP, is a reporting tool that collects data from myriad feeder systems. Premier chose ACL Services Ltd. ("ACL"), known for its leadership in the audit and risk management fields, to introduce its continuous monitoring technology to all key business processes.

Executives must be quick in making business decisions because they are under pressure from increased complexity and regulation of business. Premier has shown examining transactions that comprise financial reporting is an effective way to identify a company's underlying risk, possible breaches of controls, and areas for improvement. Continuous auditing and monitoring technology provides a vital function for ensuring the business units and cycles are in compliance with controls (Figure 1).

[Insert Figure 1 here]

Premier

Premier creates a portfolio of therapeutic treatments for critically ill people. Premier is located in the United States and operates two foreign affiliates. Its two operational units are a Biotherapeutic Manufacturing unit ("Bio Manufacturing") and a Donor Center unit. The Donor Center, a wholly owned subsidiary, centrally manages plasma collection centers. The plasma obtained by Bio Manufacturing is used by the Donor Center to manufacture products such as protein therapies (to treat acute liver failure, immune deficiencies, exposure to certain infectious diseases, blood loss due to shock or trauma, etc.), automated enzyme immunoassay analyzers, and intravenous solutions for hospital pharmacies. Both Bio Manufacturing and the Donor Center abide by and follow FDA regulations.

The Donor Center operates like a reverse retailer. Specifically, donors provide a product (blood plasma) and, in turn, the Donor Center pays them for these donations. The Donor Center handles large cash transactions using historically manual processes. Furthermore, Premier has been experiencing great difficulty the monitoring and control efforts over the numerous and recently expanding plasma collection centers.

Initially, the Donor Center operated 22 units. In just a few years, the number of centers expanded to more than 70. This accelerated growth in conjunction with reliance on manual controls led to frequent occurrences of both errors and fraud. As a result, Donor Center management began exploring options to improve controls and reduce risks at donor centers.

Operational differences between the two business units of Premier created significant implementation challenges for this project. Management worked with internal audit to overcome these challenges in order for the benefits of continuous controls monitoring ("CCM") to materialize. Internal audit, after implementing the process, could then presumably leave it to the

business units to use the technology to monitor internal controls and respond to any identified control failures.

The Chief Audit Executive

Premier brought Madison in as the Chief Audit Executive prior to the Donor Center acquisition. The Institute of Internal Auditors Attribute Standards (1100 series) are strict in ensuring that auditors are independent from the business being monitored. Therefore, Madison could not take on the role of management regarding the establishment of controls. Specifically, Attributes Standard 1100 states "the internal audit activity must be independent, and internal auditors must be objective in performing their work."[1] The internal audit department is responsible for addressing issues relating to internal controls and, when necessary, holds management accountable for those controls. "The chief audit executive must effectively manage the internal audit activity to ensure it adds value to the organization" (Institute of Internal Auditors Performance Standard 2000)[2].

Management worked collectively with internal audit and is specifically responsible for owning and performing continuous monitoring of the company's overall controls. In this regard, the internal audit team serves in an advisory capacity to management. Internal auditors must also consider broader issues, such as the company's impacts on the environment, growth, reputation, and treatment of employees. Generally speaking, the assurance and consulting services provided by internal auditors are essential to the success of a company. Refer to Table 1 for general characteristics and differences between internal and external audit.

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[1] Obtained full listing of 2013 Standards from the Institute of Internal Auditors website: https://na.theiia.org/standards-guidance/mandatory-guidance/Pages/Standards.aspx.
[2] Obtained full listing of 2013 Standards from the Institute of Internal Auditors website: https://na.theiia.org/standards-guidance/mandatory-guidance/Pages/Standards.aspx.

[Insert Table 1 here]

Solution Needed

Madison immediately began to identify the most critical areas in need of enhanced

internal controls. To meet management's requirement of performing semi-annual audits,

corporate auditors were hired to perform compliance testing. However, this alone was

insufficient. Two additional major issues were: 1) Premier was in the process of transitioning

into a public company, and this dictated that a more robust system of internal controls was

necessary, and 2) there was high employee turnover in the plasma business subsidiary, thus

creating difficulty in maintaining consistent internal controls. Options were limited when

searching for a technology company to supply Premier with the resources it needed to properly

monitor controls. Premier identified ACL Analytics Exchange ("AX") as the best solution

because ACL offered a variety of CCM scripts and Premier needed to collectively manage

among all units of Bio Manufacturing and the Donor Center.

ACL

ACL has over 25 years of experience and is a major provider of audit and risk technology

products. ACL's offerings include controls monitoring for the following business cycles: 1)

Purchase to Payment, 2) Purchasing Card, 3) Travel and Entertainment, 4) General Ledger, 5)

Payroll, and 6) Order to Cash. CCM automates the testing of internal controls, which alleviates

some of the burden of regulatory compliance. This case analyzes only the P2P process, as that is

the area Premier implemented first. With P2P in place, companies are better able to identify

fraudulent activity, errors and inefficiencies, overpayments to and from donors, and any

unapplied discounts. It should be noted Premier intends to implement CCM in the other business

areas.

How/Where to Start

Because of its high inherent fraud risk, P2P was the first area implemented by Premier. ACL Consulting Services worked with management, Madison, and the internal audit team to develop customized metrics for each element of the P2P tests. For example, the Donor Center had many immaterial dollar transactions, as opposed to Bio Manufacturing which had more material dollar transactions. The ACL Analytics Exchange (AX) technology can work with any business data source, systems, or applications. AX scripts apply the internal controls framework provided by COSO in analyzing complex transactions and identifies where company controls are failing in each business process.

The entire implementation of CCM consumed about a year, and although longer than expected, it has tremendously benefited Premier. Significant outcomes include, but are not limited to:

1. Improved accountability and risk control management of information and the understanding of it;
2. Increased protection of significant cash flows due to automated monitoring and policy enforcement;
3. Improved fraud deterrence due to tighter detection of fraud;
4. Strengthened vendor relations creating more effective procedures;
5. Stabilized controls;
6. Improved controls across functions;
7. Minimized inherent risk;
8. Increased ability for adjustments to the audit plan to be made in real-time resulting in improved costs

After implementation of controls monitoring was completed for Bio Manufacturing and Donor Center, internal audit, coordinated by management, executed controls monitoring for all departments involved with the P2P cycle (i.e. accounts payable, purchasing, and financial controls group). Each business process in all three departments was analyzed, and the major

issues are discussed below in the implementation section for both the manufacturing and donor areas. The business processes are: vendor maintenance, requisitions, purchasing, receiving, payables, and payments. Figure 2 displays how Premier's controls were not entirely covered among the various business processes prior to CCM implementation.

[Insert Figure 2 here]

After implementation of CCM, all controls were properly monitored (Figure 3).

[Insert Figure 3 here]

Because of unique business needs, Bio Manufacturing and Donor Center each developed a set of customized controls tests for CCM purposes. Management then assisted each team in putting additional controls in place to identify any remaining issues, such as improper segregation of duties, personal use of business accounts, unused vendors, etc.

Implementation on the Manufacturing Side (Bio Manufacturing)

Bio Manufacturing's accounts payable department often met to update controls, discuss issues, and identify IT glitches during implementation of CCM. The next phase of implementation was to move from SAP to a new customized module, allowing for concurrent data and process work. This integration allows for analytical processing online, the mining of data, and alerts, which provided the basis for data assessment and evaluation, pattern recognition, and exception identification. Bio Manufacturing's accounts payable team identified the following primary issues: invoices, 1099s, P-cards, T&E cards, payments, and returned goods policy.

Invoices and 1099s

Originally, invoices were not being cross-referenced to other documents or authenticated. As a result, the accounts payable team used signatures stored in the original SAP module to perform electronic matching with signatures on invoices. These stored invoices from SAP were

uploaded and maintained in the new module. To improve the existing 1099s, many of which
contained several incomplete vendors prior to CCM implementation, the new module created a
form with more complete fields and ensured completion of each individual field.

P- Cards

Prior to CCM, P-cards were manually monitored for personal use. P-cards are an efficient
option to handle purchase orders having immaterial dollar amounts. Originally, the process was
manual, and included receiving a statement, collecting receipts, and obtaining employee and
manager approval signatures. Furthermore, accounts payable personnel had to audit 100 percent
of the P-card activity. With CCM, the monitoring of P-cards usage was automated by
management.

With automation, employees can log into the system and enter detailed information about
the purchase, scan and upload receipts, and electronically sign the submission. Once everything
is properly complete on the employee side, the system sends a notification to the approver for an
electronic signature. Each step is flagged by the system as either complete or action required.
When an approver or auditor logs into the system, an event log is available relative to both
complete and incomplete actions. Also, the module displays who logged into the system and
when - date and time stamped (Figure 4).

<div align="center">[Insert Figure 4 here]</div>

CCM also allows for preventive controls, such as coding business expenses for approved
vendors. If Premier did not pre-approve a vendor, the card is rejected. In the case of an
employee making a purchase from a restricted entity, approval must first be obtained by the
approver to temporarily remove the restriction.

Time and Expense (T&E) Cards

T&E cards were manually processed, and some of the major issues included dual payments, missing authorizations, incorrect time submissions, and absence of valid expense documentation. With CCM implemented, expense processing was automated so that T&E cards could be paid directly to applicable employees. Employees ran weekly reports pertaining to payment of expenses. Then, payments were dispersed directly to the provider of the card and employees were issued written checks for any cash expenses. CCM addresses the issue of dual payments made from a single T&E submission. CCM allows for automatic reconciliation between what was recorded and actually spent, hence CCM replaced the manual expense report process (Figure 5).

[Insert Figure 5 here]

Employees were able sign into the system, select what they wanted to report, and submit the receipt either by fax or scanning. However, the system did not recognize whether it was an actual receipt pertaining to the expense. It could determine that a document was submitted, but could not confirm or refute its authenticity (i.e. discern whether the item was a fraudulent claim for reimbursement). Therefore, ultimate verification and approval must come from an approver. In addition, CCM allows internal audit to follow expense usage in real-time.

Payments

Regarding the area of payments, Bio Manufacturing needed to enhance data integrity before implementing CCM to avoid the detection of false positives resulting from inaccurate entry of payment terms information. The previous system never prevented a user from selecting and using a specific restricted vendor. Instead, it only displayed a "do not use" notification beside the name of such a vendor. Therefore, the complete list of vendors was examined, and a subset was approved for locking down by the IT department (i.e. those not used within the past

two years) and flagged for restricted vendor status. Within a year, the approved vendor list was reduced from approximately 100,000 to 12,000, and the system now requires management log-off when making any changes to a vendor record. The treasury and purchasing departments collaborated to develop a system which automatically pays vendors, and this proved cost effective over writing paper checks (Figure 6).

[Insert Figure 6 here]

Returned Goods Policy

When Bio Manufacturing returned goods to vendors, the shipping department would handle the actual return. However, the shipping documents were not forwarded to the accounts payable department. As such, while the vendor would put a credit on account for Bio Manufacturing upon receipt of the returned goods, this credit was not initially reflected in the accounts payable module. Therefore, numerous credits remained outstanding because Premier did not know they existed.

In response, Premier now requires shipping documents to be completed in entirety, sent to the warehouse and accounts payable department, and recorded upon receipt by the accounts payable department. By sending the shipping document to both the warehouse and the accounts payable department, controls are segregated (i.e. the warehouse employees maintain records of shipments and physically determine shipments occurred; accounts payable makes and records payments relating to the shipments) and the appropriate department is consistently recording the associated vendor credit. This avoids the problem of credits not being properly applied and subsequently relieved, resulting in substantial recovery of cash.

Implementation on the Donor Center Side

The Donor Center's accounts payable team documented major issues in: receiving, donor center controls, daily cash reports, purchase order management, and purchasing.

Receiving

There were two significant issues regarding the receiving cycle. First, there was difficulty recording and applying credits due to lack of official procedures. Supplier Relation Management ("SRM"), a web-based component of SAP that initiates the requisition, was designed to increase visibility. The testing of controls was not impacted from this because the underlying transactional data was kept in a similar form.

Second, every center was responsible for shipping and receiving its own goods because there was no centralized shipping or receiving point. Each center manually retained records, none of which were submitted or retained electronically, and often bills of lading were not properly retained. Hence, it was near to impossible to perform a three-way match because there were minimal bills of lading available from each center. As a result, Premier created a service contract for each purchase through the SRM system. Since SRM also provides a web portal for receiving, a three-way match can now be performed as each document was created and maintained through the system.

Donor Center Controls

An initial procedure for bettering controls was to develop new procedures for disbursement of cash to donors at each individual center. Premier installed Automated Teller Machines ("ATM") at each donor center, and each individual donor was provided a unique and secure access code. A donor also received a unique pin number to enter into the ATM, coupled

with date of birth to receive a cash disbursement. Employee access to cash was limited by the

ATMs in an effort to deter theft and mitigate risk relative to loss of cash reserves.

Daily Cash Reports

Previously, cash was reported daily through use of a spreadsheet. This manually created

document was easily alterable at each donor center. CCM technology made it possible to

calculate the amount of cash disbursed from the safe or ATM. Currently, a third party collects

the money and deposits cash into the ATM. Cash for the ATM is not directly controlled by the

donor centers. The centers only control the cash in the safe, which is kept on hand for incidental

payments. Donor Centers now use CCM to track the flow of cash.

Purchase Order Management

CCM reduced the ratio of non-purchase orders (e.g. lawn service, janitorial staff,

sanitation, power, etc.) to purchase orders from 80/20 to 40/60. This high ratio was attributable

to numerous non-invoiced immaterial (i.e., less than $5,000) purchases/bills. Donor center staff

is required to submit paper requisitions to invoice for miscellaneous services because they cannot

access systems which are core to the business. Due to the nature of this invoicing process, if an

employee forgot or otherwise failed to submit the paper invoice, it would not be created in a

timely fashion or at all.

Purchasing

Purchases were evaluated on a company-wide basis for Bio Manufacturing and the Donor

Center, since this function was handled collectively across the company. Previously, Premier

reviewed spending annually, and material spending with one specific vendor led to a contract

being drawn up with that vendor. Internal audit assisted the purchasing department in developing

customized internal processes by modifying policies and designing measurements for best

practice. These were formally developed to make certain newly hired employees could

consistently follow procedures in place, and appropriately perform requirements of the job in the

event of employee turnover.

Premier After Implementing CCM

Premier had 30 full time employees and five temporary employees in the procurement

unit responsible for purchasing and administrative duties. Of the 30 employees, four were solely

responsible for these duties at the Donor Center. Since Premier operates internationally through

two foreign affiliates, it was necessary to keep policies consistent to avoid prospective obstacles

regarding operating through foreign affiliates and having consistent controls, policies, and

procedures. The major issues that management and internal audit conquered were in the areas of:

vendor master, credit cards, open purchase orders, buyer rotation, ethics, and cost savings.

The system contained thousands of unused vendors. During the initial year of CCM

implementation, the approved vendors list was decreased from 120,000 to 10,000. Segregation of

duties was assigned between departments (i.e. accounts payable and procurement). For example,

two different departments continually monitor the vendor database for required updates.

Premier inherited a non-user friendly, undocumented platform for credit card use and

associated policies. For example, the ERP system contained the requisitions and procurement

cards were seen as an alternate method of procurement. Premier began processing spending

reports, modifying and documenting policies, and preparing controls to oversee spending (i.e.

where spending occurred and how much).

Since items still in production were noted as "in accounts receivable" (not yet paid),

Premier could not readily establish when to close out purchase orders. This led to confusion and

false positive indications of red flags (i.e. showing as unpaid accounts but were actually paid).

Through SAP, an open orders report was developed which required the system user to close out open purchase orders. Emphasis was on properly entering purchase orders into the system to be tracked and random audits of the system were performed to ensure employees were following proper procedures. The P2P process properly recorded purchase orders for $12 million worth of items that were not previously recorded with a purchase order. This was completed for transactions such as fees associated with insurance, leased cars, and other transactions that had not been recorded previously through a purchase order.

After the purchasing department finalized policies and procedures, they were distributed to all vendors. The system requires new vendors to indicate that they have received and read the procedures, and certification of new vendors was developed to increase supplier awareness of the required policies outlined above.

What is Next for Premier?

Management and internal audit knew that improvement of financial controls and the monitoring of them were necessary. With CCM in place, Premier began remediation efforts for the following cycles: Payroll and Capital and Fixed Assets. Management, with internal audit's assistance, was responsible for designing internal controls. Management made plans to ensure the effective and efficient operations of controls. Premier has yet to utilize the full potential of CCM because the other ACL Analytics Exchange scripts have not been implemented. However, plans are developing and steps are being taken for the immediate future.

Premier's first step, implementation of P2P, was to integrate CCM with the current BIM to work collectively and validate each other. Automation allows for ease of maintaining and overseeing controls. Therefore, Premier's ultimate goal is to continue to establish more controls that are efficient and effective. Manual controls, which were previously in place, did not allow

for such expansion. Through CCM, the system can accurately conduct a three-way match of documents if document imaging is required (i.e. scanning invoices into the system). By automating those procedures, employees are more available for conducting analytical procedures and can shift the focus to processing procedures.

Discussion Questions for the Case

1. *What were the major motivations of Premier, and for companies in general, to move towards a controls monitoring initiative?*

2. *How should a company decide whether to acquire a continuous controls monitoring solution?*

3. *In what areas must internal audit and management work together in the implementation of a continuous controls monitoring program?*

4. *What are the key steps involved with the implementation of CCM?*

5. *List the ten major control / process problems that were found before internal audit intervened (five on the Manufacturing side and five on the Donor Center side)?*

CASE LEARNING OBJECTIVES AND IMPLEMENTATION GUIDANCE

Motivation for Development of Case

Both management and internal auditors are facing increasing pressure to assure effective evaluation of risk management, control, and governance processes. Regardless of budget constraints and limited employee resources, management and internal audit have to meet greater performance expectations than ever before, due to the demands for improved efficiency and production of substantial, value-added contributions to the company. Management and internal audit have an "inverse relationship" with each other (Losner 2006). As management's role in the monitoring of CCM grows, internal audit's direct role diminishes. Few case studies exist in the literature which examine the complete implementation process of CCM, as well as demonstrate

the role of internal audit. With the increased demand on management and internal auditors, this case study proves timely for the classroom.

CCM eliminates control gaps that exist within ERP and BIM reporting systems. While ERP and BIM systems have some ability to prevent fraud and errors, most auditors conclude they are individually insufficient for effectively isolating the more frequent issues that occur based on experience with using the systems and the systems limited capabilities of preventing and detecting fraud and errors in today's advanced technological environment. Premier has benefited and controls have improved due to the implementation of ACL's CCM technology.

Learning Objectives

While Premier is a hypothetical company, the case is based on implementation issues and experiences of an actual company. The objective of this case was to take students through the entire implementation of CCM and show the various issues and benefits involved with this process. This gives students a chance to understand the impact this technology has on companies by seeing the whole picture. Also, demonstrating the before and after success of Premier really highlights the benefits and improvements from continuous monitoring. This case also demonstrates how Premier's management and internal audit team had a proactive, rather than reactive approach.

After completing this case, students should be able to:

- Obtain a clearer understanding of the role of internal audit within a company and how it differs from external audit.
- Understand the differences between pre-implementation and post-implementation of CCM, as well as identify how it benefited the company in an overall sense.
- Identify the pros and cons pre-implementation and post-implementation, as well as better understand the issues that are present with weak internal controls.

- Make an assessment of a company's internal controls and identify solutions/suggestions for improving weak controls and further strengthening controls.

Prerequisite Knowledge

Students will need a basic foundation in information systems technology and accounting, and this is generally obtained in the earlier years of an accounting curriculum. This case is most suitable in an auditing or accounting information systems class. It is designed so that a novice or moderate level accounting student will be able to understand and apply the information. This case could be used at the undergraduate or graduate level.

Course Use

The case thoroughly details the entire (before, during, and after) process of implementing CCM at a real company. It explains the company's controls at both the pre-implementation and post-implementation stages, so users of this case can identify weak controls and how to improve those controls. It is also designed so that the users of this case will gain an understanding of what continuous monitoring is and how it should be applied by companies. Due to the nature of the case, issues and benefits are highlighted with and without the use of CCM. This should further support the students' understanding of CCM and its uses.

The case can be made available to students in either hard or soft copy format. Students can either read the case prior to class or come to class prepared for discussion (preferable method), or read it during class followed by discussion. If done completely during class, allow for 60 to 90 minutes to read and discuss. Otherwise, 45 minutes of class time is sufficient to review the case. Also, this case may be more effective if students work in groups.

Case Efficacy

This case has been used in a classroom setting in order to obtain student feedback and to assess the validity of the case. It was distributed to 55 undergraduate accounting students between two intermediate level accounting courses (these students were concurrently enrolled in an undergraduate audit class) and 60 undergraduate accounting students between two audit classes at a different university. The majority of students was unfamiliar with CCM, but, by the end of the discussion, felt they had a clearer understanding. The students found the case to be interesting and informative. They stated it was beneficial to have a real life case study, thus making the case seem more relevant than a fictitious scenario. Student feedback was obtained both orally in a discussion after completion of the case, as well as by distributing a short post-case questionnaire. Overall student feedback was positive.

Students were asked a set of questions regarding the case, and each question was rated on a 7-point Likert scale. Refer to Table 2 for overall results and details of the post-case questionnaire.

[Insert Table 2 here]

When asked if students would recommend this case for use in the accounting curriculum, 103 (89.57%) of 115 students responded with "extremely likely to recommend".[3] Through oral discussions, student comments included: the case was realistic; it nicely demonstrated the role of internal audit and how the Madison, Chief Audit Executive, and her team added value to the company; they could better visualize and understand CCM, as well as identify the many benefits

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[3] Students used a 7-point Likert scale ranging from 1 ("extremely unlikely to recommend") to 7 ("extremely likely to recommend").

of implementing CCM; they understood the role management verses internal audit has in CCM; and better identify weakness in internal controls.

Contributions and Future Research

This case provides a complete walk through of implementing CCM software, specifically ACL Analytics Exchange. It highlights the before and after issues and successes with the implementation. Few studies exist which allow access to a company at this level of detail for CCM. Academics can learn and use this experience to teach students about CCM and offer a real life scenario. Professionals can use this case as support for implementing CCM at their respective companies.

References

Losner, A. 2006. Global Technology Audit Guide: Continuous auditing. Proceedings from the 12th Worldwide Continuous Audit and Reporting Symposium, Rutgers University, Newark, NJ.

FIGURE 1

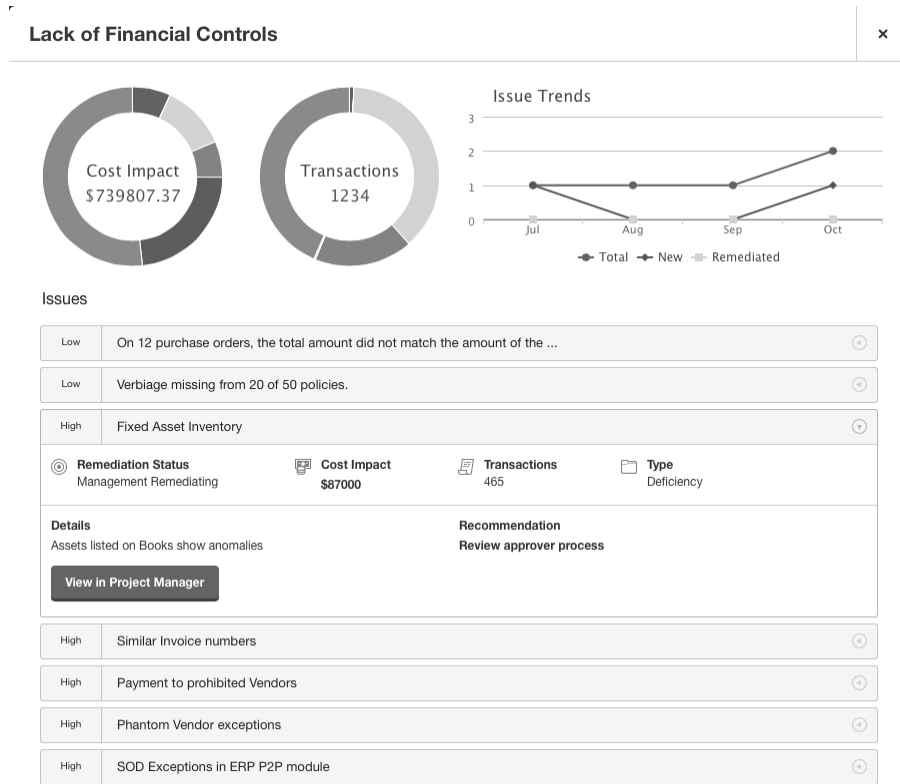**Assess Screen Shot: Illuminates Control Gaps and Quantifies Using Data**

FIGURE 2

Key Control Objectives and Analytic Coverage

BUSINESS PROCESSES / CONTROL OBJECTIVES	Authorization	Accuracy	Completeness	Validity	Efficiency & Effectiveness	Segregation of Duties	Regulatory
Vendor Maintenance		✓	✓	✓			
Requisitions	✓	✓	✓	✓		✓	
Purchasing	✓	✓	✓	✓		✓	
Receiving	✓	✓	✓	✓	✓	✓	
Payables	✓	✓	✓	✓	✓	✓	
Payments	✓	✓	✓	✓		✓	✓
Continuous Monitoring Analytic Coverage	✓	✓	✓	✓	✓	✓	✓

Continuous monitoring for the Purchase-to-Payment Cycle:
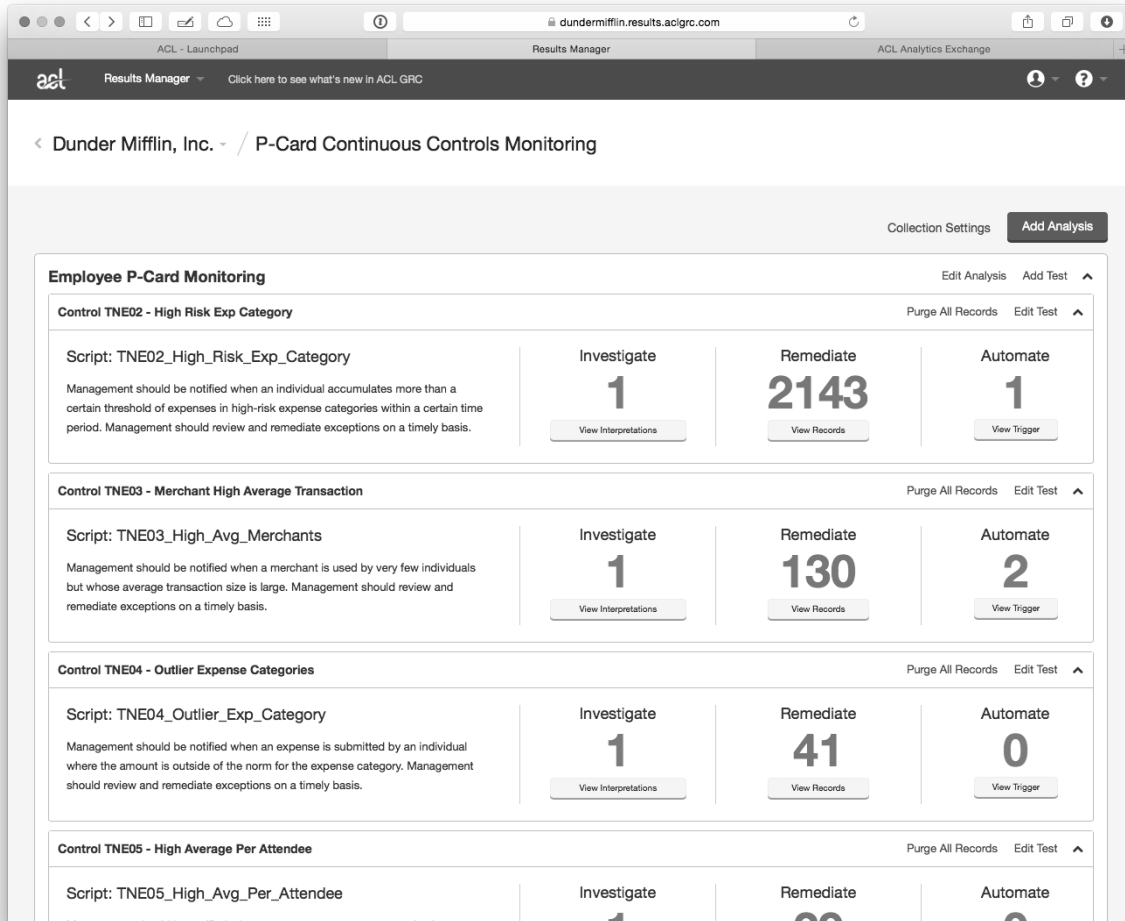Key Control objectives and Analytic Coverage

FIGURE 3

Screen Shot: Monitoring of Controls
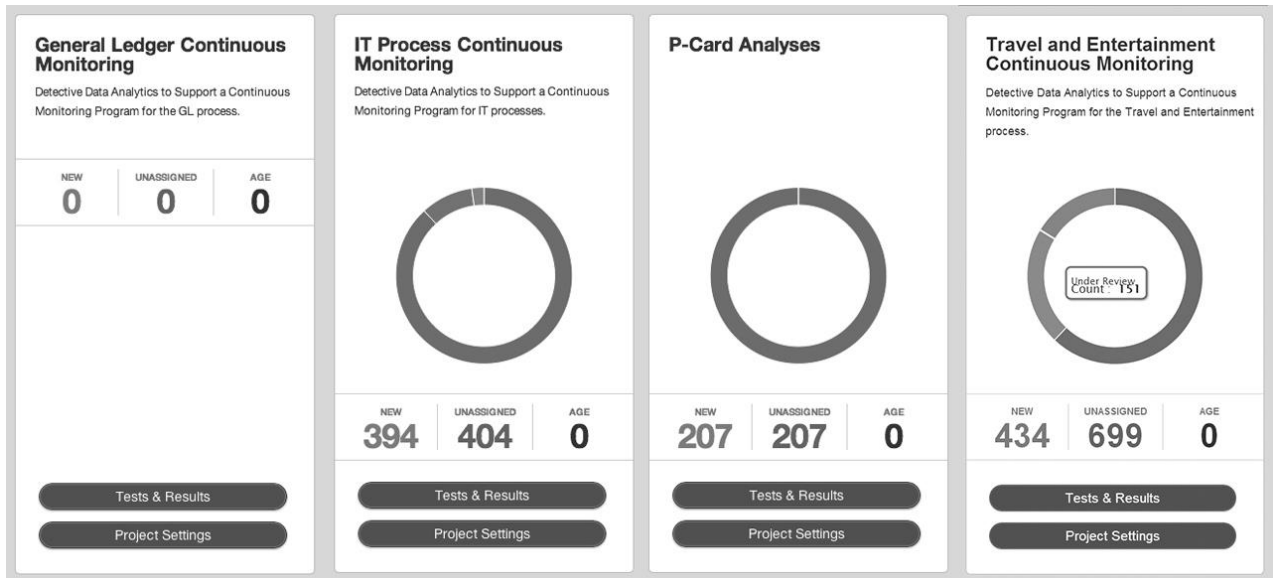
The above screen shot further illustrates an overview of transactional records by processes that exceed defined business thresholds requiring further review and investigation.
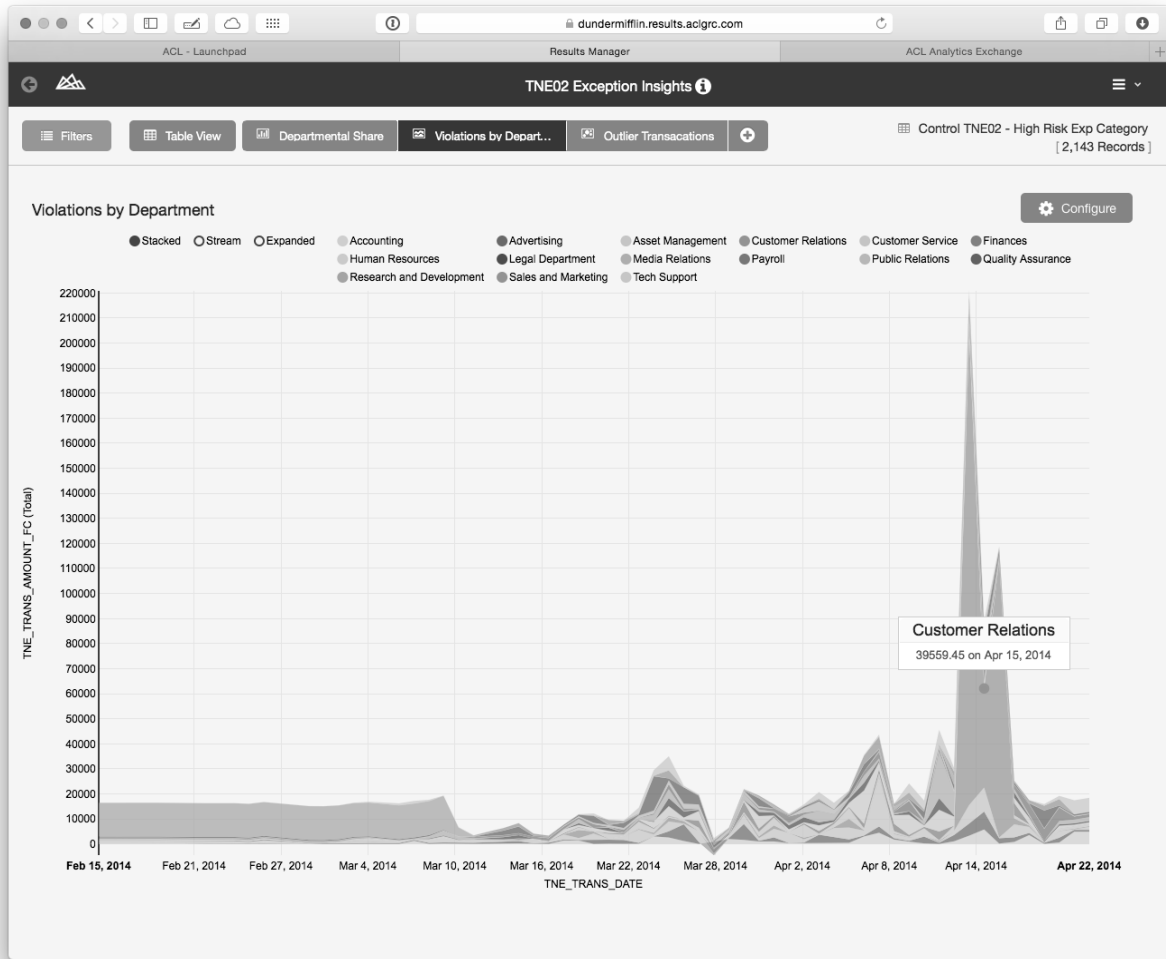
FIGURE 4

Screen Shot: P-Card Continuous Controls Monitoring

The above screen shot illustrates a P-Card control where issues have been identified requiring further investigation.

FIGURE 5

Screen Shot: Time and Expense Violations

With data visualization (screen shot above), it helps to understand where most of violations occur within an organization.

FIGURE 6

Screen Shot: Resolution of Payments

As shown in the screen shot above, once violations or issues have been identified, an action will be generated and sent to the manager for review and resolution.

TABLE 1[4]

The Difference Between Internal and External Audit

	External Audit	Internal Audit
Reports to	Shareholders or members who are outside the organizations governance structure	The board and senior management who are within the organizations governance structure
Objectives	Add credibility and reliability to financial reports from the organization to its stakeholders by giving opinion on the report	Evaluate and improve the effectiveness of governance, risk management and control processes. This provides members of the boards and senior management with assurance that helps them fulfill their duties to the organization and its stakeholders
Coverage	Financial reports, financial reporting risks	All categories of risk, their management, including reporting on them
Responsibility for improvement	None, however there is a duty to report problems	Improvement is fundamental to the purpose of internal auditing. But it is done by advising, coaching and facilitating in order to not undermine the responsibility of management.

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[4] Table obtained from the Chartered Institute of Internal Auditors website: http://www.iia.org.uk/about-us/what-is-internal-audit/.
Note there are no differences above when compared to the Institute of Internal Auditors:
http://www.deloitte.com/view/en_CN/cn/services/corgov/ic/iarr/.

TABLE 2

Pilot Testing Student Feedback: Descriptive Statistics

	Mean	Std. Deviation	Variance	Median
Would you recommend this case for use in the accounting curriculum?[5]	6.68	1.10	1.22	7
How effective do you think this case was in your obtaining an understanding of internal controls?[6]	5.01	1.52	2.31	5
How effective do you think this case was in your obtaining an understanding of the role of internal audit in an organization? [6]	5.57	1.33	1.77	6
How effective do you think this case was in your better identifying weak internal controls? [6]	5.22	0.69	0.47	5
How effective do you think this case was in your evaluation of solutions to internal controls? [6]	5.74	1.35	1.83	6
How effective do you think this case was in your understanding of CCM? [6]	5.96	0.79	0.62	6
After completing this case do you think you more clearly understand the differences and benefits between pre-implementation and post-implementation of CCM?[7]	6.17	1.09	1.18	7
Do you feel you were given enough information to make an assessment of the company's internal controls?[8]	5.15	1.18	1.39	5
Do you feel you were given enough information to understand CCM?[8]	6.21	0.57	0.32	6

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[5] Students used a 7-point Likert scale ranging from 1 ("extremely unlikely to recommend") to 7 ("extremely likely to recommend").

[6] Students used a 7-point Likert scale ranging from 1 ("extremely ineffective") to 7 ("extremely effective").

[7] Students used a 7-point Likert scale ranging from 1 ("extremely unclear") to 7 ("extremely clear").

[8] Students used a 7-point Likert scale ranging from 1 ("extremely less than needed") to 7 ("extremely more than needed").